South African criminology's aetiological crisis: reflections on a century of murder

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Declaration

I, **Anine Kriegler**, hereby declare that the work on which this dissertation is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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Abstract

South African criminology's structural aetiology is in crisis. This dissertation offers a novel account of the nature, origin, severity, implications, and possibilities of that crisis. It suggests that, rather than a normative problem, it should be understood as an empirical one, related to the challenge of crime prevalence measurement. The question of crime prevalence patterns and trends has mistakenly been treated as trivial. This dissertation conducts meta-theoretical and historical analyses to reveal a fundamental criminological quandary: making defensible and testable claims about aggregate crime prevalence patterns and trends is at once both indispensable and impossible. This dilemma is in some respects inherent to the task of primary criminology, but its origin and manifestation are also uniquely crippling and revealing in the South African context. The aetiological crisis is more severe, more fundamental, and more complex than previously thought. In demonstration of this, this dissertation seeks to establish, as defensibly as possible, just one observation about long-term South African crime prevalence trends that would seem to require explanatory effort. It collects official South African police murder statistics over the longest-possible time frame and at the lowest-possible level of aggregation and combines them with census data using Geographic Information System technology. The result is by far the most extensive and defensible possible description of South African long-term crime prevalence patterns and trends. It shows a large, unprecedented, widespread murder rate decrease from 1994 to 2011. This poses problems for existing theory and reveals the discipline's failure to even identify that which is relatively unequivocal and requires explanation. This dissertation concludes that there is an unidentified void at what should be the empirical heart of South African criminology. There is much to gain in engaging head-on the question of how to go about systematic empirical observation in the context of profound ambiguity about the meaning and measure of crime.

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Chapter one: Introduction

Background: stagnation and public criminology

This dissertation presents a challenge to the contemporary discipline of South African criminology. It asks how we might assess its attempts at the structural explanation of crime, account for its shortcomings in this task, and address them by means of official crime statistics. The core problem it addresses is that of how to produce useful knowledge about the causes of crime.

It arose from a feeling of déjà vu. Consider the following extracts from a newspaper article on rising crime in Soweto and South Africa, titled: 'When violence becomes a way of life...'

> Colonel Piet Delport, head of the Soweto CID, says that most of the murders in the township are committed 'on the spur of the moment. It may be in connection with robberies, often at the end of the month when people come home on the trains with their money, as they walk in the dark alleys or in the open veld at night. Many murders take place when they are a bit tipsy in the shebeens. They get into an argument and one stabs the other.' …
>
> Although Col. Delport says the Press has exaggerated the extent of increased violence in Soweto, statistics shows a steady rise in the murder rate and the township has compared unfavourably for some years with high crime areas of the United States, for example… Soweto, however, shares its violent reputation with other areas of South Africa… And South Africa's overall crime graph is among the most violently escalating in the world.
>
> The rising murder rate, says, one criminologist, is partly explained by the number of firearms that have found their way into Soweto over the last few years. Guns kill rather more surely than the knives of the past…
>
> 'Crime is a very complex phenomenon,' said a spokesman for the National Institute for Crime Prevention and Rehabilitation of Offenders (Nicro). 'In general, a combination of social, economic and political factors are responsible for our high crime rate. The criminal and the victim…are generally found in the poorest and most deteriorated, backward and socially degenerate living conditions. It is not surprising, therefore, that the coloured and black townships generate so much crime. They are generally characterised by poverty, overcrowding, insufficient and sub-standard housing, a shortage — and sometimes a complete absence — of basic amenities and facilities, lack of street lighting and inadequate policing.'
>
> He said blacks and coloureds often did not identify emotionally with some of the laws of the country. 'This means the social controls which cause people to refrain from criminal behaviour in normal communities do not operate in the African townships. In the eyes of most Africans it is not a disgrace to have been in prison.' …
>
> Mr Isaac Meletse, chairman, of a Nicro committee, says unemployment is obviously the major cause of crime in Soweto and other black townships. 'Affluence and poverty exist side by side in places like Johannesburg and Soweto. Those who can afford are increasingly affording, while the poor get poorer.'…

> Mr John Sibeko, a social worker employed in industry, says the entire environment of Soweto promotes crime. 'It is a disorganised community and social institutions are not able to provide for the peoples' needs… 'And there comes a time when people have no respect for the law'…
>
> This lack of faith in the law's ability or willingness to protect their interests is common not only among criminals in Soweto but among many of their victims as well. Mr Bernard Raskin, a PhD student researching rape at the Institute of Criminology in Cape Town, says recorded rates throughout the world reflect only a proportion of the crime actually committed… One in four of the householders surveyed [in parts of Soweto] had at least one victim of robbery, assault, rape or theft. But only 27% reported the crimes to the police…
>
> An important insight into serious crimes of violence in socially and economically deprived areas might lie in the community's attitude to the use of violence, says Mr Raskin... Such a cultural acceptance of violence would partly explain both its frequency and the extent to which crimes are not reported to the police.[1]

The article's elements will be familiar to any casual consumer of modern South African crime journalism: statistics on police-recorded crimes are provided and shown to compare unfavourably with places like the United States; a police spokesperson suggests that crime is largely driven by drunken interpersonal arguments and opportunistic predation on those few with incomes; the rising murder rate is linked to increased availability of firearms; experts point to the concentration of crime in deprived areas, with high unemployment, poor facilities, inadequate policing, and a sense of community disorganisation; there is mention of inequality, as well as a widespread sense of alienation from the law and the normalisation of violence and imprisonment; and an important caveat is introduced (not incidentally, by a criminologist at the University of Cape Town) as to the incompleteness of the official police-recorded crime statistics, given that many — especially in 'socially and economically deprived areas' — see little incentive to report crime to the police. With a few semantic tweaks, these arguments could have been produced by any local media house within the last year.

In fact, this article was published in the *Rand Daily Mail* on the 12th of June 1979. It is striking that, despite the passage of over 40 eventful years, despite the scale of the intervening reorganisation of structures of politics, law, policing, higher education, and media, an article on the same subject today would look little different. So it is that this

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[1] 'When Violence Becomes a Way of Life...' *Rand Daily Mail* 12 June 1979.

dissertation arose from a sense of déjà vu and from the puzzle of how so little could have changed in both popular and scholarly discourse around the trends, patterns, and causes of crime in South Africa.

Whereas dissertations in other disciplines may need to devote considerable space to justifying their practical implications, this is seldom so in criminology. The impact of crime on the bodies, lives, and livelihoods of those in the country will be viscerally familiar to the reader. Incidents of individual loss and trauma ripple outward to cause incalculable harm. Fear of crime leads people to avoid going to public spaces, using public transport, allowing their children to play outside, starting a home business, or even dressing the way they choose.[2] Attempts to prevent and respond to crime divert vast resources away from more productive investments in national development.[3] Over R152 billion, or 8.4 per cent of South Africa's 2019/20 national budget has been allocated to police services, law courts and prisons.[4] Understanding crime — how, when, where, and especially why it happens — is fundamental to its prevention. It is a matter of urgent and literal life and death, but also of the current and future health and functioning of the entire polity.

This dissertation is also informed by the belief that criminologists have a duty not just of observation and analysis, but of responsible engagement with popular 'crime talk'. The relations between private troubles and public issues remain as intriguing and fruitful as ever.[5] In this spirit, anthropologists of crime have revealed the importance of 'crime talk' — that is, the discourses through which state authorities, media, and groups of citizens create and negotiate the concepts of crime and the criminal.[6] These groups use such talk to constitute and legitimate themselves and promote conformity and moral solidarity. Pre-modern

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[2] Statistics South Africa *Victims of Crime Survey 2017/18* (2018) at 78.

[3] See for example Christopher Stone 'Crime Justice and Growth in South Africa: Toward a Plausible Contribution from Criminal Justice to Economic Growth' (2006) *Economic Growth Working Papers* at 9.

[4] Republic of South Africa Department of National Treasury *Key Budget Statistics 2019* (2019) http://www.treasury.gov.za/documents/National Budget/2019/review/KeyBudgetStatistics.pdf.

[5] Tim Hope & Richard Sparks 'Introduction: Risk Insecurity and the Politics of Law and Order' in Tim Hope & Richard Sparks (eds) *Crime Risk and Insecurity: Law and Order in Everyday Life and Political Discourse* (2000) 4.

[6] Jane Schneider & Peter Schneider 'The Anthropology of Crime and Criminalization' (2008) 37 *Annual Review of Anthropology* 1.

Europe's public spectacles of punishment evolved through the 'cowboy melodrama of the nineteenth-century dime novel,' into a twenty-first century cornucopia of cops-and-robbers news and/or entertainment.[7] Fictional crime talk has been refined to meet almost any aesthetic preference.[8]

Ostensibly non-fiction crime talk can be equally fanciful and bound up with individual outlook. Indeed, public perceptions of crime prevalence can be extremely, even humorously out of keeping with other, more systematic measures.[9] Surveys often find that perceived trends in crime have little in common even with the crime experience trends captured in those same surveys.[10] Public innumeracy, powerful media narratives and incentives, and various cognitive biases play important roles. But the key reason why popular impressions of crime prevalence can depart from more reliable sources is that impressions of crime are partly cognitive responses to processes of communication, but also unconscious emotional reactions to a range of observations and values. Feelings of insecurity reflect feelings of malaise, vulnerability, and helplessness that can have many origins[11] — including about the nation-state overall[12] and the immediate spatial environment.[13] They stand as proxy for other insecurities about social and cultural change, especially around race.

Little surprise, then, that they have been so formative in South Africa. The white settler society was built around its fear of the barbarous native (always in uncomfortable

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[7] Gregg Barak 'Chapter 1: Media Society and Criminology' in Gregg Barak (ed) *Media Process and the Social Construction of Crime: Studies in Newsmaking Criminology* 2 ed. (2011) 5.

[8] The range and exactness of crime fiction sub-genres available is such that discerning book buyers on Amazon.com can for example narrow their search to only those police procedurals involving lesbian protagonists, only those hard-boiled detective stories with a military theme, or only those mysteries featuring British detectives and involving a romantic theme. As of 4 March 2019 these options numbered 178, 362 and over 2000 respectively.

[9] See for example Margaret Vandiver & David Giacopassi 'One Million and Counting: Students' Estimates of the Annual Number of Homicides in the US' (1997) 8 *Journal of Criminal Justice Education* 2.

[10] Megan Govender 'The Paradox of Crime Perceptions: SAPS Crime Statistics Victims of Crime Surveys and the Media' (2013) 46 *South African Crime Quarterly*.

[11] Mark Elchardus, Saskia De Groof & Wendy Smits 'Rational Fear or Represented Malaise: A Crucial Test of Two Paradigms Explaining Fear of Crime' (2013) 51 *Sociological Perspectives* 3.

[12] Mabel Berezin 'Secure States: Towards a Political Sociology of Emotion' (2002) 50 *Sociological Review* S2.

[13] John R Hipp 'Resident Perceptions of Crime and Disorder: How Much Is 'Bias' and How Much Is Social Environment Differences?' (2010) 48 *Criminology* 2.

juxtaposition to the need for its labour). Later, crime talk contributed to a vision of protectionism and Afrikaner upliftment, as well as the strict separation of the 'races' — in other words, in the very conception of Apartheid.[14] In the final years of Apartheid, it became increasingly difficult to accept the long-held illusion of the powerful, dangerous and omnipotent police state.[15] Crime talk, tightly entangled with more overtly political talk about national security, took on an apocalyptic character.

After 1994, there came a whole new project of institutionalising norms, values and procedures into a legitimate nation-state for all who live in it. The sense of flux and uncertainty inevitably saw expression in feelings of insecurity.[16] As is typical in contexts of rapid change, crime talk quickly assumed a 'nostalgic and conservative… politically reactionary, tone,'[17] with lasting consequences for policy.[18] Crime talk, both explicitly and flimsily disguised, now stands in for talk about the success of racial reconciliation, the viability of post-Apartheid democracy, and even the legacy of colonialism.[19] At every level, it is a valuable commodity in the marketplace for private security services and equipment — and the marketplace of political discourse.[20]

Not only does crime itself matter, but the ways in which we talk about crime matters. It has real consequences. It should be guided wherever possible by the best available data. This speaks to the need for 'public scholarship', which seeks to connect academic scholarship with policy communities and civil society.[21] Criminology, with its 'field of enquiry constituted in significant part by its close proximity to government and the institutions of

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[14] Dirk van Zyl Smit 'Adopting and Adapting Criminological Ideas: Criminology and Afrikaner Nationalism in South Africa' (1989) 13 *Contemporary Crises* 3 at 241.

[15] Thomas Blom Hansen 'Performers of Sovereignty: On the Privatization of Security in Urban South Africa' (2006) 26 *Critique of Anthropology* 3 at 280.

[16] Berezin op cit note 12.

[17] Hope & Sparks op cit note 5 at 5.

[18] Gail Super *Governing through Crime in South Africa* (2013).

[19] Jean Comaroff & John L Comaroff 'Figuring Crime: Quantifacts and the Production of the Un/Real' (2006) 18 *Public Culture* 1.

[20] Hope & Sparks op cit note 5 at 1.

[21] Julie Tieberghien & Mark Monaghan 'Public Scholarship and the Evidence Movement: Understanding and Learning from Belgian Drug Policy Development' (2018) 15 *European Journal of Criminology* 3.

social control' is an area whose practitioners have understandably been particularly 'concerned to participate in, and make effective contributions to, the realm of politics and practical affairs'.[22] In this field, the ivory tower is never too far from the street corner, the town hall, and the dinner table. It can and must challenge popular wisdom and bring nuance to the generic, by means of its capacity for both theoretical depth and methodological rigour.

But this dissertation is decidedly not about the disjuncture between, on the one hand, clumsy and politicised popular understandings of South African crime, and on the other hand, rarefied scholarly ones. On the contrary, it reveals the extent to which scholars have failed to establish such a distinction in addressing questions of crime causation. The South African criminological field has flourished in some spheres, such as in its reflections on modes of crime control and on its own roles within them. But it has been markedly unsuccessful in bringing its theoretical depth and methodological rigour to bear in the explanation and understanding of crime itself. The scant analysis along such lines by those who might self-identify as 'criminologists' is often indistinguishable from the general musings of a layperson with a passing interest in seeming knowledgeable about a subject of popular interest.

Among all the other ways of thinking about crime, however, what should be distinctive about criminological thinking is that it engages explicitly with existing knowledge and seeks to accumulate new knowledge in a way that is systematic and can withstand scrutiny on not only logical and normative grounds, but also empirical ones. The point here is not to invoke intellectual snobbery, but rather humility. Regardless of the status of their source, statements not based on rigorous empirical observation should be regarded as little more authoritative than guesswork. So it is that this dissertation takes up the question of the relationship between South African criminologists and the empirical. Ironically, its own empirical contribution is far more modest than its analyses on the levels of meta-theory, history, and critical appraisal.

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[22] Ian Loader & Richard Sparks *Public Criminology?* (2011).

South Africa's aetiological crisis

This dissertation speaks directly to what has been described as the 'aetiological crisis' of post-Apartheid criminology.[23] 'Aetiology' (alternatively the archaic 'ætiology' or the preferred American spelling 'etiology') refers to the investigation and attribution of causation. Bill Dixon made this diagnosis of crisis based on his observation of the discipline's tendency to avoid primary criminology — to focus on crime control rather than attempt to answer questions about crime itself, which has left it unable to give satisfactory accounts of why levels of crime and violence are (still) so high.

It is this conversation about the history, nature, and imperatives of the South African discipline of criminology that this dissertation joins. This discussion is typically framed as being about who or what the discipline is for. Instead, this dissertation frames it as a question of how we know about the thing(s) we seek to know. It expands on the concept of aetiological crisis by asking several questions:

- What is the nature of this crisis?
- How can we account for it?
- How severe is it?
- What can be done about it?

The core argument is that the aetiological crisis in South Africa should be understood and addressed as arising from an empirical crisis, which in turn arises from a dilemma of crime prevalence measurement. This dilemma is in some respects inherent to the task of primary criminology,[24] but its origin and manifestation are also uniquely crippling and revealing in the South African context. These are exceptionally aggravating local circumstances for a generic challenge.

It is common for texts on the structural aetiology of crime in South Africa to treat the magnitude, nature, or trend of that crime as common sense and so well-established that any attempt at empirical support would be absurd. An introductory paragraph typically describes the object of explanatory interest in terms as alarming as they are vague. Levels of crime and/or violence are invariably presumed to be very high and usually increasing. Often these

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[23] Bill Dixon 'The Aetiological Crisis in South African Criminology' (2013) 46 *Australian and New Zealand Journal of Criminology* 3.

[24] Some may prefer the term 'fundamental criminology'. See Bill Dixon 'In Search of Interactive Globalisation: Critical Criminology in South Africa's Transition' (2004) 41 *Crime Law and Social Change* at 328.

are conflated, as if anything bad must be increasing, or as if any suggestion of improvement is inconceivable and indefensible. Worse, many also take a quick swipe at the very notion that there is any prospect of or utility in trying to establish a more solid empirical base. See the following two examples.

> Sexual violence in particular has spiralled, with survey after survey suggesting that South Africa has higher levels of rape of women and children than anywhere else in the world not at war or embroiled in civil conflict. This claim, and the statistics that support it, are often angrily contested, with the result that yet more data are collected and yet more quantitative analysis is undertaken by yet more reputable organisations and institutes. All emerge with the same grim findings, which are regularly reported in the mainstream media: at least one in three South African women can expect to be raped in her lifetime; and one in four will be beaten by her domestic partner… Unfortunately, while there is no doubt that sexual violence has always been prevalent in South Africa, there is also no avoiding the fact that the first ten years of the new state have seen a dramatic increase in sexual assaults on women, children and men.[25]

> [W]e do know that we compare extremely badly with countries in the Western world, even the notoriously violent United States, which has a murder rate of seven to eight times lower than that of South Africa…I do not want to get sidetracked here into a discussion about statistics because these have been analysed thoroughly and intelligently by a number of crime commentators, especially those associated with the Institute for Security Studies and its allied journal, SA Crime Quarterly. Suffice it to say that South Africa has an appallingly high murder and violent crime rate. This I am taking as a starting point. We have no way of knowing whether we compare favourably with countries like Nigeria, but does that matter? It makes comparative analysis extremely tenuous, but that does not mean that questions about our own crime levels are any less urgent.[26]

Here, in quick succession, we are told that the crime phenomena under respective discussion are bad, are getting worse, have always been bad, are worse than in other places, but also can't meaningfully be compared to other places, are well-established, but are also unknown and perhaps unknowable. But these are distinct claims, suggesting quite different research questions and possible explanatory theories. Such tangles succeed in establishing the

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[25] Helen Moffett ''These Women They Force Us to Rape Them': Rape as Narrative of Social Control in Post-Apartheid South Africa' (2006) 32 *Journal of Southern African Studies* 1 at 129–32.

[26] Clive Glaser 'Violent Crime in South Africa: Historical Perspectives' (2008) 60 *South African Historical Journal* 3 at 335.

importance and urgency of these authors' work and placing their conclusions beyond defensible scrutiny, while exempting them from close empirical engagement with their precise object of explanation. The reader has little option but to take their word for it — with 'it' being some indeterminate, indeterminable, but obviously appalling feature of crime.

This dissertation argues that scholars have erred in thus far treating the question of the quantification of crime prevalence patterns or trends as trivial in either one or the other sense of the word.[27] That is, trivial in the sense of being so obvious as to be barely worthy of explanation, or in the sense of being meaningless and uninteresting. Some have ignored quite the extent of the challenge, while others have taken it as licence to effectively renounce the empirical. Some have been too quick to accept state-defined 'crime' as their explanatory mandate, others too quick to reject it entirely. A few have sought to have their cake and eat it too — to spurn the notion that there can be any meaningful account of crime prevalence, while in the same text building their analysis on precisely such an account.

The reason for all this is that the meaning and measure of crime involve fundamental ambiguities. There is a sense in which crime can be observed as entirely real, with real effects, following real patterns, and showing causal links with other phenomena and circumstances. There is also a sense in which crime is a political definition through which the powerful control access to resources, and in which its enumeration is entirely a function of the highly variable operation of the formal agencies of social control. South Africa is widely understood to be a high-crime context and is also the epitome of a society defined by social and racial conflict and oppression. As such, it presents an extreme case of the tension between the practical demands of a broadly realist epistemology and an inescapably critical and constructivist understanding of crime. This tension is not resolved by picking a paradigm. It is incurable, but it need not be terminal.[28]

This dissertation engages in the slog required to square that circle, not with any expectation of finding a solution, but with the conviction that continuous engagement on this terrain offers substance to the discipline. Indeed, the ways in which we grapple with the ambiguities around conceptualising and observing our object(s) of inquiry — with the

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[27] 'Trivial' comes from the Latin 'trivium' literally meaning 'place where three roads meet' – or a 'crossroad'. This being an area regularly traversed and open to all came to mean commonplace or unremarkable.

[28] The recent novel coronavirus pandemic has offered laypeople an interesting parallel crash course in the dilemmas involved with disease epidemiology.

ontology and epistemology of crime — *are* the very substance of the discipline as an intellectual project. They are not inconvenient caveats to be noted in passing. They are the building blocks of primary criminological knowledge. They are the generators of its growth.

This dissertation offers a novel account of the nature, origin, severity, implications, and possibilities of the aetiological crisis in post-Apartheid South African criminology. It extracts conceptual tools from the philosophy of social science to illustrate the nature and extent of the meta-theoretical dilemma of crime prevalence measurement. It draws from a historical and technical understanding to unpack the ways in which this dilemma has manifested in the context of crime scholarship in South Africa. It reviews contemporary, structural aetiological literature to demonstrate the resulting extent and inevitability of stagnation.

In a conscious attempt to avoid the temptations of navel-gazing or devoting effort only to critique, rather than to building something, it explores why, whether and how crime statistics could be used to make defensible claims about long-term South African crime prevalence trends in a way that could prove theoretically productive. It brings together a dataset far more extensive than any other in existence. It develops and employs a technical methodology to render that data intelligible. It produces an empirical finding that exposes the magnitude of the deficiency of existing explanatory theory, but in so doing suggests a means by which future work might do better.

It is not, however, an exercise in 'crime science' or an attempt to 'replace politics with calculation'.[29] It speaks rather more to the role that Loader and Sparks have described as that of the 'democratic under-labourer,' and builds from their premise that the production of knowledge about crime itself remains the primary task of the discipline. Its core analysis is not quantitative and it does not take the traditional form of quantitative empirical work — namely introduction, literature review, theory, methodology, results, analysis, and conclusion.

On a final note, this dissertation offers a playful parallel to fictional crime talk. The appeal of the murder mystery genre lies in the extraordinary empirical access it affords into otherwise private, imagined lives. The detective is required and permitted to intrude. Her goal is to make causal statements that can withstand forensic scrutiny. But what holds the reader's interest is the documentation of an idiosyncratic, imperfect empirical methodology. It is in

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[29] Loader & Sparks *Public Criminology?* op cit note 22 at 135.

the minutiae of the process of obtaining and interpreting data that we gain knowledge about characters, contexts, and relationships that would otherwise remain hidden.

Chapter overview

Although each of the substantive chapters of this dissertation represents a distinct contribution to the discipline, based on a different mode of inquiry, their analyses develop cumulatively. Chapter two introduces the key concepts and related areas of existing literature that situate and give meaning to this topic. First is the notion of the explanation of crime. Of the countless questions that can be asked about crime, one type explores variations on the formative question of the discipline: Why does crime happen? This is the aetiological question. It implies an approach that can be called 'primary criminology', which pursues knowledge about the patterns, causes, and most effective responses to crime by means of some form of systematic empirical observation.

Having established this foundational context, chapter two outlines existing arguments around the suggestion that contemporary South African criminology has retreated from this task of investigating the causation of crime. The discipline has been diagnosed as suffering from an explanatory crisis. The reasons for this crisis have thus far been framed in normative terms. In contrast, the suggestion in this dissertation is that the problem is empirical.

Next, Chapter two distinguishes the idea of a primary criminology which directly engages the sociological imagination. It suggests a framework and introduces some heuristic tools to make sense of different levels of explanation. The macro level focuses directly on features of the structural environment and explores a causal relationship of some kind between some aggregate condition(s) and some feature(s) of crime in the aggregate.

Finally, Chapter two lays the groundwork for the dissertation's sustained discussion of the problem of aggregate crime prevalence measurement, particularly in the form of the official figures on crimes recorded by the police. These offer an unrivalled means of making reliable and specific claims about relative crime prevalence over time and/or space. However, they are deceptively slippery tools. In clumsy hands, they are far more likely to deceive than reveal. Employing them responsibly requires considerable skill in both theory and methodology. If nothing else, this dissertation is a demonstration of the value and complexity of that skill.

Chapter three integrates the concepts introduced in Chapter two into a meta-theoretical analysis. It suggests that to be productive, structural aetiology logically entails meeting certain requirements. It draws from the philosophy of (social) science to suggest that the domains of comparison and evaluation of causal theory are precision and logical consistency, parsimony and scope, practical implications, empirical validity, and testability. This last is particularly important and arguably underpins the others. Testability, or a means of subjecting an explanation to empirical scrutiny, is a prerequisite of productive inquiry within a broadly positivist/empiricist paradigm. Because macro-level aetiology seeks to explain some aspect of crime in the aggregate, it must gain empirical purchase on crime in aggregate. This requires some defensible account of levels, patterns, or trends in crime prevalence. This is a very difficult, if not impossible, task. Its difficulty involves reconciling ambiguities around both the ontology (or 'thingness') and epistemology (or 'knowability') of crime. The ontology and epistemology of 'crime' offer serious challenges even in the best of circumstances.

As Chapter three goes on to argue, official police-recorded crime statistics are the standard and superlative mechanism of crime prevalence measurement. They have been formative of and will remain core to the endeavour of structural aetiology. It has been suggested that the early research of the 'great founders of criminal statistics' during the 1830s largely established criminology as a modern social science.[30] This massive pre-existing dataset allows for incomparable degrees of disaggregation in space and time. It would be foolish to dismiss it as a tool of discovery, as means to challenge popular wisdom and bring precision and nuance to the simple and the generic. Yet it is subject to major ontological and epistemological (and normative) disputes and uncertainties. Chapter three concludes that the twin necessity and impossibility of crime prevalence measurement, as demonstrated in the difficulties in using official police-recorded crime statistics, constitute a fundamental meta-theoretical dilemma for criminological macro-aetiology.

Chapter four builds on this to explore how the problem of crime prevalence measurement, as quantified in official crime statistics, has been both formulated by and formative of the development of the South African discipline of criminology. It places the abstract dilemma proposed in Chapter three in the South African historical context. The

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[30] Ruth Ann Triplett (ed) *The Handbook of the History and Philosophy of Criminology* (2018) at 69.

dilemma has here proven crippling. Chapter four discusses how the extent and nature of the colonial and especially Apartheid states made for acute ontological and epistemological (and normative) ambiguities around the use and interpretation of crime statistics. South African scholars have had to contend with a historical scarcity of even minimally defensible criminological statistics. The best available data on offer in South Africa — the kind required to assess and refine explanations of crime in the aggregate — have never been up to the precious few tasks to which they have been put.

The shortcomings of the available crime prevalence data are widely acknowledged by South African criminologists, but they have taken it as license to do one of two things: either dismiss the prospect of rigorous structural observation or proceed as if the empirical problems do not exist. For different reasons, none of the intellectual traditions that have shaped the discipline have had cause to grapple with South African crime statistics as tools of genuine aetiological inquiry. They have thus been allowed to lie largely fallow. The argument of Chapter four is that the discipline has been unwilling and/or unable to give coherent account of what is to be done with or about crime statistics.

Chapter five brings the analysis up to date. It reviews contemporary South African macro-aetiological scholarship by means of the heuristic devices suggested in Chapter two and in the context of the requirements of primary structural aetiology, developed in Chapter three. It suggests that the aetiological crisis is far more severe and widespread than previously thought. But this crisis is not the result of any particular failing on the part of the cited scholars. Rather, it is the inevitable outcome of the dilemma of empirical testability in structural aetiology, as manifested in different ways by different explanatory approaches. There is no meaningful way to make empirical purchase on ‘crime’ as a general phenomenon, as well as on an inclusive account of its proposed macro-level determinants. The more inclusive and general a proposed explanation, the less likely it is to offer the prospect of logical clarity, and the more likely it is to end in a cul-de-sac of vague speculation. The more parsimonious and particular a proposed explanation, the likelier it is to be conceivably testable. Indeed, Chapter five concludes that the task of understanding ‘crime’ in South Africa is doomed to stalemate. It should be abandoned in favour of applying proper rigour in the development of clear causal claims about more limited phenomena.

Chapter six offers an empirical demonstration of quite how far from trivial is the problem of crime prevalence measurement. To do so, it seeks to establish, as defensibly as possible, just one observation about long-term South African crime prevalence trends that

would seem to deserve and require explanatory effort. It pursues an explanandum sufficiently narrow and specific as to allow for conceivable testability but offers no explanans and no causal speculation. Among other things, its goal is to demonstrate the extent and inevitability of the uncertainties, tensions, and ambiguities involved in simply making a relatively defensible claim about long-term South African crime prevalence trends.

It discusses one popular means by which the general phenomenon of 'crime' can be rendered more particular and testable: by restricting the analysis to recorded rates of murder. Their use considerably reduces but does not resolve the scale of the ontological and epistemological obstacles that constitute structural criminology's empirical dilemma. Murder rates offer a uniquely robust quantitative tool to make relatively defensible statements about how much crime is happening where and when.

As argued in Chapter six, murder, or intentional homicide, is arguably the 'ultimate crime'.[31] On a practical level, its 'indisputable physical consequences manifested in the form of a dead body also make it the most categorical and calculable'.[32] This makes its extent subject to corroboration from independent sources, such as population registers and especially mortuary records. This is why the United Nations and many others consider it a 'robust indicator of levels of security within states'.[33] The recorded rate of murder has been selected as the primary or only dependent variable in the overwhelming majority of comparative crime research, of research into long-term crime trends, and of empirical tests of the most long-standing structural theories of crime.[34]

The official murder statistics collected and disseminated by South African police offer scope for macro-aetiological testability at unrivalled scale. Putting them to such use nevertheless involves serious challenges. Chapter six demonstrates the painstaking methods required to collect raw figures of official police-recorded murders over the longest-possible time frame and at the lowest-possible level of geographic aggregation and combine them with

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[31] United Nations Office on Drugs and Crime *Global Study on Homicide 2013* (2013).

[32] United Nations Office on Drugs and Crime *Global Study on Homicide 2011* (2011).

[33] United Nations Office on Drugs and Crime (2013) op cit note 31.

[34] Marcelo F Aebi & Antonia Linde 'Long-Term Trends in Crime: Continuity and Change' in Paul Knepper & Anja Johansen (eds) *The Oxford Handbook of the History of Crime and Criminal Justice* (2016) at 61.

the population data necessary to produce the rates per capita that make them minimally comparable.

It succeeds in producing a nearly continuous time series of annual, national-level, police-recorded murder rates from 1911 to 2019. This span of 108 years more than triples that of any published academic analyses. To allow for longitudinal analysis at a lower level of geographic aggregation than the nation, it was necessary to use Geographic Information System technology to digitally overlay recorded murder figures from each of the country's police stations with population data from the national censuses of 1996, 2001, and 2011. The result is a set of murder rates per capita to track murder prevalence over the period 1994 to date on the smallest-possible level of geographic aggregation, which Chapter six argues is the municipal level.

No attempt is made to put this large, new dataset to the test of any existing or proposed new causal theory, although it is intended that such use will follow. Rather, what is offered is a detailed demonstration of one half of how one may go about operationalising macro-aetiological propositions, as well as a single observation that would seem to require explanation. There was a large, unprecedented, and widespread decrease in murder rates from 1994 to 2011. This is arguably the single most defensible statement that can be made about South African long-term crime prevalence trends.

The seventh and concluding chapter offers summary and synthesis. It suggests that the large, unprecedented, and widespread decrease in murder rates from 1994 to 2011 is poorly explained by existing theory. Similar recorded crime rate declines in other countries, primarily the United States, have generated as many as 21 different proposed explanations.[35] The South African discipline's failure to make reliable and specific claims about relative crime prevalence over time and/or space is such that it has been unable even to identify that which is relatively unequivocal and cries out for explanation.

Bringing together the preceding meta-theoretical, historical, and empirical propositions, Chapter seven concludes that there is an unidentified void at what should be the empirical heart of South African criminology. The aetiological crisis in post-Apartheid South African criminology reflects a fundamental dilemma of empirical testability. The measurement of crime prevalence patterns and trends is far from trivial. It makes for a

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[35] P Knepper 'Falling Crime Rates: What Happened Last Time?' (2015) 19 *Theoretical Criminology*.

chronic struggle to make defensible and specific claims about relative crime prevalence over time and/or space. This underpins all attempts at structural aetiology. The nature, origin, severity, implications, and possibilities of the aetiological crisis are far more complex than previously imagined.

South African criminology requires far more humility and curiosity about the basis of its ‘knowledge’ about the patterns, causes, and most effective responses to crime. It must engage head-on the question of how to go about systematic empirical observation in the context of profound — and, here, particularly acute — ambiguity about the meaning and measure of crime. Its historical schisms have meant that the tools for productive primary criminology are scattered, with each of the intellectual traditions developing and hoarding their own share. This is to the detriment not only of the discipline, but also of the nation. Debates around what criminology is *for* remain important. What they need is to be complemented by a vigorous new debate about what criminology can, can’t, and should *know*.

Chapter two: Context and justification

This dissertation joins an already vibrant conversation about the history, nature, and imperatives of the discipline of South African criminology. It discusses the nature, origin, severity, implications, and possibilities for what has been described as its aetiological crisis. It does so by exploring the endeavour of the structural explanation(s) of crime, by means of official crime statistics. This first chapter introduces the five areas of existing literature that give meaning to this topic.

It begins by situating it in the discipline most broadly and sketching out the place of primary criminology, or the aetiological question. Next, it presents the existing discussion of post-Apartheid South African criminology's failure at this endeavour. The argument then returns to the abstract, to differentiate this dissertation's response to this failure and to establish some heuristic tools for later analysis. This centres on explanation of the structural or macro-level, meaning the investigation of causal relationships between some aggregate condition(s) and some feature(s) of crime in the aggregate. The fifth and final proposed piece of the establishing framework is the idea that primary, structural aetiology may be pursued through quantitative methods. Numbers offer both advantages and considerable disadvantages in the description of crime in the aggregate.

These key areas of scholarship provide the justification and conceptual scaffolding for this dissertation. However, each of the chapters that follow draws directly and indirectly on a range of other literatures to build and substantiate the arguments.

Primary criminology

Criminology has famously been described as a 'rendezvous subject', of bringing together around some notion of 'crime' a 'great crowd of very diverse people meeting up and passing through, sometimes establishing fruitful exchange, sometimes merely rubbing shoulders in the crowded passages of textbooks and conferences'.[36] Just one among the rich plurality of

[36] David Garland & Richard Sparks 'Criminology Social Theory and the Challenge of Our Times' (2000) 40 *British Journal of Criminology* at 193.

modes of criminological enquiry (to the limited extent that it is possible or desirable to treat them as discrete) is what can be called 'primary criminology'.[37]

This branch is in the business of producing knowledge about the patterns, causes, and most effective responses to crime. Its focus is chiefly on law breaking, rather than law making or reactions to law breaking, or the many other analogous questions that may be of interest, especially within a postcolonial context.[38] The questions it explores are variations on and direct spinoffs from what remains the formative question of the discipline (such as it is): Why do people commit crime? This is the aetiological question.

Primary criminology has at various times and in certain intellectual spaces been disparaged, especially for its often-uncritical assumption that 'crime' is a distinct, objectively measurable and predictable phenomenon, and for its blithe acceptance of state definitions of 'crime'. Many have pointed out that the rhetorical, social, and official responses to acts may be more decisive in rendering them 'criminal' than their intrinsic nature and that the behaviour of the powerful is far less likely to attract such designations.[39] Quantitative tools have come in for some of the harshest reproach. The stark injustice of state law making and enforcement under Apartheid has lent these critiques additional historical heat in the South African context, as elaborated in Chapter four. Other theoretical accounts (notably left realism) have sought to defend the value of empirical methodologies while speaking out against abstract empiricism,[40] while also drawing attention to the contextual and social relations that construct the representation of crime.[41] Causal explanation continues to be pursued by those of a variety of theoretical orientations.

This pursuit may be said to branch into, on the one hand, the work of those who might consider themselves 'theorists', for whom empirical research is merely a handmaiden to

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[37] Ian Loader & Richard Sparks 'Criminology's Public Roles: A Drama in Six Acts' in Mary Bosworth & Carolyn Hoyle (eds) *What Is Criminology?* (2011) at 20.

[38] See for example Clifford Shearing & Monique Marks 'Criminology's Disney World: The Ethnographer's Ride of South African Criminal Justice' in Mary Bosworth & Carolyn Hoyle (eds) *What Is Criminology?* (2011).

[39] See for example Vincenzo Ruggiero *Crime and Markets: Essays in Anti-Criminology Clarendon Studies in Criminology* (2001) at 3.

[40] Martin D Schwartz & Walter S DeKeseredy 'Left Realist Criminology: Strengths Weaknesses and the Feminist Critique' (1991) 15 *Crime Law and Social Change* 1 at 52.

[41] Jock Young 'The Tasks Facing a Realist Criminology' (1987) 11 *Contemporary Crises* 4 at 337.

theory,[42] and on the other hand of those who are hesitant to engage too abstractly and who tend to focus on more practical problems.[43] This latter group often concentrate on specific locations or specific instances of their narrowly defined problem and may not explicitly formulate their research with reference to certain established theories or reflect on what their findings mean for more generalised theories.[44]

Yet even the most empirical reports are informed by assumptions about human nature, the scope of human agency, and the nature of social relations. They are constituted by the kinds of questions selected, the forms and sources of knowledge sought, the analytical methods applied, and so on. Empirical work is necessarily the product of limited information, filtered through specific instruments of observation, and subjected to decisions and interpretations at various stages.[45] All are given aim and coherence by tacit interpretive frames,[46] which may well look a great deal like 'theory' as understood by at least some of the different models or philosophies of doing criminology.[47]

As in social thinking more generally, several of what are sometimes called criminological 'theories' are primarily propositions of explanatory strategy and of epistemological, ontological, and methodological terrain.[48] These are more properly called theoretical paradigms, frameworks, or frames of reference. They are matters of philosophical orientation, assertions of what aspects of the field require explanatory attention and of how one should go about forming those explanations. They are not necessarily in competition with one another and there should be no expectation of 'falsification' or movement towards consensus. Paradigms may sometimes be incommensurable to the point where it may be impossible to communicate between them, but their tensions may also contribute to fruitful

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[42] Charles R Tittle 'Introduction: Theory and Contemporary Criminology' in Alex R Piquero (ed) *The Handbook of Criminological Theory* (2016) at 4.

[43] Paul Rock & Simon Holdaway 'Thinking about Criminology: 'Facts Are Bits of Biography'' in Simon Holdaway and Paul Rock (eds) (1998) *Thinking about Criminology* at 4.

[44] Tittle op cit note 42 at 11.

[45] Andrew Bennett 'The Mother of All Isms: Causal Mechanisms and Structured Pluralism in International Relations Theory' (2013) 19 *European Journal of International Relations* 3 at 466.

[46] Rock & Holdaway op cit note 43 at 10.

[47] Tittle op cit note 42 at 1.

[48] Charles Tilly 'Mechanisms in Political Processes' (2001) 4 *Annual Review of Political Science* 4 at 21–22.

discussion.[49] One common way these are categorised on the broadest level, for example, is as the classical school (which tends to see crime as the product of individuals' free choice), the positive school (which understands crime as to a significant extent explained by factors beyond individual control), and the critical school (which stresses the ways in which crime is determined by the form and enforcement of the law itself).

The term 'positivist' is perhaps most frequently used in a derogatory tone, to indicate 'mindless acceptance of existing political arrangements'.[50] Its critics often ascribe to it a range of unpalatable assumptions and policy implications. Yet most of the standard aetiological theories in criminology operate from a more-or-less positive logic, whether biological, psychological, or sociological. This paradigm assumes that at least some criminal behaviours are meaningfully distinguishable from non-criminal behaviours and that these differences may follow measurable and generalisable patterns. It seeks 'objectivity' by means of the scientific method. The basis of positivism is a close relationship with the empirical. It stresses the idea that 'intellectual disciplines can progress only to the degree that their knowledge is grounded in facts and experience'.[51] It holds that answers to theoretical questions are less likely to derive from groundless speculation as from the scientific method, which is to say systematic empirical observation.[52]

The term 'primary criminology' is preferred and used in this dissertation. This is partly to avoid positivism's common — but by no means inherent — connotations of adherence to statistical association as the only basis of explanation, of theoretical and methodological naivety, and of conservatism. The empirical can just as easily disturb the status quo in knowledge or politics as it can clumsily reinforce them. It is also to emphasise the importance of the 'moment of discovery', not in opposition to but in support of the

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[49] Lieven Pauwels 'Analytical Criminology: A Style of Theorizing and Analyzing the Micro-Macro Context of Acts of Crime' in Marc Cools et al. (eds) *Contemporary Issues in the Empirical Study of Crime* (2009) at 139.

[50] Michael R Gottfredson & Travis Hirschi 'The Positive Tradition' in Michael R Gottfredson & Travis Hirschi (eds) *Positive Criminology* (1987) at 9.

[51] Lawrence E Cohen & Kenneth C Land 'Sociological Positivism and the Explanation of Criminality' in Michael R Gottfredson & Travis Hirschi (eds) *Positive Criminology* (1987) at 43.

[52] John H Laub 'Data for Positive Criminology' in Michael R Gottfredson & Travis Hirschi (eds) *Positive Criminology* (1987) at 56.

'institutional-critical moment', and the 'normative moment' in criminology.[53] There are realist approaches, which take crime seriously as both product and producer of injustice, of decidedly radical political orientation and nuanced epistemology.[54] There is nothing inherently conservative or naively positivist about primary criminology. It is no more or less than the pursuit of the aetiological question — of whether and how the phenomenon of crime can be explained by some other phenomenon.

South African criminology's explanatory crisis

The field of criminological research in South Africa is relatively small and young. Its first local text by that name was published in 1933;[55] it was only introduced as an independent university subject in 1949 and the Criminological Society was only established in 1986.[56] Only nine university-linked departments of criminology offer undergraduate qualifications in criminology,[57] and only 13 South African institutions offer the subject at undergraduate or postgraduate level.[58] It has only a handful of dedicated local journals.[59] Even so, it has a long and heated history of real and perceived 'political, ideological and methodological wrangling' about its origins, scope, and purpose.[60] There is also a broad range of work that 'engages crime and violence, and that emanates from researchers, organisation and departments that

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[53] Loader & Sparks op cit note 37 at 125.

[54] John Lea 'Left Realism: A Radical Criminology for the Current Crisis' (2016) 5 *International Journal for Crime Justice and Social Democracy* 3.

[55] Van Zyl Smit *Adopting and Adapting Criminological Ideas* op cit note 14 at 232.

[56] Super op cit note 18 at 41.

[57] Christiaan Bezuidenhout & Anthony Minnaar 'To Professionalise or Not?' (2010) *Acta Criminologica: Southern African Journal of Criminology* CRIMSA 2009 Conference Special Edition at 11.

[58] Shanta Singh & Nirmala Gopal 'Criminology in the 21st Century: 'through the Eyes' of Academics' (2010) *Acta Criminologica: Southern African Journal of Criminology* CRIMSA 2009 Conference Special Edition at 15. This from a total of more than two dozen public universities alone.

[59] Chiefly: Acta Criminologica: Southern African Journal of Criminology, the South African Crime Quarterly (SACQ), and the South African Journal of Criminal Justice.

[60] Lillian Melinda Artz & Kelley Moult 'Gnawing at the Edges of Criminology: Working Outside/In' (2012) *Acta Criminologica: Southern African Journal of Criminology* CRIMSA 2011 Conference Special Edition at 3.

are not traditionally considered schools of criminology'.[61] 'Criminology' may once and in some places have been reasonably described as an 'autonomous and self-standing discipline', but its permeability is now so widely recognised that even the disinvention of its identity has become unfashionable.[62]

As such, there are countless existing and potential voices, assessments, critiques, and disputes of possible value to this still fresh, rough tapestry of a discipline. The analysis here seeks to pull on just one, as-yet barely acknowledged loose thread. This is the question of whether and how South African criminologists have succeeded in establishing logical and empirical bases for the investigation of crime causation.

A suggestion of the problem comes from Clive Glaser. His concern is not with the discipline of criminology, but with South African social historians (and, presumably, those in adjacent fields) who happen to have taken up the popular theme of criminal violence. The important causal mystery, for Glaser, is why levels of violent crime in post-Apartheid South Africa are so extremely, unusually high. He remarks that, despite the 'relentless conversations, newspaper stories, analysis of crime data, there is curiously little in-depth discussion about causation… There is much off-the-cuff conjecture, much simplistic blaming, but little systematic research.'[63]

The reason for this failure, Glaser seems to imply, is that '[t]here is, of course, a substantial denialist lobby which claims that South Africa's crime is not unusual by world standards'.[64] This statement stands alone as little more than rhetorical sneer. Indeed, Glaser is just as quick to repeat or offer his own convenient off-the-cuff conjecture. What Glaser does well to raise is the problem that historical and contextual explanatory breadth seem to come at the expense of depth. He notes the frequency with which the legacy of Apartheid is invoked but not detailed or elaborated. Such an argument is so all-encompassing as to be irrefutable. It amounts to 'saying that violent crime has to be explained by South Africa's

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[61] Artz & Moult op cit note 60 at 9.

[62] Garland & Sparks op cit note 36 at 190.

[63] Glaser op cit note 26 at 334.

[64] Ibid.

history'.[65] He proposes that the sociological questions about crime be addressed through close examination of the ways in which inequality and youth socialisation have been experienced by individual perpetrators.

The more substantial account and critique of causal analysis in South African criminology comes in Bill Dixon's 2013 paper in *The Australian and New Zealand Journal of Criminology*, 'The aetiological crisis in South African criminology'.[66] Although based at the University of Nottingham, Dixon has 20-odd years of experience and publications on crime and policing in South Africa. In the 2013 paper (as well as an earlier version in *South African Crime Quarterly*),[67] Dixon notes Anthony Altbeker's compelling account and explanation of South Africa's 'crisis of crime',[68] and explains that he aims instead to 'draw attention to, and attempt to account for, a closely related aetiological crisis in South African criminology'.[69] This object of critique he takes to encompass 'any and all work on South Africa that is concerned with crime, the means of controlling it and the process of criminalization, and is based on a systematic appraisal of relevant evidence while engaging with a wider literature on the subject(s) at hand'.[70]

The notion of aetiological crisis is drawn from Jock Young's earlier criticism of 'mainstream' Anglo-American theorists who struggled to explain why (contrary to prevailing theories on the role of social conditions) major improvements in social welfare in the second half of the twentieth century could be matched by rising crime levels. As Dixon puts it:

> According to Young, the aetiological crisis in British post-war criminology — eclectic, pragmatic and wedded to both positivism and correctionalism — was at its deepest in the 1960s. A more radical criminology soon emerged in response to the crisis but, by the mid-1980s, 'the Thermidor' had set in with the emergence of a 'new administrative criminology involving a retreat from any discussion of causality' (Young, 1986: 4). And so, writing in 1986, Young felt able to claim that, 'we have now

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[65] Glaser op cit note 26 at 339.

[66] Dixon *The Aetiological Crisis* op cit note 23.

[67] Bill Dixon 'Understanding 'Pointy Face': What Is Criminology For?' (2012) 41 *South African Crime Quarterly*.

[68] Antony Altbeker *A Country at War with Itself: South Africa's Crisis of Crime* (2007).

[69] Dixon *The Aetiological Crisis* op cit note 23 at 320.

[70] Ibid at 321.

> a criminology that has well nigh abandoned its historical mission of the search for the causes of crime' (Young, 1986: 4).
>
> In this paper I suggest that, since the end of apartheid, something rather similar has occurred in South African criminology. In much the same way as 'mainstream' social democratic criminology was confounded by the coincidence of inexorably rising crime rates with growth in real incomes, slum clearances, improved educational attainment and the expansion of social services in post-war Britain, so have those criminologists who looked forward to a new, democratic South Africa been nonplussed by the persistence of high levels of violent crime in a country freed from the economic, social and cultural fetters of racist autocracy.[71]

The question that South African criminologists have so damningly failed to address, says Dixon, is why levels of violent crime have remained so 'stubbornly high', or 'consistently high', since the end of Apartheid in 1994. Failure to come to terms with this unexpected and inconvenient empirical observation has meant a retreat from thinking about crime causation. He reviews several contemporary texts of South African criminology to demonstrate how rarely and perfunctorily they engage in causal analysis.

He ascribes this reticence to explore the causation of crime and violence to a number of factors, namely: the ideological commitment of many of South African criminologists to the reform of Apartheid policing and the institutionalisation of democratic values; their struggle to come to terms with the disappointment that this process has not been the panacea for crime; their failure to shift the racial composition of the discipline, and therefore both their particular reluctance to add fuel to the fires of afro-pessimism and their practical difficulties in doing good qualitative work with most marginalised populations; and finally the difficulty of sustaining cool, scholarly contemplation in the hot climate of a highly politically contentious issue.[72] For these reasons, South African criminologists have become leery of the Lombrosian or scientific project of understanding crime itself, instead focusing on the governmental or administrative one of understanding the reactions to crime.

As remedy, Dixon proposes that productive aetiological enquiry focus on the life courses of perpetrators, matching the rich context of human life with a thorough account of history. He suggests that we should work not so much to understand crime as to understand the criminal, who appears fleetingly in Altbeker's work as little more than a mysterious

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[71] Ibid at 320.

[72] Ibid; Dixon *Understanding 'Pointy Face'* op cit note 67.

villain with a 'pointy face'.[73] The charge of developing individual-level understandings of crime has since been admirably taken up by others, who have provided compelling detail on the operation of cycles of trauma and violence.[74] To the extent that such approaches explicitly locate their understandings of these micro-processes within macro-conditions, they are an invaluable contribution to structural aetiological thinking. This appears, however, to be about the extent to which Dixon's argument has resonated with other scholars. His core critique has gone largely unanswered.

One revealing exception is found in the work of Sarah Henkeman, who shares Dixon's concern for the blind spots of South African criminologists, but argues for the need for trans-disciplinary approaches and methodologies.[75] She takes issue with Dixon's (and others') focus on criminal justice rather than social justice, and with recent acts of individual, physical violence rather than the underlying trans-historical, racial, cultural, structural, and psychological violence on the part of privileged people and institutions globally. This would seem to offer precisely the kind of explanation warned against by Glaser. Worse, Henkeman's critique appears naive to a great deal of structural aetiological theory within even 'orthodox', Anglo-American criminology.

But what is most telling in Henkeman's response to Dixon is its suggestion that the discipline's explanatory crisis should be understood as arising from a conceptual, but more essentially normative, failing. The failure of South African aetiologists is rooted in their individualist, control-oriented perspective, as well as their culture of denial, which delinks the 'present manifest violence of historically oppressed people from the different forms of violence perpetrated by historically privileged people (by erasing the past)'.[76] The reason 'pointy face' has remained so mysterious is that 'pale face' refuses to acknowledge his own place in trans-historical violence. In a similar vein, others have suggested that the geographic and historical origins of the typical explanatory theories may make them inappropriate for

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[73] Dixon *Understanding 'Pointy Face'* op cit note 67.

[74] Chandré Gould *Beaten Bad: The Life Stories of Violent Offenders* (2015).

[75] Sarah Henkeman ''Pale Face'/'pointy Face': SA Criminology in Denial' (2013) 45 *South African Crime Quarterly*.

[76] Ibid at 7.

application in an African context.[77] The problem, Henkeman and others suggest, is that we aren't asking the right kinds of questions with the right frameworks.

This is the typical terrain of South African criminological dispute — the grounds of norms, politics, identity, and conceptual approach. Local journals and conferences feature frequent discussion about which questions should be asked, by whom, in which forum, using which theoretical framing, and to what end. These are important, unavoidable matters for contestation,[78] especially in a context where discussions on crime are so deeply entangled with the legacies of abusive power relations. But they can only take us so far. Rarely is an explanation assessed, logically and empirically, on its own terms. It is frankly astonishing how seldom proposed explanations are scrutinised for whether they are satisfactorily supported by their proposed (or any) empirical evidence. This may be because the field is so fragmented, yet still so small that collegiality demands sidelong confrontation, and because there remain so many fresh questions to take up. Other accounts are developed in the course of this dissertation. What seems clear is that the South African discipline mirrors the pattern observed elsewhere — that findings are seldom cumulative.[79] There is a sense of voices talking endlessly past each other.

As indicated by its title, it is chiefly Dixon's diagnosis of an explanatory crisis within South African criminology to which this dissertation responds. It does not, however, do so in the way Dixon recommends — by getting to intimate grips with the narratives of individuals involved with crime. Whatever its considerable advantages (not least methodologically), this is an incomplete and inadequate conceptual compromise. The sheer scale of crime in South Africa cannot reasonably be reduced to a sum of individual stories, however thoughtfully and thoroughly they might invoke the wider social and historical context. Neither is it satisfactory that we should be forced to abandon criminology's formative direct engagement of its sociological imagination. This dissertation thus extends in quite the other direction.

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[77] Bezuidenhout & Minnaar op cit note 57.

[78] Stanley Cohen 'Crime and Politics: Spot the Difference' (1996) 47 *The British Journal of Sociology* 1.

[79] Roger Matthews 'Beyond 'So What?' Criminology: Rediscovering Realism' (2009) 13 *Theoretical Criminology* 3 at 356.

Structural criminology

Within the primary mode of analysis, a theory's internal logic is structured inter alia by its core level of explanation. The overarching question of why people commit crime can be framed as either: 1) Why do certain individuals commit the crime that they do? Or 2) Why do certain groups or areas see the aggregate levels of crime that they do? The question of why individuals commit crime is distinct from that of why certain places or times differ in terms of their aggregate levels of crime.[80] Arguably the former has received more theoretical and empirical attention within the discipline than the latter.[81] Structural criminological perspectives are based on the premise that crimes are not just idiosyncratic individual acts, but also social acts that exhibit certain patterns across social space,[82] and that these social patterns merit investigation.

Explanations at the aggregate or macro-level and at the individual or micro-level have fluctuated in relative popularity within the discipline over time.[83] They are not a neat dichotomy but rather points of emphasis within a continuum all the way from the level of genetic factors, through biological, psychological, proximate environmental, neighbourhood socio-economic, broader shared socio-political, all the way to possible causal processes at the world system level (or even to theology).

Theories operating at different levels of explanation can sometimes seem to pass one another like ships in the night,[84] yet structural explanations often rely on explicit or implicit statements about processes at the individual level, while individual explanations may often refer to the ways in which group structures shape the contexts within which individuals

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[80] Judith R Blau & Peter M Blau 'The Cost of Inequality: Metropolitan Structure and Violent Crime' (1982) 47 *American Sociological Review* 1 at 114.

[81] Eric P Baumer, María B Vélez & Richard Rosenfeld 'Bringing Crime Trends Back into Criminology: A Critical Assessment of the Literature and a Blueprint for Future Inquiry' (2018) 1 *Annual Review of Criminology* at 40.

[82] Paul Nieuwbeerta et al. 'Neighborhood Characteristics and Individual Homicide Rates: Effects of Social Cohesion Confidence in the Police and Socioeconomic Disadvantage' (2008) 12 *Homicide Studies* 1 at 91.

[83] Travis C Pratt & Francis T Cullen 'Assessing Macro-Level Predictors and Theories of Crime: A Meta-Analysis' (2005) 32 *Crime and Justice* at 375.

[84] Ross L Matsueda 'Toward an Analytical Criminology: The Micro-Macro Problem Causal Mechanisms and Public Policy' (2017) 55 *Criminology* 3 at 493.

operate.[85] Indeed, the problem of how to link contexts and behaviours, constraints and actions, at the structural and individual levels is fundamental to sociological thinking.[86] Failure to align conceptual and empirical levels of analysis can lead to such logical errors as the fallacy of composition (which incorrectly ascribes the features of the whole to some or all of its parts) and the fallacy of division (which incorrectly infers from the parts to the whole).

A useful tool to structure an understanding of levels of analysis is a causal diagram, a tool that has become increasingly popular in a range of fields for its capacity to help summarise and communicate knowledge and assumptions about the problem in question. One model of this kind is designed to lay out the macro-micro-macro relations of structural explanation.[87] It is colloquially known as 'Coleman's boat'[88] (or sometimes the Boudon-Coleman diagram).[89] See the following diagram, which shows the proposed macro-level causal relationship at dotted line four as substantiated in terms of the solid lines one to three.

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[85] Ronald L Akers *Criminological Theories: Introduction and Evaluation* 2 ed. (2012) at 5.

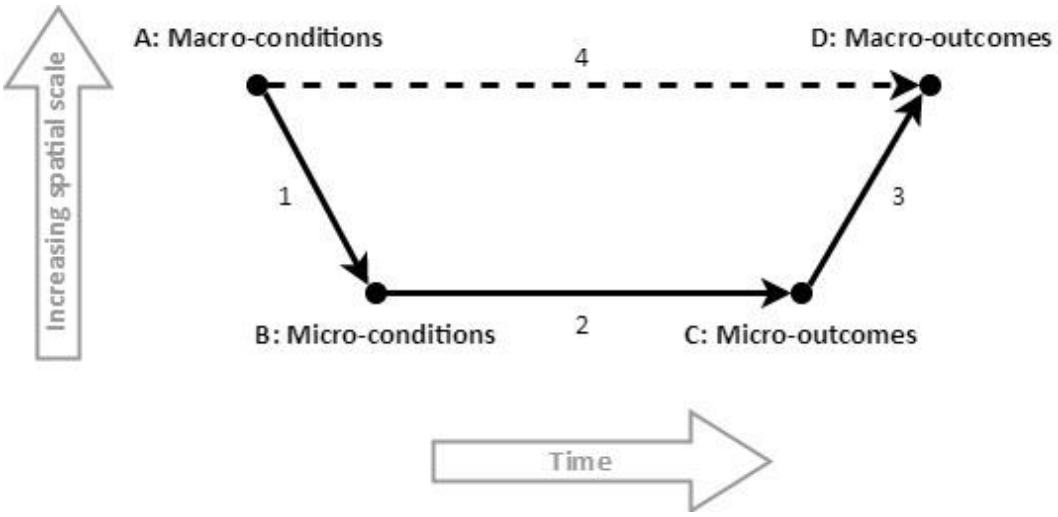
[86] Allen Liska 'The Significance of Aggregate Dependent Variables and Contextual Independent Variables for Linking Macro and Micro Theories' (2009) 53 *Social Psychology* 4 at 292.

[87] James S Coleman *Foundations of Social Theory* (1990).

[88] So named for its upside-down trapezoid shape which others have instead likened to a bathtub.

[89] Mario Bunge 'Mechanism and Explanation' (1997) 27 *Philosophy of Social Science* 4 at 454.

Figure 1 Generic macro-micro-macro scheme of sociological explanation



This is of course a simplification of inevitably multi-level and overlapping social processes, involving constellations of contexts and behaviours rather than a single and universal linear pathway of direct causation. It can be modified in various ways to better capture some of these complexities.[90] For example, more arrows (including with arrowheads on both ends) can be added between existing nodes to indicate reflexive relationships, or additional nodes can be introduced to indicate prior causal conditions (causes of causes) or parallel processes or interactions at intermediate levels of aggregation.

The argument it is often employed to capture is that in order to explain a proposed macro-level causal relationship, one must account for the relevant way(s) in which the macro-level condition operates onto the micro-level, the way in which the micro-conditions translate into micro-behaviours, and the way in which this operates back up to the observed macro-level effect. This is based on the assumption of at least a weak version of methodological individualism, which holds that all social phenomena are in principle explicable only in terms of individuals.[91] Methodological holists instead posit that certain collective phenomena are greater than the sum of their parts and can exert meso- or macro-level causality in their own

[90] For the general case see for example Daniel Little 'Explanatory Autonomy and Coleman's Boat' (2012) 74 *Theoria*. For a specific recent example see Amy E Nivette 'Legitimacy and Crime: Theorizing the Role of the State in Cross-National Criminological Theory' (2013) 18 *Theoretical Criminology* 1.

[91] See for example Jon Elster 'The Case for Methodological Individualism' (1982) 11 *Theory and Society* 4; Lars Udehn 'The Changing Face of Methodological Individualism' (2002) 28 *Annual Review of Sociology* 1.

right.[92] Use of such diagrams may also imply that proper explanations must be mechanistic, that they should detail the 'cogs and wheels' of the causal process.[93] This has in recent decades been a controversial point in the fields of political science and analytical sociology.[94]

Coleman diagrams have played a more limited but similar role in criminology — in attempts at that grand ambition of theoretical integration,[95] and to move beyond the dominant risk-factor approach that simply lists the countless variables that have been shown to be associated with crime and delinquency.[96] They may be best-known in the work of Wikström and colleagues.[97]

The use of these diagrams in this dissertation is not to make a case for methodological individualism, imply a position on the nature of causal inference, or suggest that all structural explanatory theories must be reducible to a mechanistic model of dependent and independent variables. They are employed here chiefly as heuristic device, to help reveal the logical structure of theories with macro-level components and thereby provide a basis of comparison and evaluation. This is unusual but not without precedent.[98]

Such a model is useful, for example, in making sense of typical differences in emphasis among the social sciences. The first arrow is often considered the most critical focus of sociological enquiry, as it 'selects from the whole cosmos of social complexity those specific aspects of an individual's situation that make the difference when it comes to the understanding of social action and the resulting macro-sociological outcomes as mere derivations'.[99] Grand theorists of various disciplines often concern themselves largely with

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[92] See Little op cit note 90.

[93] Peter Hedström & Petri Ylikoski 'Causal Mechanisms in the Social Sciences' (2010) 36 *Annual Review of Sociology* 1.

[94] Zenonas Norkus 'Mechanisms as Miracle Makers? The Rise and Inconsistencies of the 'Mechanismic Approach' in Social Science and History' (2005) 44 *History and Theory* at 348.

[95] Matsueda op cit note 84.

[96] Hedström & Ylikoski op cit note 93.

[97] For example Per-Olof H Wikström & Kyle Treiber 'Social Disadvantage and Crime' (2016) 60 *American Behavioral Scientist* 10.

[98] Ralph B Taylor 'Communities Crime and Reactions to Crime Multilevel Models: Accomplishments and Meta-Challenges' (2010) 26 *Journal of Quantitative Criminology* 4.

[99] Hanno Scholtz 'Rational Choice Theory in Sociology' (2015) 14 *Comparative Sociology* at 591.

discussions on the level of line four, of the relationships between large-scale social processes. Psychological approaches operate primarily on the level of line two, or the ways in which individual contexts and experiences shape individual behaviours. Line three, or the link from individual actions to macro-outcomes, is often of particular interest in political science, for example in examining how individuals' formation of social movements translate into national political outcomes.[100]

Specific causal theories can also be visually differentiated by means of such diagrams. This is particularly useful because a single popularly posited macro-level relationship is typically subject to a range of major explanatory models. Many, for example, have sought to account for a relationship between aggregate levels of poverty and aggregate levels of crime, for example within a country, city, or neighbourhood. One approach stresses the ways in which poverty determines the perceived relative risks and rewards of criminal versus non-criminal behaviour, which incentives individual actors then respond to by means of more-or-less rational choices.[101] Another approach focuses on the impact of poverty on parenting practices, and in turn the impact of this childhood socialisation on adults' capacity to exercise self-control in the face of criminal temptation.[102] Another suggests that poverty places individuals in the position of being unable to fulfil their aspirations through legitimate means, and that the resultant emotional frustration can in some cases lead to criminal innovation or rebellion.[103] Yet another approach argues that poverty gives rise to disorganised social controls and spaces, which therefore fail to discourage rule-breaking.[104] These can be visually compared as follows.

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[100] Edwin Amenta et al. 'The Political Consequences of Social Movements' (2010) 36 *Annual Review of Sociology* 1.

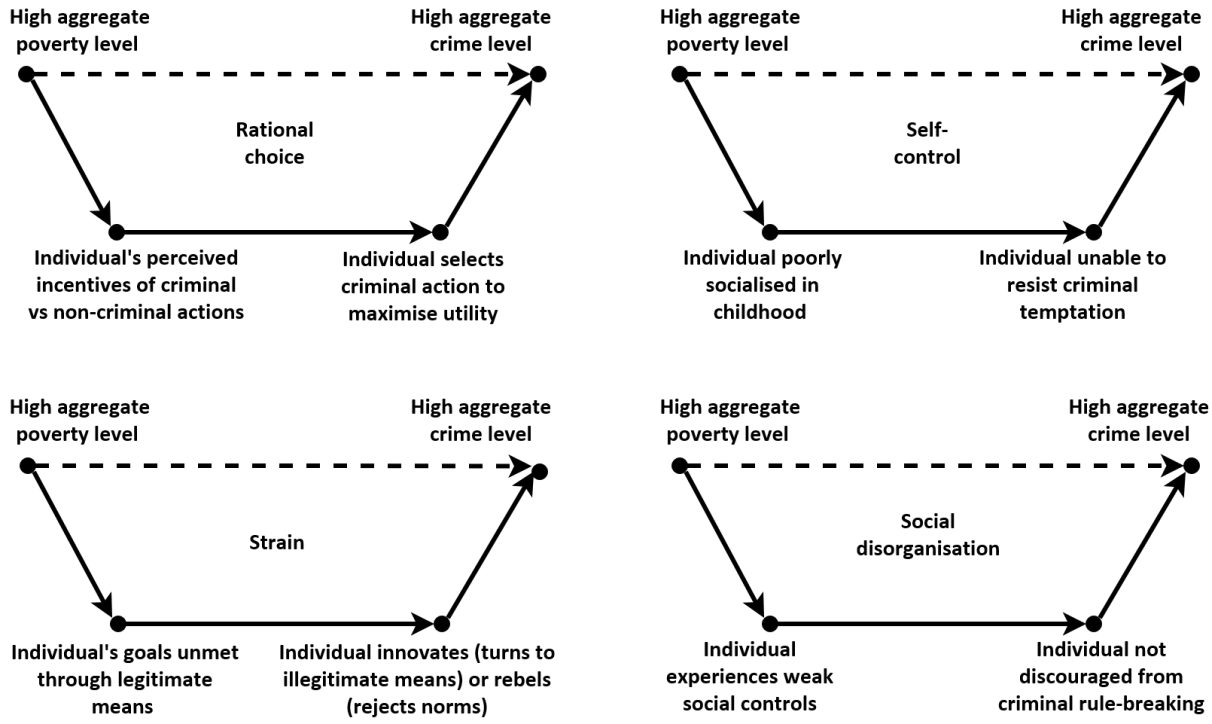
[101] There are countless examples but one influential text of this economic approach is Gary S Becker 'Crime and Punishment: An Economic Approach' (1968) 76 *Journal of Political Economy* 2.

[102] Michael R Gottfredson & Travis Hirschi *A General Theory of Crime* (1990).

[103] Robert K Merton 'Social Structure and Anomie' (1938) 3 *American Sociological Review* 5.

[104] Jeffrey D Morenoff, Robert J Sampson & Stephen W Raudenbush 'Neighbourhood Inequality Collective Efficacy and the Spatial Dynamics of Urban Violence' (2001) 39 *Criminology* 3.

Figure 2 Coleman diagrams of theories of a relationship between poverty and crime



To reduce a theory to a simple diagram must inevitably result in caricature. This is even more so as the established criminological theories have given rise to diverse literatures of alternative formulations and refinements and disputes. However, to the extent that a given explanation addresses structural factors — that is, asks what it is about a certain collective (such as society, country, city, or neighbourhood) that explains its levels of crime (rather than just what it is about an individual that explains their crime behaviour) — it is proposed that these diagrammatic simplifications can help reveal its internal logic.

The heyday of South African macro-level, primary criminology was under Apartheid, when for example it was typically said that increases in crime rates among 'the Bantu' were best explained by modernisation and the resultant social disorganisation,[105] whereas those in the coloured community were caused by the strain of their intermediate place in South

[105] Robert C Williamson 'Crime in South Africa: Some Aspects of Causes and Treatment' (1957) 48 *Journal of Criminal Law Criminology & Police Science* 2; GM Retief 'Social Disorganisation Crime and the Urban Bantu People of South Africa' in James Midgley, Jan H Steyn & Roland Graser (eds) *Crime and Punishment in South Africa* (1975) at 47–56.

African society,[106] and those of the Asian community were caused by the inherent conflict between Asian and Western cultures.[107] Understandably, such approaches — often ahistorical, based on rigid determinism and politically expedient differences between enforced group identitities — have become unpopular in the modern South African context.

The result is that we are left with precious few theoretical tools to defensibly ask questions about why certain communities, places or times may differ in terms of their aggregate levels of crime. These questions, however, are the constant and inevitable subject of public debate. They form the background of even qualitative, deeply theoretical, explicitly anti-positivist descriptions of the South African condition. They also underpin attempts at crime prevention. People and policymakers will never stop asking why crime happens in the ways, places, and times that it does. This task, however difficult, cannot be abandoned. Not everyone need take it on, but someone certainly does. That those of more theoretical, thoughtful, nuanced persuasion should treat it with disdain is indefensible. A criminology that cannot say anything of value in terms of structural aetiology is a poor one.

Quantitative criminology

A unifying theme in this dissertation is the question of whether and how we can know about the crime-related things we wish to know about. One key premise is that numbers can be a productive means of making sense of aggregate causal processes. The maxim, 'if you can't measure it, you can't understand it,' may take it too far, but few within a broadly positivist/empiricist paradigm would quibble with, 'if you try to measure it, you may better understand it'.

This is more than a matter of methodology. Numbers are never as objective, neutral, or complete as they seem, but rather socio-political and cultural artefacts that have transformed how we think about social problems.[108] This hasn't always offered an uncomplicated or uncontentious improvement. Understanding causation requires that we

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[106] SP Cilliers 'Crime in the Coloured Community' in James Midgley, Jan H Steyn & Roland Graser (eds) *Crime and Punishment in South Africa* (1975) at 39–45.

[107] MGT Cloete 'Crime in the Asian Community' in James Midgley, Jan H Steyn & Roland Graser (eds) *Crime and Punishment in South Africa* (1975) at 67–79.

[108] Kelly Hannah-Moffat 'Algorithmic Risk Governance: Big Data Analytics Race and Information Activism in Criminal Justice Debates' (2019) 23 *Theoretical Criminology* 4 at 454.

compare aspects of our world with other worlds to identify which are the differences that matter. For example, the assertion of a positive causal relationship between poverty and crime can be understood as an assertion that, all else being equal, a world with less poverty would be a world with less crime.

These counterfactuals may be imaginary. The wonder of quantification, however, is that it makes the world divisible into parts, which can then be compared with each other. The more tightly constrained the means by which this is done, the greater confidence there can be that you have indeed held all else equal and identified the relevant differences. This is known as external validity. It is why double-blind, randomised, placebo-controlled trials are so favoured in the development of knowledge about medicine and the human body. Experimental methods may stamp a sense of uncertainty onto causal mechanisms and processes we still do not really understand.[109] They may well fail to capture exactly the counterfactual worlds that we would like, especially in the context of complex human societies over time.[110]

But, to return to the example, it is only in somehow measuring both poverty and crime that we can observe their variation and come to such conclusions as that places and times with more poverty are, on average, likely to have significantly less crime. Quantitative measurement makes it possible to move from broad impressions to specific descriptions of differences. If two things do not vary together in some systematic way, if there is no observable (positive or negative) correlation, there can be no reasonable inference of causation.

This dissertation takes up the idea of an aetiological crisis in South African criminology by considering the question of how to measure crime — of whether and how we can say with reasonable confidence that one time or place has more crime than another. There will be a great deal more discussion of this. Suffice to note here that the statistics collected by the state apparatuses that respond to crime are the typical instrument of aggregate crime prevalence measurement, to the point where they can be said to have given birth to the discipline. Their use is controversial. They risk turning diverse, messy human experiences

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[109] Ray Pawson & Nick Tilley *Realistic Evaluation* (1997).

[110] Daniel S Nagin & Robert J Sampson 'The Real Gold Standard: Measuring Counterfactual Worlds That Matter Most to Social Science and Policy' (2019) 2 *Annual Review of Criminology* 1 at 124.

into abstract numbers, but can also do the opposite — turn the abstract and uncertain into something that seems certain and personal and real.[111] Crime statistics are data. Putting them to use in the development of knowledge requires taking coherent account of their uncertainties and ambiguities.

Some South African scholars have suggested that there is little use in attempting to understand or even so much as describe patterns or trends in crime, and that it would be more productive 'simply to accept that, however we look at it, levels of crime in the new, democratic South Africa remain stubbornly and unacceptably high'.[112] Others make this point more implicitly, by deflecting from any discussion of trends or patterns (especially declines) onto the assertion that levels are (still) very high.[113] This dissertation takes the position that such approaches both indicate the extent of and perpetuate the aetiological crisis in post-Apartheid South African criminology. Recorded patterns and trends in aggregate crime prevalence deserve and require close analysis.

Chapter conclusion

This chapter has established the place and state of debates about the post-Apartheid South African discipline of criminology's crisis of structural explanation. Among the many approaches to scholarly thinking about crime, the question of why crime happens is just one — but, arguably, first. So, it is called here primary criminology. It emerges from a positivist or empiricist paradigm, which assumes that at least some criminal behaviours are meaningfully distinguishable from non-criminal behaviours and that these differences may follow observable patterns. Knowledge about these patterns, borne of systematic empirical observation, can generate knowledge about the causation of crime.

A very few scholars have suggested that contemporary South African criminology may not be doing particularly well at this task. This problem does not appear to have been of

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[111] Comaroff & Comaroff op cit note 19.

[112] Bill Dixon *Cloud over the Rainbow: Crime and Transition in South Africa* (2002) at 36.

[113] For example Julie Berg & Wilfried Scharf 'Crime Statistics in South Africa 1994-2003' (2004) 17 *South African Criminal Justice Journal* 1 at 69; Barbara Holtmann & Carmen Domingo-Swarts 'Current Trends and Responses to Crime in South Africa' in Ashley Van Niekerk & Shahnaaz Suffla (eds) *Crime Violence and Injury Prevention in South Africa: Data to Action* (2008) at 106; Dixon *Cloud over the Rainbow* op cit note 112.

much interest to others. To the extent that it has been engaged, this has been on normative and conceptual terms. It has been suggested that the hesitation to seek to explain crime is a feature of denialism and/or disillusionment around the severity of the country's crime problem, the demands of post-Apartheid criminal justice system reform, and the fraught political and racial context. The solutions thus far proposed relate to theoretical paradigm and unit of analysis. It has been suggested that individual perpetrator narratives must be located within detailed historical context or that criminal violence must be understood as just one aspect of a system of violence that is trans-historical, cultural, and structural.

As justified in this chapter, the approach taken in this dissertation is different. Its terrain is not the normative, but the empirical. Rather than frame the aetiological crisis within debates about what criminology is for, it takes seriously the nature and logical requirements of the structural aetiological question. This requires investigation of what it is that a macro-level causal theory should be able to do. Primary, structural inquiry seeks to establish possible causal relationships between aggregate conditions and crime in the aggregate. It can do so only by means of systematic empirical investigation. As discussed in the chapter that follows, this requires satisfactory resolution of the tension between the importance and impossibility of usefully describing patterns in crime prevalence.

Chapter three: A meta-theoretical dilemma

This chapter draws from the philosophy of social science to demonstrate that the aetiological crisis is a fundamental and empirical one. It proposes that causal theories can be usefully differentiated on the bases of their: precision and logical consistency, parsimony and scope, testability and empirical validity, and practical or policy implications. This conceptual mode of inquiry yields a vocabulary, a set of metrics, and heuristic tools to give structure to Chapters three and four's systematic accounts of the discipline's approaches to aetiology. The present chapter develops a loose typology of four explanatory strategies, defined by approaches to scope of explanandum and parsimony of explanans.

The core argument is that, on a meta-theoretical level, a key prerequisite of the productivity of any causal theory is testability — or a means of telling, subjecting it to meaningful empirical scrutiny. It is only in raising a simple and general premise beyond platitude that South African criminology's crisis of explanation can be understood and addressed. The evaluation, and therefore development and refinement, of structural criminological explanation requires the ability to make defensible and testable claims about aggregate crime prevalence patterns and trends.

This poses a serious problem, because crime prevalence patterns and trends are in fact very difficult, if not impossible, to know and describe with any confidence, even in the best of circumstances. This dilemma of crime prevalence measurement is in some respects inherent to the task of primary criminology and therefore foundational to the aetiological crisis. The theoretical and practical tools required for crime prevalence measurement are far from trivial. They require contending with the challenges of both the ontology (or 'thingness') and epistemology (or 'knowability') of crime. The standard tool of the testing of macro-criminology, the official crime statistic, is incomparably useful in giving account of aggregate levels of crime. Unfortunately, as this chapter describes, it is also deeply fraught with uncertainties, distortions, and potential misunderstanding.

The dilemma of crime prevalence measurement speaks to the construction and meaning of causal explanation in the social sciences, the ways in which a discipline develops knowledge, the relationship between the theoretical and the empirical, and the unstable conceptual foundations of the discipline of criminology. The intrinsic tension it represents has no prospect of universally satisfactory resolution, but this chapter proposes that it is only in grappling with it that fields can mediate between data and knowledge.

The case for empirical testability in primary criminology

It is often said that there are 'too many' theories in criminology, that these rather impede than release intellectual and practical progress, and that the effect has been 'a million modest little studies that produce a million tiny conflicting results,' rather than an accumulation of coherent knowledge about the causes of crime.[114] Although many agree on the need to abandon lines of theoretical inquiry that have proven to be unproductive and to work to refine or combine those insights that have withstood scrutiny, the discipline lacks any firm rules as to how those assessments should be made — and 'no committee of criminologists has yet to be appointed with the mandate and power to render binding judgments on which theories should live and which should die!'[115]

Because of its usually 'implicit and vague explanatory standards, its largely verbal mode of theorizing, and its highly complex object of study,' social theory is particularly susceptible to the more general 'illusion of depth of understanding: we tend to overestimate the detail, coherence, and depth of our understanding'.[116] This can make it difficult to determine whether any particular theory is satisfactory to whatever standard we may hope to hold it. A significant proportion of peer theoretical evaluations may derive from matters of taste, akin to artistic judgements.[117] Political sentiments and background assumptions certainly often play a large role.[118] What convinces one reader may not convince another.

Even when explaining the same phenomenon, some theories may be concerned with proximal, contemporary factors, while others focus on distal, developmental ones. The result is that even explicitly causal theories may often not be competing but complementary. This does not mean that all should enjoy equal scholarly esteem. Moreover, some theories do in fact make competing, mutually inconsistent claims about similar variables. This raises the

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[114] Thomas J Bernard & Jeffrey B Snipes 'Theoretical Integration in Criminology' (1996) 20 *Crime and Justice* at 302.

[115] Francis T Cullen, John Paul Wright & Kristie R Blevins 'Taking Stock of Criminological Theory' in Francis T Cullen, John Paul Wright & Kristie R Blevins (eds) *Taking Stock: The Status of Criminological Thought* (2008) at 2.

[116] Hedström & Ylikoski op cit note 93.

[117] Marvin E Wolfgang, Robert M Fig & Terence P Thornberry *Evaluating Criminology* (1978) at 7.

[118] Cullen, Wright & Blevins op cit note 115 at 8.

question of how to adjudicate between different theories — how do we know whether a theory is any good, or at least any better than another?

Within the positivist/empiricist paradigm, a theory is a statement that explains the relationship between two or more observable phenomena. Few (if any) of the standard primary criminological theories meet the exacting criteria proposed by various classic scholars for a social science definition of theory — for example, that they comprise a clearly defined descriptive conceptual scheme to label phenomena, a set of propositions about the relationship between two or more variables, that they are falsifiable, and that they provide grounds for prediction.[119] Yet those causal theories that have stood the test of time do tend to be reducible to sets of logically interrelated propositions — known as the explanans — about the relationships between variables, where the variable to be explained — the dependent variable or explanandum — is some aspect of 'crime', however that may be defined and delimited. To explain something 'is to provide information that justifies the claim that the explanans explains the explanandum'.[120] To put it another way, the explanation is what makes the explanandum expected.

The variables have been described as the bricks and the propositions as the mortar that holds a theory together.[121] The domain of this type of theory is relationships, and a list of purportedly correlated variables no more constitutes a theory than a stack of bricks forms a building.[122] Moreover, naming is not explaining. Simply labelling a given phenomenon 'as an instance of a particular category without providing an explanation of why the phenomenon occurred' is a form of circular argumentation.[123] A causal theory requires a theoretical rationale — a proposed *explanation* — for the relationship between certain variables.[124] This

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[119] Imogene L Moyer *Criminological Theories: Traditional and Nontraditional Voices and Themes* (2001) at 5.

[120] Peter Hedström & Lars Udehn 'Analytical Sociology and Theories of the Middle Range' (2009) *The Oxford Handbook of Analytical Sociology* September at 41.

[121] Scott H Decker 'From Theory to Policy and Back Again' in Alex R Piquero (ed) *The Handbook of Criminological Theory* (2016) at 382.

[122] David A Whetten 'What Constitutes a Theoretical Contribution?' (1982) 14 *The Academy of Management Review* 4 at 492.

[123] Bertram Gawronski & Galen V Bodenhausen 'Theory Evaluation' in Bertram Gawronski & Galen V Bodenhausen (eds) *Theory and Explanation in Social Psychology* (2014) at 18.

[124] Thomas J Bernard, Jeffrey B Snipes & Alexander L Gerould *Vold's Theoretical Criminology* 6 ed. (2010) at 5.

relationship must be in some sense causal, whether strictly and implying hard determinism, or probabilistically and implying a type of soft determinism.

There are various common-sense accounts of how to tell a 'good' theory from a 'bad' one. See the following example.

> A good theory is abstract. It's logically consistent. It's simple, has a broad scope, and it doesn't take you in circles. It's testable and empirically valid. Good theories generate good hypotheses, and with good data we may be in a position to better understand a particular phenomenon.[125]

This chapter proposes that theories can be usefully differentiated on the basis of their precision and logical consistency, parsimony and scope, practical implications, empirical validity, and testability.[126] These criteria are not beyond dispute and they are certainly not a simple checklist. Their thresholds remain subjective. They do, however, point to some of the typical components of theoretical evaluation within a broadly positivist paradigm. These may be said to lie with either internal or external measures.[127]

Internal evaluation: logical precision and coherence, parsimony and scope

First, to be analytically useful, theory at the very least requires relatively *coherent exposition*. It is useful only to the extent that its concepts, assumptions, and arguments can be deduced. This makes it possible to determine whether its propositions are logically stated and internally consistent. There is limited value, for example, to an explanation that relies on circular reasoning (for example, 'Crime is caused by a lack of empathy; lack of empathy is evidenced by the commission of crime.'), in which the criminal behaviour ostensibly being explained precedes in time its proposed cause (for example, 'Crime rates rose in the industrialised world during the 1960s because of the proliferation of the Internet.'), or in which no even superficially plausible mechanism can be proposed to account for the

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[125] Scott H Decker & Kevin A Wright (eds) *Criminology and Public Policy: Putting Theory to Work* 2 ed. (2018) at xiii–xiv.

[126] See for example Stephen G Tibbetts *Criminological Theory: The Essentials* (2012) at 6; Akers op cit note 85 at 6.

[127] Decker op cit note 121.

relationship between the two factors (‘Crime rates rise when Mars is in retrograde, for reasons I decline to specify.’).

Precise formulation also makes it possible to determine a theory’s primary level of explanation. As discussed in the previous chapter, the question of why individuals commit crime is distinct from that of why certain places or times differ in terms of their aggregate levels of crime. Coleman diagrams can help clarify the logical structure of theories with macro-level components. They can also help reveal what each predicts in specific circumstances, whether this is different from what is predicted by competing theories, and what kinds of observations may be expected to contradict it, a concern we will return to in the discussion of external components of evaluation below.

Loosely related to the question of level of explanation are the interrelated matters of *scope* and *parsimony*, which refer to the range of phenomena ostensibly being explained and to the range of factors or mechanisms proposed to account for them.[128] Theories differ in how inclusive or exclusive they are in their proposed explanatory factors (the comprehensiveness of the explanans) and the scope of the set of phenomena being explained (the specificity or generality of the explanandum).[129] Self-control theories, for example, propose to explain all deviant (but not necessarily illegal) acts by means of this one concept. This neatness may account for their enduring popularity.[130] Other theories may seek to explain only property crime, or only the age-structure of crime, only violence against women, and so on. I propose a loose typology of four explanatory strategies, defined by approaches to scope (how general or particular a range of crime phenomena each has taken as explanandum) and parsimony (how inclusive or exclusive each has been in its selection of explanans), as shown on the following diagram graph.

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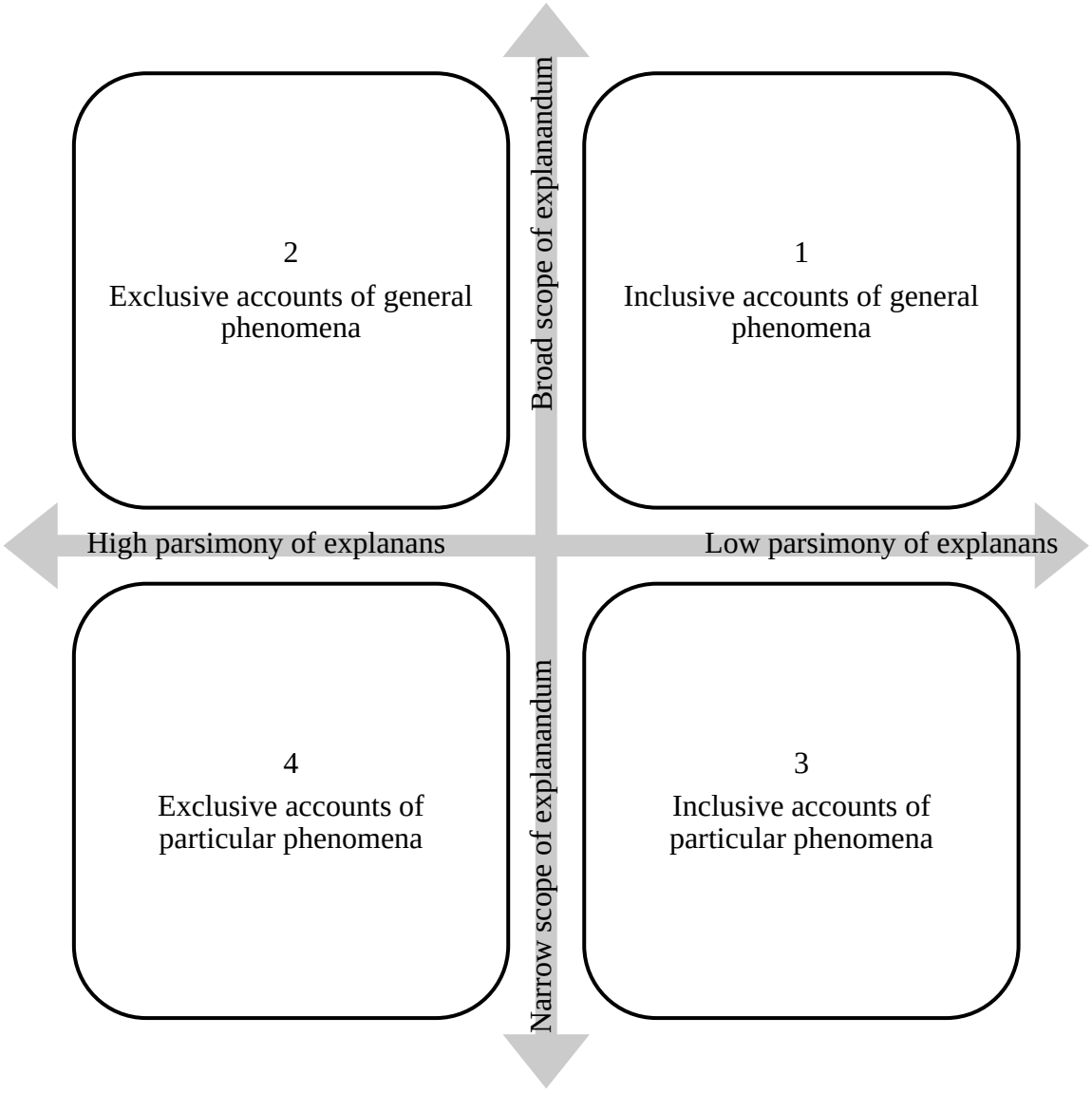
[128] Akers op cit note 85 at 7.

[129] Hedström & Udehn op cit note 120 at 29.

[130] Tibbetts op cit note 126 at 7.

Figure 3 Model explanatory strategies by scope and parsimony



A theory that seeks to account for a very narrow range of cases or phenomena by means of a lengthy and complex set of propositions is limited in both scope and parsimony. In the traditional philosophy of science, it would be considered inferior to a theory that can explain a broad range of phenomena with relatively few terms and statements. Yet there may be value in each of these explanatory approaches.

There are trade-offs to be made. The social world isn't necessarily simple or regular, so parsimony comes at the expense of comprehensiveness and generality comes at the expense of specificity. Theories on the highest level of generality — on the level of the great 'isms', such as historical materialism — may help make sense of large swathes of social phenomena but prove poor tools for developing clear hypotheses and predicting outcomes in

a specific case of interest.[131] The quest for generality poses the risk of explaining everything but predicting nothing.[132] On the other hand, theories that seek to provide a comprehensive account of causal influences for a very particular and narrowly-defined phenomenon may be of limited use in explaining other cases. A long and complex set of proposed causal influences can also make it difficult to determine what empirical outcome is expected under particular circumstances.

Again, this four-fold typology is inevitably a simplification. Most of the established Anglo-American criminological theories are what Merton might approvingly describe as theories of the middle range; they are neither grand, all-encompassing accounts of social systems or behaviours, nor simply the abundant, day-to-day working hypotheses of research on particular cases, but isolations of a few explanatory factors to explain 'important but delimited aspects of the outcome to be explained'.[133] They are statements about how some selection of factors may influence some selection of crime phenomena.[134]

Typical examples are seen in the variants of strain, control, and social disorganisation theories. The causal factors they propose are not as neat and singular as the one or two macro-level variables seen in the second and third explanatory types (such as economic inequality, firearm policies, or the prevalence of a single cultural norm), but a somewhat broader cluster or composite of theoretically related variables. Their explanatory scope tends to be broader than a single crime type, a handful of pepetrators' behaviours, or the nature of crime at a particular moment in time and/or space, but also narrower than the overall prevalence and distribution of all crime everywhere or in an entire country.

A final note on parsimony is instructive:

> An often-overlooked aspect of parsimony is that it refers to the total number of theoretical propositions that are required to explain a given finding rather than the number of propositions of what might be considered the core of the relevant theory... The criterion of parsimony refers to the conjunction of a theory and the background assumptions that are needed to explain an empirical finding, not to the theory alone. … Thus, when evaluating theories on the basis of their parsimony, it does not suffice to

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[131] Bennett op cit note 45 at 467.

[132] Gawronski & Bodenhausen op cit note 123 at 14.

[133] Hedström & Udehn op cit note 120.

[134] Decker op cit note 121.

> count the number of propositions that may be regarded as the core of a given theory…, but the entire set of propositions that is required to capture a given finding.[135]

This is a critical element in the evaluation of theories of crime causation in South Africa. Some of the popular explanatory approaches are appealing in their apparent parsimony and broad scope, but in fact rely on several important background assumptions. These assumptions relate particularly to the ways in which theory can be subjected to external evaluation.

External evaluation: testability, empirical status, and policy usefulness

Theoretical comparison based on logical consistency, parsimony and scope, and by means of a clear account of levels of analysis, form part of the first mode of theoretical evaluation, which is to judge an explanatory model on its own terms, on the basis of its internal logic. Some argue that this is the most, or indeed only valid mode of critique, since there is no way to access or interpret 'reality' other than as determined by theoretical perspective, and therefore that to subject a theory to external measures is simply to arbitrarily privilege other implicit theories.[136]

But within the naturalistic frame of reference, in which theories are assertions about the relationship between observable phenomena, a fundamental feature of the theoretical endeavour is its connection with systematic observation. Those of even the most circumspect positivist or realist inclination would likely agree that what sets criminological explanations apart from others (such as journalistic, philosophical, legal, or religious approaches) is their claim to be empirically grounded.[137] Debates in the philosophy of science on the question of how to distinguish between scientific and non-scientific statements (known as the demarcation problem), have commonly suggested that it is this — a basis in empirical

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[135] Gawronski & Bodenhausen op cit note 123.

[136] See for example Bruce DiCristina 'Durkheim's Theory of Homicide and the Confusion of the Empirical Literature' (2004) 8 *Theoretical Criminology* 1; David Garland 'Durkheim's Theory of Punishment: A Critique' in David Garland & Peter Young (eds) *The Power to Punish: Contemporary Penality and Social Analysis* (1983).

[137] Tibbetts op cit note 126 at 2.

observation — that makes a theory 'scientific'.[138] To claim weight in the field of criminology is to lay claim on systematic empirical observation, rather than other possible principles of reasoning.

The classic scientific theoretical feedback loop may begin with general theory and proceed to the testing and confirmation of hypotheses in particular cases (the deductive approach), or begin with specific observation and proceed to the formulation of general theory (the inductive approach). Causal theories often derive from attempts at ad hoc explanation of specific observed or perceived crime phenomena, which explanations are then developed into statements of specific logical expectations (hypotheses), to be applied and tested in other circumstances, in order to evaluate and revise the original explanations.[139]

Such a process may in practice unfold imperfectly or not at all. It may be produced by those with however much disdain for scientism and acknowledgement of the degree to which observation is produced by theory and laden with researcher subjectivity. Yet what makes an explanation for crime distinctively 'criminological' is that it derives not just from principle or from the account of a single case, but makes use of somehow organised and systematic methods of observation and the evaluation of evidence, while engaging with the existing body of knowledge and debates on the subject at hand.[140] Thus the second mode of theoretical evaluation reasonably moves beyond logic to consider data.

This requires that a theory be in some way empirically accessible or *testable*, however indirectly. A given theory may not be satisfactorily testable at the moment of its development. Testability can change over time, for example as methods develop. But it is unclear what value there is to an empirical claim that cannot conceivably be submitted to empirical scrutiny and a good faith attempt to find an observation that confirms it — or, much better, contradicts it.

A traditional criterion of a scientific theory is that it must be subject to falsification. According to this view, the objective of experiment (systematic observation) is to create situations in which a theory can be falsified. A theory is thus never confirmed — it merely

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[138] Gawronski & Bodenhausen op cit note 123 at 4.

[139] Tittle op cit note 42 at 4.

[140] Dixon *The Aetiological Crisis* op cit note 23 at 3.

escapes falsification.[141] This is enduringly controversial in thinking about social sciences, including criminology.[142] It is widely accepted in the testing of specific hypotheses, but seldom applied in the evaluation of theories overall.

Indeed, seldom can or do the results of empirical tests lead to the definitive proof or disproof of any social theory. Some theoretical propositions, even ostensibly causal ones, may be on such a high level of abstraction that they cannot meaningfully be reduced to concrete hypotheses about the relationships between measurable variables.[143] More often, the difficulty is that theories consist of many parts, their abstract principles may defensibly yield many different specific hypotheses, their concepts operationalised through many possible variables, and their claims adjudicated through various methodologies. Empirical anomalies may be due to flaws in any number of these auxiliary assumptions, such as in instruments of observation, rather than in the theory's 'hard core', essential propositions.[144] Moreover, theoretical approaches often give rise to rich arrays of arguments and ideas, such that failures of empirical corroboration result not in ruin but simply in minor, cumulative adjustments.[145] Theories are more prone to evolution than rejection.

Still, whatever one's position on the traditional scientific principle of falsifiability, it seems reasonable to propose that *empirical assessment* should play some part in determining which of the 'virtual embarrassment of riches' in criminological theories are better than others.[146] A criminological theory that does not give rise to any testable hypotheses, has been able to produce little or no positive evidence to support it, or has received substantial negative evidence across a range of methodologies, should rightly occupy relatively low regard in the community of scholars.[147]

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[141] Jeffrey W Lucas 'Theory-Testing Generalization and the Problem of External Validity' (2003) 21 *Sociological Theory* 3 at 247.

[142] Bernard & Snipes op cit note 114.

[143] Tittle op cit note 42 at 3.

[144] Bennett op cit note 45 at 464.

[145] Tittle op cit note 42.

[146] Travis C Pratt 'Theory Testing in Criminology' in *The Handbook of Criminological Theory* (ed) Alex R Piquero (2016) 37.

[147] Tittle op cit note 42.

Here the internal and external domains of theoretical evaluation come together to a simple but important logical point. We have established that theories can be usefully differentiated based on their level of explanation and that those that operate at a macro-level take as explanandum some aspect of crime in the aggregate. This means that they must at the very least find defensible empirical purchase on whatever their proposed aggregate-level explanans and their explanandum of aggregate levels of crime. This explanandum need not be strictly quantitative. Some qualitative account of aggregate levels, trends, or patterns of crime prevalence may suffice. It may be broad and tentative. Operationalising any reasonably complex social phenomenon requires some compromise.

However, some take on patterns and/or trends in crime prevalence is an essential component of theoretical testing and therefore of the credence with which a causal criminological theory should be treated. To use a slightly different parlance, there is limited value in a theory that has no conceivably coherent account of its dependent variable.

Empirical assessment requires the ability to divide the matter of 'crime' into analytically useful parts, to examine its distribution and trends. Obvious questions are why some areas consistently show more of certain crimes than others, why certain demographics seem to experience different crime patterns wherever they are, why different areas may have taken different crime trajectories, why some crimes seem to have risen or declined nationwide, and so on. These are important components of a structural understanding of crime. That this point should warrant such explicit exposition would astonish natural scientists and even puzzle most social scientists. As we shall see in the next part of this chapter, however, it poses a serious challenge to macro-criminology.

The final mode of theoretical evaluation expands judgement to the normative field and to the question of whether and how theoretical insights can be *useful* in guiding action, whether on the part of the state or others. This touches on that enduring debate within the discipline, which is the question of its purpose — of what or who criminology is for.[148] An interest in why people engage in certain criminal behaviours need not imply a commitment to eliminating or reducing those behaviours, especially not at the hands of the state. Criminological theories are arguably more often used to legitimate than guide policy

[148] See for example Dixon *The Aetiological Crisis* op cit note 23; Henkeman op cit note 75.

action.[149] Still, few aphorisms have been repeated more often than the claim that there is nothing as practical as a good theory. Theories may not only expand knowledge for its own sake but point to leverage points for effective interventions.[150] Albeit to the chagrin of some, there has historically been a close alignment between the academic discipline of criminology and the state project of crime control or reduction. There is an immediate policy-relevance of criminological explanation, such that translation into policy can reasonably be considered a criterion of criminological aetiology.

The first part of this theoretical chapter has argued that primary criminological explanations can be usefully differentiated on the extent to which they are logically consistent, are coherent in their grasp of levels of explanation, provide a reasonable balance between parsimony of explanans and scope of explanandum, can produce testable predictions, are shown to have some empirical support, and can give rise to useful policy implications. It has also produced a loose typology of four explanatory approaches (defined by generality and parsimony). These criteria all echo throughout the dissertation.

The most important argument so far, however, is that causal theories can reasonably be evaluated based on their testability. There is little value to an explanation that offers no means of subjecting it to meaningful empirical scrutiny. Given that we are concerned here with structural criminological explanation, this logically entails the ability to make defensible and testable claims about aggregate crime prevalence patterns and trends.

The challenges of macro-criminological testability

This second part of this chapter places the problem of crime prevalence in the context of both the ontology (or 'thingness') and epistemology (or 'knowability') of crime. It argues that crime prevalence patterns and trends are in fact very difficult, if not impossible, to know and describe with any confidence, even in the best of circumstances. As the chapter that follows this will demonstrate, the South African case presents far from the best of circumstances.

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[149] Rob Canton & Joe Yates 'Applied Criminology' in B Stout, J Yates & B Williams (eds) *Applied Criminology* (2008) at 2.

[150] Gawronski & Bodenhausen op cit note 123 at 3.

The ontology of crime, or whether 'crime' is a 'thing'

The first inherent challenge of crime prevalence measurement is the matter of ontology. Ontology refers to the study of being or existence. Among other things, it asks the question, 'What is a thing?' In this context, it asks whether crime is a 'thing' and whether there is a meaningful distinction between 'crime' and 'not crime'. In other words, it asks whether there is logical validity to 'crime' as a category. Attempts to measure or explain crime must to some extent assume that this is so. But the matter of whether and how 'crime' can be defensibly theorised and delineated is not so simple.

A superficial approach to such a distinction is to define crime as conduct proscribed by law and liable to attract punishment.[151] So one may say that 'crime' is simply that which the geographically and legally relevant authority deems as such in its criminal law. There are many reasons why this may not satisfy for the purposes of causal inquiry. Most fundamental is the problem that the core element of 'crime' is not intrinsic to an event; it is necessarily a product of both behaviour and rules.

Whereas most lawyers 'will tend, on the basis of their judicial fictions, to regard criminal law as a function of deviant behavior,'[152] the criminologist's inevitable rejoinder is that deviant behaviour is a function of the content and application of criminal law. A categorical and objective dichotomy between 'criminal' and 'non-criminal' is a judicial fiction which is neither logically nor empirically tenable. Those who become known as criminals may reasonably be said to have only two things in common:

> a) They (are supposed to) have committed deviant behavior of a kind that happens to be punishable by penal law in their particular society at that time;
>
> b) They have been caught and convicted because of a long chain of partly random, partly selection decisions on the side of police, prosecutors and judges.[153]

This ontological contingency translates into epistemological obscurity. The meaning and existence, and therefore inescapably the measure, of 'crime' or 'the criminal' are socially

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[151] Canton & Yates op cit note 149 at 4.

[152] Catharina Irma Dessaur *Foundations of Theory-Formation in Criminology: A Methodological Analysis* (1972) at 14.

[153] Ibid at 18.

constructed.[154] There is no rule-breaking without relevant rules, and no relevance to rules without actual or potential rule-breaking. To measure crime is therefore to grasp features of both actor and reactor. As with other social statistics, there can exist no 'real' crime rate, independent of social reaction.[155] As crime 'problems' take on social and institutional prominence, they inevitably grow or recede in the ways we could measure them.[156] In Kenya, for example, offences involving tourists — which is to say, predominantly offences *against* tourists — are a distinct category in national police-recorded crime statistics.[157] This isolation of alleged human behaviours has been identified as a distinct crime problem, likely through some combination of a handful of high-profile cases and administrative inertia. South Africa has no such crime type on its systems and therefore has no existing statistics to offer in comparison. Another local example is seen in recent debates about whether farm murders are a distinct phenomenon deserving of quantification and strategic prioritisation. Attempts to theorise the ontological reality of crime are time-worn but indefinitely ongoing.[158]

A related concern with a legalistic definition of crime is that law as codified by the state may represent not a society's moral consensus or the 'objectively' most harmful activities, but the culmination of the interests of the powerful. Failure to problematise the origin and socio-political functions of criminal law may be not only ideologically unacceptable but to misunderstand the phenomenon entirely. The South African historical case makes this particularly clear. To apply the scientific method to exploring the causation of violation of the Apartheid Natives (Urban Areas) Act, without reflecting on the political nature and fundamental injustice of such legislation, presents an absurdity. The delineation and categorisation of crime is a product of what is valued by the powerful within a society. With some exceptions, such as in the prosecution of organised crime, crime can refer only to the intentional behaviour of individuals. This may serve to erase larger-scale, collective

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[154] Paddy Hillyard & Steve Tombs 'From 'Crime' to Social Harm?' (2007) 48 *Crime Law and Social Change* 1–2 at 10.

[155] Young op cit note 41 at 339.

[156] Elizabeth Martin 'A Twist on the Heisenberg Principle: Or How Crime Affects Its Measurement' (1981) 9 *Social Indicators Research* 2.

[157] National Police Service Republic of Kenya *Annual Crime Report* (2018).

[158] See for example Kristian Lasslett 'Crime or Social Harm? A Dialectical Perspective' (2010) 54 *Crime Law and Social Change*; Matthews op cit note 79.

wrongs. The lens of crime falls short of grasping long-term, state-approved, structural violence against black people during colonial and Apartheid rule.[159]

A dichotomous, legalistic definition of 'crime' presents logical and practical difficulties for comparison. In both their letter and their application, laws vary between contexts and change over time. What is 'crime' in one place and time is 'not crime' in another. For example, the fact that Swedish statistics on the number of rapes known to the police are three times the European average has been largely ascribed to differences in law and institutional counting rules.[160] An act which is criminal today may be non-criminal tomorrow; one which is criminal here may be non-criminal a kilometre away; it may readily be designated as criminal if conducted by one individual but less so by another. As example, what happens on the rugby field every weekend would earn serious legal penalty in the parking lot. The problem of legal fluidity over time is particularly acute in the South African case, with its widescale legal reforms over the last century. So is the problem of the unequal application of the law.

A final problem with the ontology — or 'thingness' — of crime is that the boundaries of criminal law are broad. They may be so broad that the conduct they encompass is too diverse to have much in common in terms of causation. A violent assault borne out of strong momentary emotion may be only trivially related to a systematic conspiracy to commit tax evasion. The causal process proposed for sexual assault will likely be very different to that proposed for online media piracy. Whatever self-control and rational choice theorists may suggest, these differences may be such that it makes little sense to group these activities into an analytical category at all.[161]

Even superficial observation suggests that all crimes are not alike in prevalence trend. Officially recorded national police statistics show entirely different trends for different crime types. For example, the following graph shows that during the same period that recorded vehicle theft declined by about two-thirds, recorded aggravated robbery fluctuated, while

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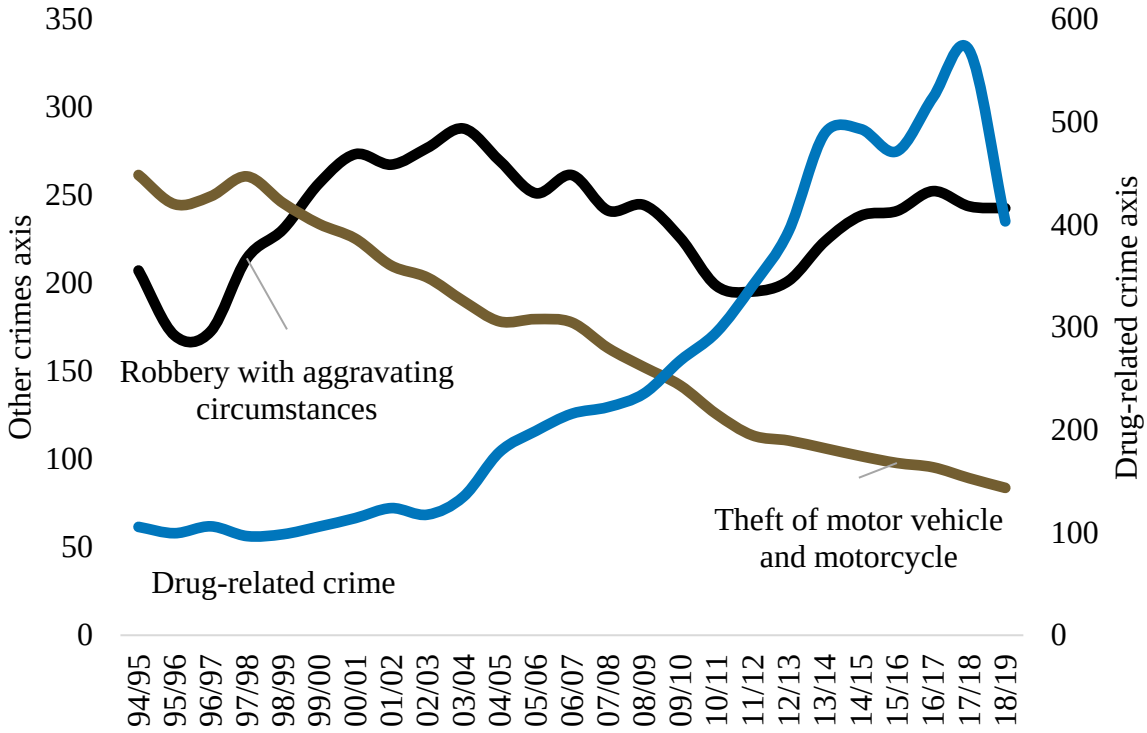
[159] Henkeman op cit note 75 at 6.

[160] Hanns von Hofer 'Crime Statistics as Constructs: The Case of Swedish Rape Statistics' (2000) 8 *European Journal on Criminal Policy and Research*.

[161] See 'Louk Hulsman (1923–2009)' in Keith Hayward Shadd Maruna & Jayne Mooney (eds) *Fifty Key Thinkers in Criminology* (2010) 136–47.

recorded drug-related crime rose over five-fold (with a sharp decline to 2018/19 as a result of the change in the legal status of cannabis).

Figure 4 RSA recorded national rates per 100 000 of vehicle theft, aggravated robbery, and drug-related crimes



Source: Data from South African Police Service and Statistics South Africa.[162]

Taking these figures at face value, it would be absurd to attempt simultaneous description or analysis of trends or patterns in these three crime types alone, to say nothing of the 20-odd others on which the South African Police Service regularly releases statistics. Popular crime talk seldom concerns itself with such distinctions. News reports routinely make such claims as that 'crime in South Africa is at an all-time high',[163] with no hint that recorded vehicle theft rates are at their lowest point in at least 24 years (indeed, despite the

[162] Recorded crime data from various South African Police Service annual reports; population data from Statistics South Africa's mid-year population e.g. Statistics South Africa *Mid-Year Population Estimates 2017* (2017). Calculations by author.

[163] 'South African Police Have 'Lost' 500 Guns' *Business Tech* 30 October 2019 https://businesstech.co.za/news/government/350045/south-african-police-have-lost-500-guns/.

total number of officially recorded crime incidents being at their lowest point in at least a decade).

Less forgivably, the post-Apartheid South African discipline of criminology has done little better. It is common to read of high or rising levels of crime without any hint that there may be disparate patterns or trends within that broad, over-arching category, which is in fact a matter of numerous precise and evolving legal distinctions. Police agencies draw these distinctions very differently in different countries. Causal theories that are crime generic, 'attributing changes in crime to changes in the number or motivation of offenders…are unable to adequately account for the trajectories of specific crime types' that may well go against the trend.[164]

Many of the ontological ambiguities introduced above translate into epistemological ones. That which is indeterminate cannot but be indeterminable. 'Crime' is only and entirely that which is officially so designated in a given context. This goes well beyond semantic circularity. Any purported measure of crime prevalence is also inevitably a measure of the underlying social, cultural, and legal structures that create it.[165] There is no conceptual distinction between, and therefore no way to practically distinguish between, that information which is a feature of 'crime' and that which is a feature of the institutions that constitute the meaning and measure of 'crime'.

This has major implications for analysis that seeks empirical purchase on the prevalence of crime. Observed patterns and trends in officially recorded crime prevalence may primarily reflect differences in those official institutions, especially where the penal law prohibits behaviour that is very widespread. In contexts in which penal law is used to enforce partisan ideological norms, they can reveal little more than what kinds of behaviour or people adherents of that ideology aim to eliminate[166] — or, even, what they wish to be seen acting against. The epistemological problems with crime go even deeper.

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[164] Aiden Sidebottom et al. 'The East Asian Crime Drop?' (2018) 7 *Crime Science* 6 at 2.

[165] Dessaur op cit note 152 at 19.

[166] Ibid.

The epistemology of crime, or whether crime is knowable

The second inherent challenge of crime prevalence measurement is the matter of epistemology. Epistemology refers to the study of knowledge. It asks the question, 'How do we know?' In this context, it asks whether crime prevalence can be meaningfully discerned or figured out. In other words, it asks whether statements about crime prevalence can conceivably be logically justified as 'true', rather than guess or opinion. Again, attempts to explain crime must to some extent assume that this is so. But the matter of how 'crime' can be defensibly determined empirically or quantified is also not so simple.

One core difficulty with gaining empirical purchase on 'crime' is that it constitutes not a corporeal item or easily observed natural phenomenon, but a certain subset of human behaviour during a particular moment. It is a (largely decentralised and unorganised) activity that may be fleeting, may leave little obvious physical trace, and may well be subject to intentional subterfuge. It is not a matter of a tree falling in the forest with none around to hear, but of a tree quietly felled and removed in the dead of night in a forest of continually varying size and location, by a person with a strong incentive to prevent the event or their involvement from coming to light.

It has been empirically well-established that 'there is a tremendous amount of undetected criminality among otherwise respectable citizens'.[167] Crime tends not to be a socially-acceptable behaviour that happens in plain sight. This makes direct observation difficult. A fieldworker with a clipboard is unlikely to observe a reasonably-representative sample of the crimes that occur on their assigned street block, regardless of how long they may sit on the corner. As with research on human sexuality, there is also reason to take a great deal of care in interpreting the data provided by direct participants, as well as popular estimations.

Research has shown that public perceptions of crime prevalence are often entirely inconsistent with other, more systematic measures.[168] Without the application of rigorous theory, method, and scepticism, scholars are no less subject to the various social and

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[167] Ibid at 18.

[168] See for example Vandiver & Giacopassi op cit note 9.

cognitive biases that lead laypeople to over- or under-estimate the absolute and relative frequency of events or sizes of groups by factors of ten or more.[169]

Expansive, impressionistic accounts of the magnitude, nature, or patterns in crime should therefore be met with scepticism. The explanations they yield are also fated to be equally expansive and impressionistic. Such accounts have their place in new, exploratory areas of research. But it would be surprising indeed if there could be any single coherent account for the absolute and relative levels, the trends over time, the precise nature, and the distribution of any complex human behaviour. 'Any crime' is simply not the same thing as 'lots of crime', 'more crime than in another place', 'rising crime', 'a shift from one kind of crime to another', and so on. It is only in being quite clear in what requires explanation, describing it in detail, dividing it into potentially useful parts, comparing it between different times and places, that 'crime' becomes analytically accessible.

This need not be strictly quantitative. It is both a loss and an error to reduce the 'richness, vitality and excitement of the subject [of crime]…to a series of dry numerical calculations that manufacture a spurious precision'.[170] A great deal of quantitative criminology is rightly accused of making a fetish of numbers, as substitute for theoretical and conceptual clarity.[171]

Yet, since the late eighteenth century in Europe and America, the categorisation and enumeration of people, places, and phenomena has become a tool of governance and science.[172] Quantifying and statistically describing deviance of various kinds helped unlock them from frameworks based on assumption about human nature or the supernatural,[173] into ones based on scientific principles.[174] Quantitative measures allow for unrivalled clarity and detail in the definition and description of variables. This makes them strong contenders for useful causal analysis. Structural criminology, with its interest in the prevalence of crime in

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[169] Ibid.

[170] Matthews op cit note 79 at 343.

[171] Matthews op cit note 79 at 356.

[172] Silvana Patriarca *Numbers and Nationhood: Writing Statistics in Nineteenth-Century Italy* (1996).

[173] Comaroff & Comaroff op cit note 19 at 210.

[174] George S Rigakos 'Risk Society and Actual Criminology: Prospects for a Critical Discourse' (1999) *Canadian Journal of Criminology*.

the aggregate, makes use of two key quantitative tools: victimisation surveys and official, police-recorded crime statistics. Both are interesting in what they reveal about the epistemology (or knowability) of crime. They show that not even the best methodologies can rid data on such a sensitive and complex subject as crime of 'poorly behaved measurement errors' that can easily lead to incorrect inferences.[175]

Victimisation surveys

One means of aggregate crime prevalence measurement is the use of a public survey which asks people about their experience either as perpetrators, or more commonly as victims, of crime. Victimisation surveys were developed in the US in the 1940s and further popularised in the UK in the 1980s as a means of gathering information directly from the victims of crime.[176] Among other things, victimisation surveys typically ask people how many of various crime types they have experienced in a certain reference period. This makes their results a candidate for defensible claims about aggregate-level patterns and trends in crime prevalence.

Victimisation surveys were conducted in South Africa before 1994, but tended to focus on small geographic areas, have small sample sizes, and massively overrepresent white respondents.[177] This practice of victimisation surveys of particular communities or population segments has continued since 1994,[178] although scholarly interest has waned. Surveys with

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[175] Alex R Piquero & David Weisburd (eds) *Handbook of Quantitative Criminology* (2010) at 372.

[176] John Tierney *Criminology: Theory and Context* 3 ed. (2010) at 36.

[177] HG Strijdom & Maatjé S Boshoff *Die Omvang van Die Rapportering van Misdaad Deur Blankes Kleurlinge En Indiërs* (1980); L Glanz 'The South African Public's Reaction to Crime Part 1: Personal and Property Protection Behaviour' (1989) 2 *Acta Criminologica: Southern African Journal of Criminology* 1; L Glanz 'The South African Public's Reaction to Crime Part 2: Collective Responses to Crime' (1989) 2 *Acta Criminologica: Southern African Journal of Criminology* 2; CMB Naudé 'Community Perceptions of Crime and Prevention Strategies' (1989) 2 *Acta Criminologica: Southern African Journal of Criminology* 1; Jacob van der Westhuizen 'Huisbraak in Mamelodi' (1990) 3 *Acta Criminologica: Southern African Journal of Criminology* 1; LE Glanz & HG Strijdom 'The Nature and Extent of Crime in Umlazi and KwaMashu' (1991) 4 *Acta Criminologica: Southern African Journal of Criminology* 1; Lorraine Glanz 'Crime in South Africa: Incidence Trends and Projections' in Lorraine Glanz (ed) *Managing Crime in the New South Africa: Selected Readings* (1992) at 42–56.

[178] Lala Camerer et al. 'Crime in Cape Town: Results of a City Victim Survey' (1998) ISS Monograph; Ted Leggett 'Search Me: Public Opinion on Crime and Justice in Central Johannesburg' (2003) 7 *South African Crime Quarterly*; Ted Leggett 'No One to Trust: Preliminary Results from a Manenberg Crime Survey' (2004) 9 *South African Crime Quarterly*; Valerie Møller 'Living with Crime: Does Crime Affect Victims' Perceived Quality of Life?' (2004) 9 *South African Crime Quarterly*; Patrick Burton 'Easy Prey: Results of the National Youth Victimisation Study' (2006) 16 *South African*

samples purporting to reflect the entire national population have also become increasingly regular and rigorous,[179] to the point where Statistics South Africa now surveys 33 000 households annually on a rolling basis.[180]

The advantage of such survey measures is that they can help avoid some of the differences between and distortions introduced by criminal justice systems. Their greatest disadvantage is that they are labour-intensive and expensive, and even so will almost invariably be based on a sample rather than the whole population of interest. This makes them sensitive to a range of possible sampling errors.[181] To get an accurate sense of the prevalence of rare crimes may require exceedingly large sample sizes.[182] An additional difficulty with incorporating the victim survey data into interpretations of the police crime data is that their reference periods have only overlapped as of 2014. The victim survey also only interviews those over the age of 16, whereas younger children may well be victimised and report this to the police.

Regardless, surveys must be understood to represent the crime situation as perceived, remembered, and retold under certain conditions by a sample of people of interest. This suggests numerous necessary caveats for their use. For one thing, the theorised explanandum of aggregate crime levels may correspond poorly with lay conceptions. Respondents are not legal scholars and have been demonstrated to hold definitions of 'crime' that are at odds with the letter of criminal law.[183] In South Africa, this is seen most clearly in the apparent difficulty of getting respondents to grasp the distinction between residential burglary and

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Crime Quarterly; Anine Kriegler & Mark Shaw 'Comfortably Cosmopolitan? How Patterns of Social Cohesion Vary with Crime and Fear' (2016) 55 *South African Crime Quarterly*.

[179] Statistics South Africa *Victims of Crime Survey 1997* (1998); Patrick Burton et al. *National Victims of Crime Survey South Africa 2003*(2004); Robyn Pharoah *National Victims of Crime Survey: Overview of Key Findings* (2008); Statistics South Africa *Victims of Crime Survey 2012* (2012).

[180] Statistics South Africa *Metadata: Victims of Crime Survey 2015/16* (2016).

[181] Ziggy MacDonald 'Official Crime Statistics: Their Use and Interpretation' (2002) 112 *The Economic Journal* 477.

[182] Jean Redpath 'Using Data to Make a Difference through Victimisation Surveys' (2010) 32 *South African Crime Quarterly* at 10.

[183] Jan van Dijk 'Approximating the Truth about Crime: Comparing Crime Data Based on General Population Surveys with Police Figures of Recorded Crimes' in Philippe Robert (ed) *Comparing Crime Data in Europe: Official Statistics and Survey Based Data* (2009) at 14.

residential robbery.[184] It has also been suggested that exposure to physical violence has become so common as to render more minor assaults too trivial to recount to fieldworkers.[185] Those who live in conditions of chronic insecurity may well find it difficult to give account of every relatively minor criminal incident.[186]

Respondents' memories may be unreliable for other reasons, especially around traumatic events. In a process known as 'telescoping,' it is common that victims remember an event as being more recent than it was.[187] Such surveys are therefore often understood to result in major overestimations of the prevalence of some crimes.[188] For other crimes or in other situations, survey measures of prevalence are understood to result in underestimation. People may be hesitant to talk about traumatic experiences (or their own offending) to a stranger or in a public place. On the other hand, surveys conducted within the home may make it difficult to disclose experiences of crime at the hands of family members or intimate partners. The complexity of emotional responses to and perceptions of sexual crimes make them particularly prone to under-reporting in typical crime prevalence surveys.

The numerous possible distortions of survey measures of crime prevalence need not necessarily discount them as tools of aetiological testing. Taking measure of 'crime prevalence' by means of 'voluntary recollection and disclosure of perceived crime experiences among a sample of the population' requires only the subtlest and most defensible conceptual sleight-of-hand. Indeed, victimisation surveys are sadly underutilised in this role in South Africa.

This is partly due to their fairly short history. The earliest victimisation survey with any even tentative claim to national representation was conducted in 1997. In the 20-odd years since then, they have passed through various institutional hands and been subject to

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[184] Statistics South Africa *Victims of Crime Survey 2012* at 39.

[185] Burton et al. op cit note 179 at 26.

[186] Gavin Silber & Nathan Geffen 'Race Class and Violent Crime in South Africa' (2009) 30 *South African Crime Quarterly*.

[187] George D Gaskell, Daniel B Wright & Colm A O'Muircheartaigh 'Telescoping of Landmark Events: Implications for Survey Research' (2000) 64 *The Public Opinion Quarterly*.

[188] Marcelo F Aebi, Martin Killias & Cynthia Tavares 'Comparing Crime Rates: The International Crime (Victim) Survey the European Sourcebook of Crime and Criminal Justice Statistics and Interpol Statistics' (2002) *International Journal of Comparative Criminology* 2 at 31.

numerous methodological revisions. The sampling and the format of survey and questions have offered some minimal consistency only as of 2012, perhaps even 2016.[189] This makes them a promising but as yet limited tool for describing crime prevalence trends over time.

An additional constraint involves the practical challenge of their necessary scale. Statistics South Africa's annual victims of crime survey is designed to produce accurate estimates primarily at the national level. It attempts accuracy to the provincial level but cannot do so for rarer crimes.[190] The extent of unexplained year-on-year fluctuation in some of its provincial results suggests further caution.[191] Disaggregation to the district level can be presented within reasonable error only for the most frequent of crimes, so most figures are presented on a geographic level only as small as the province.[192] For rarer crimes, even the less populous provinces pose problems for sampling. This has the effect of stirring together the experiences of people living in the townships with those of middle-class suburban-dwellers,[193] blurring out important spatial and other variation.

Clear, albeit occasional, errors in interpretation also bode ill for their rigour. For example, the statement that 'more than half of households in South Africa experienced housebreaking/burglary,'[194] radically misrepresents the survey's result that about 4 per cent of households, or 'more than half of those households in South Africa that experienced any crime, said that this crime has been housebreaking/burglary'.

In short, South African victimisation surveys do not yet offer the means to defensibly track crime prevalence trends over a period even so long as a decade or on a scale even so large as a province. The sample survey methodology is poorly suited to give accurate measure of relatively rare events. These surveys are less often used to estimate crime levels and more often to corroborate patterns seen in other data and to obtain other information like

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[189] The 2015/16 survey saw a change in the reference period from asking respondents about their crime-related experiences in the previous calendar year to a continuous data collection method that saw respondents asked about crime experienced in the 12 months prior to the interview. The impact of this change is unknown. See Statistics South Africa *Metadata: Victims of Crime Survey 2015/16* at 12.

[190] Statistics South Africa *Victims of Crime Survey 2017/18* at 32.

[191] Ibid at 17.

[192] Statistics South Africa *Victims of Crime Survey 2016/17* at 15.

[193] Dixon *Globalisation* op cit note 24 at 373.

[194] Statistics South Africa *Victims of Crime Survey 2016/17* at 9.

on reporting decisions and perceptions of the police.[195] Divergence between survey data and official crime statistics is common and a fascinating subject of study in its own right.[196] We will return to this below, to demonstrate the extent of the epistemological challenge presented by the use of official crime statistics.

Official crime statistics

Statistics on crimes known to the police have been collected from about the nineteenth century in Europe, and from about 1913 in South Africa.[197] These figures offer some major advantages as a measure of crime prevalence. First, they represent not a sample of the population (as in a survey), but ostensibly the full population of those who reported a crime to the police. Another important advantage is that they are being collected by the police anyway in the course of their duties. But this is also their disadvantage. The crime counts recorded by the police are an administrative and law enforcement tool that prospective aetiologists can at best attempt to repurpose for measurement of crime.[198] The case docket is an administrative and investigative tool, not designed for crime prevalence research.[199] For example, it may only record the most serious crime in a given incident, or may list many victims in the same docket.[200] But this is the least of it.

As the very first, nineteenth century commentators already knew well (but as critical criminologists delight in periodic rediscovery),[201] these statistics are inherently and tremendously flawed in their capacity to reflect the 'truth' about crime prevalence. In the words of Adolphe Quetelet, pioneer of the earliest analysis of French crime statistics, 'our

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[195] Van Dijk op cit note 183 at 15.

[196] James P Lynch & Lynn A Addington 'Conclusion' in James P Lynch & Lynn A Addington (eds) *Understanding Crime Statistics: Revisiting the Divergence of the NCVS and UCR* (2007).

[197] Robert C Williamson 'Crime in South Africa: Some Aspects of Causes and Treatment' (1957) 48 *Journal of Criminal Law Criminology & Police Science* at 186.

[198] Keith Bottomley & Clive Coleman *Understanding Crime Rates: Police and Public Roles in the Production of Official Statistics* (1981).

[199] Julie Berg & Wilfried Scharf 'Crime Statistics in South Africa 1994–2003' (2004) 17 *South African Criminal Justice Journal* at 66.

[200] Nigel Walker *Crimes Courts and Figures: An Introduction to Criminal Statistics* (1971).

[201] Aebi & Linde op cit note 34.

observations can only refer to a certain number of known and tried offences, out of the unknown sum total of crimes committed'.[202] This is the case everywhere. The problem is even more acute in developing countries, however, which often have uneven institutional presence and limited statistical capacity. Few developing countries have the statistical capacity to produce official police crime data of sufficient quality for much analysis.[203] A small number of highly industrialised countries thus remain the focus of almost all criminological theory and analysis, especially quantitative.

South Africa's official police-recorded crime statistics have enjoyed considerably more use than victim survey data as a tool of aetiology. Even so, their analysis has been so limited that it could be said in 2010 that they had not been employed in empirical tests of such classic criminological theories as social disorganisation.[204] The discipline has for various practical and ideological reasons been unable to put them to productive use.

The general epistemological challenges involved are daunting. Crime statistics are the outcome of adjudication by a highly partisan institution with broad informal scope for discretion and strong interests in producing certain results. Police discretion in official recording practices, whether proper or improper, plays a major role.[205] Evidence abounds that the socio-demographic profile of victim and suspected perpetrator are key determinants of the operation of that discretion.[206]

The police are decidedly not independent parties with a theoretical interest in the epistemological validity of the crime figures they collect and disseminate. There has thus been concern about data manipulation from the very first.[207] Police performance management

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[202] Sandra Walklate *Criminology: The Basics* 2 ed. (2011) at 30.

[203] Mark Shaw, Jan Van Dijk & Wolfgang Rhomberg 'Determining Trends in Global Crime and Justice: An Overview of Results from the United Nations Surveys of Crime Trends and Operations of Criminal Justics Systems' (2003) *Forum on Crime and Society* 3 at 61.

[204] Gregory D Breetzke 'Modeling Violent Crime Rates: A Test of Social Disorganization in the City of Tshwane South Africa' (2010) 38 *Journal of Criminal Justice* 4.

[205] Donald J Black 'Production of Crime Rates' (1970) *American Sociological Review* 35.

[206] As just one recent and egregious example among probably hundreds see Dayna S Henry et al. 'Does Perpetrator Occupation Affect Classification of Sexual Assault?'(2019) *Journal of Interpersonal Violence* September.

[207] Adrian Smith *Crime Statistics: An Independent Review Carried out for the Secretary of State for the Home Department* (2006) at 11.

introduces incentives for data manipulation at every level.[208] The police are mandated to prevent crime, which in effect means that they are required to reduce the number of crimes recorded in their jurisdiction, be that the station area, cluster, province, or country.[209] South African Police Minister Bheki Cele for example made the following statement in September 2019.

> One problem with the murders that are not recorded is the high number of people murdered by people they know. All those are registered as murder. But we are going to try and come up with different codes [to register cases]. Because it's difficult to police… It has really pushed up the numbers.[210]

Here we have the head of an organisation publicly volunteering the information that he intends to manipulate its data in such a way that it can be exculpated for those things that it considers difficult. This is a particularly blatant example of how performance management places pressure on and may distort methods of police crime data collection. There is also admittedly anecdotal but widespread evidence that the police can be reluctant to open dockets, try to 'downgrade' reported incidents to the least serious crime possible, or sometimes outright destroy dockets before electronic capture.[211] This is a common practice in law enforcement organisations everywhere.[212] It has lent all crime statistics a justified air of suspicion.[213]

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[208] David Bruce ''The Ones in the Pile Were the Ones Going down': The Reliability of Violent Crime Statistics' (2010) 31 *South African Crime Quarterly*.

[209] Faull 'Missing the Target'.

[210] Lester Kiewit 'Slight Changes but No End in Sight for Violent Crime in South Africa' *Mail & Guardian* 12 September 2019 https://mg.co.za/article/2019-09-12-slight-changes-but-no-end-in-sight-for-violent-crime-in-south-africa. Accessed 18 September 2019.

[211] Bruce op cit note 208.

[212] See for example J David Goodman 'New York Police Commissioner and Predecessor Spar over Accuracy of Crime Data' *New York Times* 29 December 2015. Available at www.nytimes.com. Accessed 12 January 2016.

[213] Mike Maguire 'Criminal Statistics and the Construction of Crime' in Mike Maguire, Rod Morgan & Robert Reiner (eds) *The Oxford Handbook of Criminology* 5 ed. (2012) at 206.

There are major variations in all the relevant parties' inclinations and capacities to detect an incident of possible criminality, identify it as possibly criminal, deem it worthy of official attention, and substantially accurately report and officially record it. A given incident's appearance in official statistics is subject to numerous and powerful social and institutional factors that winnow down the proportion of all criminal acts that make it into those statistics. The ones that don't make it into the statistics constitute the dark or hidden figure of crime. This is commonly likened to that unknown proportion of an ice-berg that is hidden below the water line, which may be far larger than the visible tip.

There is no legal requirement for ordinary people to report most crime types to the police. Statistics South Africa's national victims of crime survey suggests that fewer than half of all incidents of assault and a third of all incidents of theft of personal property are reported to the police.[214] The extent of underreporting for sexual crimes is unknown but believed to be large.[215] That for car theft is fairly small, likely due to the socioeconomic status of those who own cars, as well as the requirements of insurance companies.

For most crime types, the official numbers recorded by the police should at best be considered a lower bound of the 'real' prevalence of crime. Fraudulent claims may compromise even this. It is not at all easy to distinguish between legitimate and fraudulent claims, as evidenced by the proliferation of antifraud units in private insurance companies and their acknowledgement of the subjective and blurred lines between 'hardcore' fraud and mere exaggeration.[216] Rather than law, it is too often social and institutional norms, officer caprice, and legally irrelevant (but socio-demographically unsurprising) victim characteristics that determine whether a case like rape ever makes it into a docket.[217]

This is crucial. The measurement errors in crime statistics are non-random in distribution.[218] They introduce systematic distortions around many other variables in which

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[214] Statistics South Africa *Victims of Crime Survey 2015/16* (2017) at 65.

[215] See for example Rachel Jewkes & Naeema Abrahams 'The Epidemiology of Rape and Sexual Coercion in South Africa: An Overview' (2002) 55 *Social Science & Medicine*.

[216] Nathalie Des Rosiers & Steven Bittle 'Introduction' in *What Is a Crime? Defining Criminal Conduct in Contemporary Society* Law Commission of Canada (ed) (2004) at xv.

[217] Dee Smythe *Rape Unresolved: Policing Sexual Offences in South Africa* (2015).

[218] Rodrigo R Soares 'Development Crime and Punishment: Accounting for the International Differences in Crime Rates' (2004) 73 *Journal of Development Economics* 1 at 162.

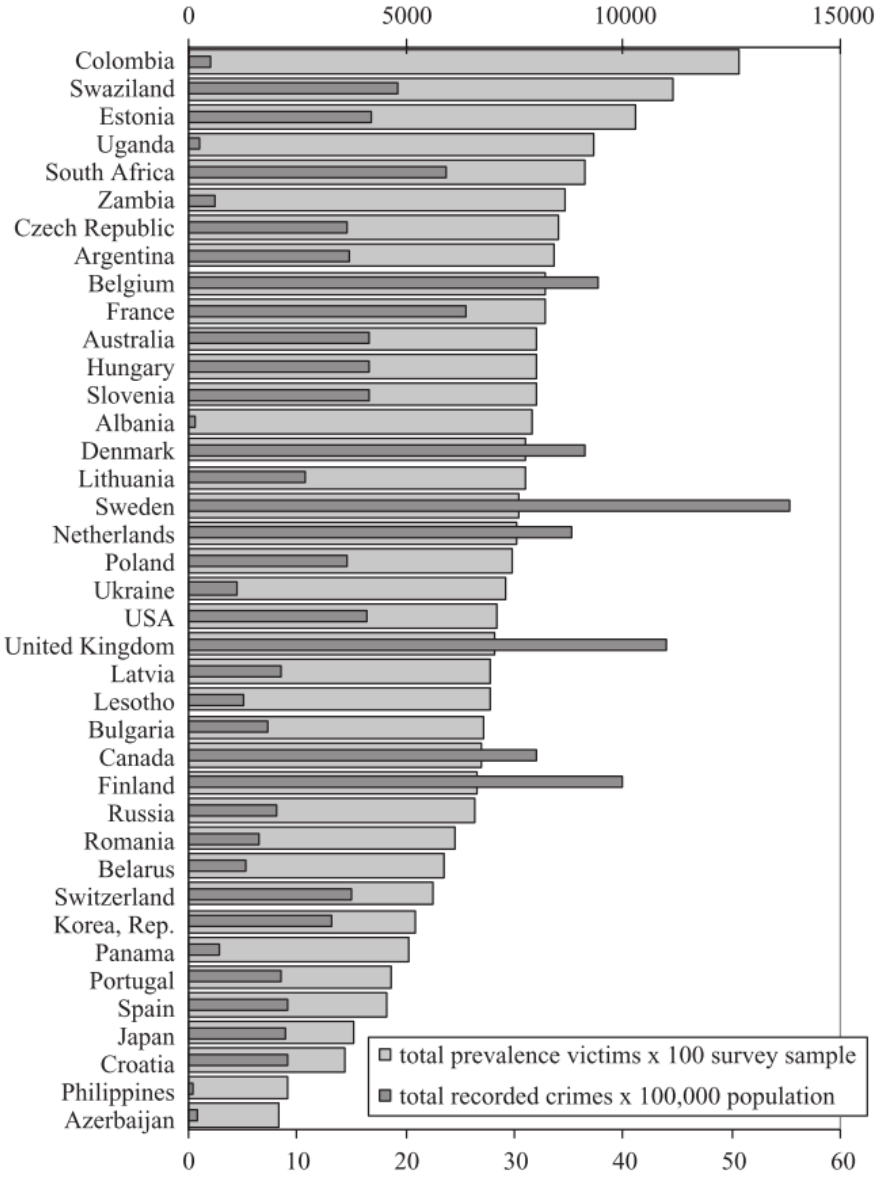
we may well take an aetiological interest. When we observe, for example, that in a given period more house burglaries have been recorded at a relatively well-resourced police station in a wealthy urban suburb than at another, more rudimentary police station in a rural, subsistence-based community, we must account for the impact of these different socio-economic and institutional profiles on the completeness of the respective official records before we can risk speculation on their impact on the actual incidence of crime. To put it mildly, this is no easy task.

Unfortunately, South African victim survey data do not currently disaggregate well enough to give reliable quantitative account of these disparities. But analyses of recorded crime rates that fail to account for such large differences in reporting behaviour will inevitably be seriously misleading. They are akin to analysis that takes at face value the gendered and racialised patterns of measures of intelligence.

Cross-national evidence shows that there is little or no correlation between police recorded crime rates and the victimisation rates reported in random surveys.[219] What the police say about crime prevalence and what the citizens say about their experiences when asked directly by independent parties are very different. See, for example, the following graph, which compares countries according to the percentage of respondents to the International Crime Victims Survey who indicated that they had been victims of crime once or more in the past year, versus that country's police recorded crime rate per 100 000 population.

[219] Killias & Tavares op cit note 188; John van Kesteren, Jan van dijk & Pat Mayhew 'The International Crime Victims Surveys: A Retrospective' (2013) 20 *International Review of Victimology* 1.

Figure 5 Total crime by countries according to the International Crime Victims Survey (the percentage victimised once or more) and police figures (total recorded crime per 100 000 population)



Source: Reproduced from Van Kesteren, Van Dijk, and Mayhew.[220]

As already discussed, victimisation surveys are not without their flaws, and likely introduce their own non-random measurement distortions,[221] but the scale of the discrepancy

[220] Ibid at 52.

[221] See for example Redpath op cit 182; van Dijk op cit note 183; David Cantor & JP Lynch 'Self-Report Surveys as Measures of Crime and Criminal Victimization' (2000) *Criminal Justice*.

between official police data and survey data should give one considerable pause. Here are two data points, based on two different methodologies, that purport to quantify the same underlying phenomenon but show no correlation whatsoever. This casts doubt on the validity of at least either, but perhaps both. The recorded crime statistics are subject to numerous, powerful, hidden variables. They may well be tremendously misleading, especially for some crimes. Their scholarly use has been in inverse relation to that scholar's familiarity with the context of policing. The person with the very least faith in them is likely the officer at the charge desk.

Among those researchers who fully grasp the extent of these measurement problems, one of two strategies is typically selected.[222] The first is the use of victimisation survey data, which can avoid some of the pitfalls introduced by differences in legal definition, victim inclination to report, and police inclination to record.[223] As discussed above, the South African victimisation data do not yet offer the means to defensibly track crime prevalence trends over a period longer than a few years or on a scale smaller than the province. The second strategy is to restrict analysis to the recorded rate of murder. This is based on 'the conviction that with murder, as opposed to other forms of criminality, definitions are reasonably stable; that because of the seriousness of the crime, people will report incidents to the police (failing which the police will happen on a corpse and a docket will, in any event, be opened); and that the police will record these accurately'.[224] Even murder statistics, conventionally regarded as the most accurate and reliable, can lead to illegitimate conclusions when the data limitations are not understood and respected.[225]

Crime statistics remain, however, the primary measure of the very core of the endeavour of macro-aetiology. They offer unparalleled ease and economy in access to a massive pre-existing dataset, constructed largely voluntarily by victims and an existing workforce trained in the continuous verification, classification, and recording of the precise object of explanatory interest. Their scale makes them uniquely appropriate for

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[222] Antony Altbeker 'Puzzling Statistics: Is South Africa Really the World's Crime Capital?' (2005) 11 *South African Crime Quarterly*.

[223] Ibid at 1.

[224] Ibid at 1.

[225] Antony Altbeker 'The Dangers of Data: Recognising the Limitations of Crime Statistics' (2005) 14 *South African Crime Quarterly*.

disaggregation in space and time. Only crime statistics make it possible to make such differentiations as between ‘lots of crime’, ‘more crime than in another place’, ‘rising crime’, ‘a shift from one kind of crime to another’, and so on. They make it possible to divide crime in the aggregate into potentially useful parts and render it analytically accessible. They are by far the best tool of empirical access to the explanandum or dependent variable in primary criminology.

Chapter conclusion

Using a meta-theoretical lens, this chapter has begun to explore the nature and logical requirements of causal theory. It has drawn from the philosophy of social science to suggest certain criteria for differentiating and evaluating such theory. These metrics are precision and logical consistency, parsimony and scope, testability and empirical validity, and practical or policy implications. Drawing on the concepts of scope of explanandum and parsimony of explanans, it formulated a loose typology of four explanatory strategies.

Most crucially, the first part of this chapter proposed that an essential component of aetiological theorising is testability, which in the case of macro-criminology requires the ability to make defensible claims about aggregate-level patterns and trends in crime prevalence. Testability — or the potential to bridge the conceptual and the empirical — is an essential requirement for the refinement and development of aetiological theory. On the broadest meta-theoretical level, this contention lies at the core of this dissertation. The testing and evaluation of macro-level causal theory requires addressing the problem of crime prevalence measurement.

The second part of this chapter described some of the ontological and epistemological challenges of the measurement of crime prevalence. Victimisation surveys and official, police-recorded crime statistics offer deeply distorted measures of ‘real’ crime prevalence. Crime statistics are the best tool of epistemological access to the explanandum in primary criminology. Yet they are also almost impossible to put to such use. There is simply no good way to determine how much crime is happening. This means there is no good way to test structural, primary criminology. Together, these propositions present a dilemma: determining a defensible measure of aggregate crime prevalence is inherently both essential (or at least very important) and impossible (or at least very difficult). There is a tension between the importance and impossibility of describing patterns in crime prevalence.

This tension in how we conceive the basis of knowledge is not restricted to criminology. Other fields of (at the very least) social science have their corollary dilemmas of testability, ontology, and epistemology. In fact, it is precisely in their histories and methods of grappling with these dilemmas of data that fields constitute themselves, organise and make sense of their theoretical rifts, and ultimately produce something that can defensibly be described as knowledge. Psychology and psychiatry, for example, have created a vast and widely acknowledged arena of analysis concerning the reality and formulation of their diagnostic criteria. Historians are ever and acutely aware of the extent and implications of their epistemological limitations.

Criminologists in South African have paid lip service to at least the second half of our testability dilemma but have been unwilling or unable to do the messy work required to defensibly resolve it. As chapters four and five will demonstrate, these apparently abstract theoretical constraints form the invisible scaffolding of the discipline. It is between these horns that South African criminology has been caught and has stagnated. The following chapter will show why the South African discipline of criminology has thus far been so particularly unequal to the task.

Chapter four: The dilemma in context

This chapter demonstrates the origin and severity of the tension between the necessity and difficulty of empirical testability in South African criminology. It weaves together three modes of analysis: theoretical, descriptive historical, and technical. It is structured along a loose chronology of those aspects of South African policing institutions that have had a bearing on this dilemma of empirical testability. Interweaved with this is a simplified take on Van Zyl Smit and Dixon's schema of the discipline's different intellectual traditions, with emphasis on the inherent constraints that account for the failure of each to make productive use of measures of crime prevalence, particularly in the form of official police crime statistics. The post-Apartheid successors of these ideological schisms have made some but limited progress. This chapter also begins to take account of the ongoing methodological challenges of the use of the statistics. Despite major recent improvements, there remain numerous challenges to putting the post-Apartheid criminological statistics to use.

All told, this chapter establishes why the general meta-theoretical dilemma of criminological testability has proven here to be quite so crippling. The ambiguity of the Apartheid state's dimensions, the segmentation of its subjects and objects of social control, and the inherent injustice of its systems of 'justice' have meant that South African criminologists have faced even greater hurdles than those seen, for example, in Anglo-American contexts. We have long been aware of the measurement distortions around the official crime data.[226] We have had to contend with a historical scarcity of even minimally reliable criminological statistics, in a context that made their use irrational and indefensible.

The legacy of Apartheid policing has necessitated that official crime prevalence data be approached with both theoretical depth and methodological rigour that none have had the incentive to combine. The cumulative effect has been that South African aetiological enquiry has made little sound use of crime prevalence data and has rarely moved beyond apocalyptic grandstanding and generalisation to explore the detail of how much crime is demonstrably happening where and why.

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[226] As one early example of an account of these factors in the South African context see Simon Fredericks *Criminological Statistics* (1982) at 1–2.

Complications of twentieth century SA criminological statistics

Those who might have sought to use official South African criminological statistics for aetiological inquiry — to ask some variation of the question 'why this much crime here and now, rather than there and then?' — will quickly have run into numerous difficulties. South Africa's would-be quantitative criminologists have never had much of value to work with, while their critics have always had a great deal. This section explores how the nature of the country's policing organisations in twentieth century constrained the usefulness of official crime statistics.

These factors represent a difference in degree rather than a difference in kind to those seen in other countries, or indeed in other disciplines entirely. All South African quantitative research under Apartheid was compromised by the state's disinclination to produce the necessary data on the majority of South Africans, by the political divisions in academic life, and by 'the hostility to quantitative, empirical research among many social scientists, who preferred either theory-driven or qualitative research strategies'.[227] Analyses of class and/or race in Anglo-American contexts require similar caveats to the ontological and epistemological reality of crime. In the South African context, however, these constraints have been so blatant as to cripple empirical inquiry throughout the course of the development of the field of criminology.

Early policing jurisdictions and focus

Although some piecemeal local statistics are available earlier, there was no single state structure with dominion over anything approximating the current national borders prior to the twentieth century. It was only after the 1910 unification of the four previously separate Cape, Natal, Transvaal, and Orange River colonies into the Union of South Africa, that the various colonial police forces (the Transvaal Police, the Orange Free State Police, the Natal Police, the Cape and Kimberley Urban Police Forces, the Cape Mounted Police and the Rural Police of the Cape Province)[228] were gradually amalgamated into the new South African Police

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[227] Jeremy Seekings 'The Uneven Development of Quantitative Social Science in South Africa' (2001) 27 *Social Dynamics* 1 at 2.

[228] SAP Annual Report 1912 at B

(SAP), Headquartered in Pretoria.[229] This was followed by numerous rounds of attempts to standardise policing presence and practices, including crime recording.

The early years of the SAP saw unsteady jurisdictional incorporation, as well as disruptions following the outbreak of the First World War in 1914. By 1916, for example, although it claimed to '[have] charge of the whole of the Union', this was 'with the exception of the Province of Natal (where its activities were [only] those in connection with the work of Criminal Investigation and the Water Police controlling the Harbour and Docks of Durban), and the North Western Districts of the Cape Province,' in turn with the exception of Kimberley.[230] Its staff establishment of 5328 'Europeans' and 2244 'Natives' was judged considerably under strength and was seriously depleted by the many who joined active service.[231] The population was predominantly rural and unaccustomed to centralised control. This limited geographic coverage and institutional capacity meant that the crime figures recorded during these early years were decidedly restricted. Only in 1921 did the SAP introduce a system whereby all stations were required to send regular (monthly), detailed records of cases to Pretoria.[232]

Even so, the fledgling state had generally limited statistical capacity, as well as an uneven and still poorly defined mandate for its police. This meant that the SAP's statistics in the first half of the twentieth century would reasonably have been met with scepticism even by casual and uncritical contemporaneous consumers. All were certainly not equal in the eyes of the law. There was question, for example, about whether farmers whose servants had deserted should be required to go to the 'trouble and expense of travelling many miles to make a sworn statement before a J.P. [Justice of the Peace]' or whether the police should be 'given discretion in this matter and be allowed to accept bail after effecting arrest' under the Master and Servants Act.[233] As in all policing models of a colonial persuasion there could

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[229] Robert C Williamson 'Crime in South Africa: Some Aspects of Causes and Treatment' (1957) 48 *Journal of Criminal Law Criminology & Police Science* at 186.

[230] SAP Annual Report 1916.

[231] Ibid.

[232] Department of Police Union of South Africa *Annual Departmental Report 1920-1921* at 68.

[233] SAP Annual Report 1919 at 31.

never be any pretence that South African colonial policing served a common moral consensus.

Racial classification had major significance, not only politically and socially, but also legally. So it was that the early statistics were obsessively concerned with the 'races' of the victims and alleged or suspected perpetrators. For example, indecent assaults were meticulously differentiated as 'White men on White women', 'White men on Col. women', 'Col. men on White women', 'Col. men on Col. women', or 'Male on Male'.[234] The 'nationalities' of persons convicted were similarly differentiated as 'British Born', 'S African British', 'Other Colonies', 'Other Nationalities', 'Kaffirs', 'Asiatics', or 'Other Coloured'.[235] Punishments, of course also differentiated by race, included the death sentence and indentured hard labour.[236]

Racist laws had existed throughout, but the segregationist policies of the first half of the twentieth century — such as the Natives (Urban Areas) Act of 1923 and the Native Administration Act of 1927 — served further to weaponise the racial and spatial margins of citizenship.[237] It went without saying that the SAP existed primarily for the protection of the personal and business interests of the white population. The core driver of economic and geographic change, the mining industry, was itself intensely violent, with pervasive 'supervisory abuse, collective violence between groups of employees, and the depredations of criminal gangs based in the mining compounds'.[238] The security, rights, and very subjecthood constituted by colonial claims for/of a monopoly on the legitimate use of force were indistinguishable from violence and disenfranchisement.

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[234] SAP Annual Report 1912 at 114.

[235] Ibid.

[236] SAP Annual Report 1919 at 31

[237] Martin Legassick 'Legislation Ideology and Economy in Post-1948 South Africa' (1974) 1 *Journal of Southern African Studies* 1 at 7.

[238] Gary Kynoch 'Apartheid's Afterlives: Violence Policing and the South African State' (2016) 42 *Journal of Southern African Studies* 1 at 66.

Apartheid policing

This pattern only became clearer after 1948. Through the Department of Statistics and Central Statistical Service (predecessors to Statistics South Africa), the Apartheid state expanded its statistical capacity. Yet this was inevitably in ways that were explicitly politicised and racialised.[239] Statistics demarcated and reinforced the various myths of Apartheid, such that demographic data was erratic and of poor quality. Censuses, for example, tended to focus predominantly on the white population.[240]

The Apartheid state tried to legitimate itself by literally 'dis-counting' much of the population.[241] It was deeply invested in obscuring and creating ambiguity in its ontological and epistemological boundaries. The result was that it was not always clear where the SAP had meaningful presence and for which areas and populations it considered itself responsible. Blacks were granted only limited official recognition and rights in white-designated cities and towns. Black-designated, primarily rural areas were increasingly placed under a separate political regime under nominally traditional authority.

Under the doctrine of 'separate development', based on the unilateral decision that the country's black population consisted of a group of separate 'nations' to be governed separately but as subordinate to the white,[242] these policies were expanded and consolidated — most notably with the Bantu Authorities Act of 1951, the Promotion of Bantu Self-government Act of 1959, the Bantu Homelands Citizenship Acts of 1970 and 1971, and the series of Acts related to the 'independent' status of the Transkei (1976), Bophuthatswana (1977), Venda (1979) and Ciskei (1981).

These nominally independent states (Transkei, Bophuthatswana, Venda, and Ciskei — also known as the TBVC states), as well as the non-independent or 'self-governing' entities (Gazankulu, Lebowa, QwaQwa, KaNgwane, KwaNdebele, and KwaZulu), covered a

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[239] Comaroff & Comaroff op cit note 19; Kelly Gillespie 'Murder and the Whole City' (2014) 37 *Anthropology Southern Africa*.

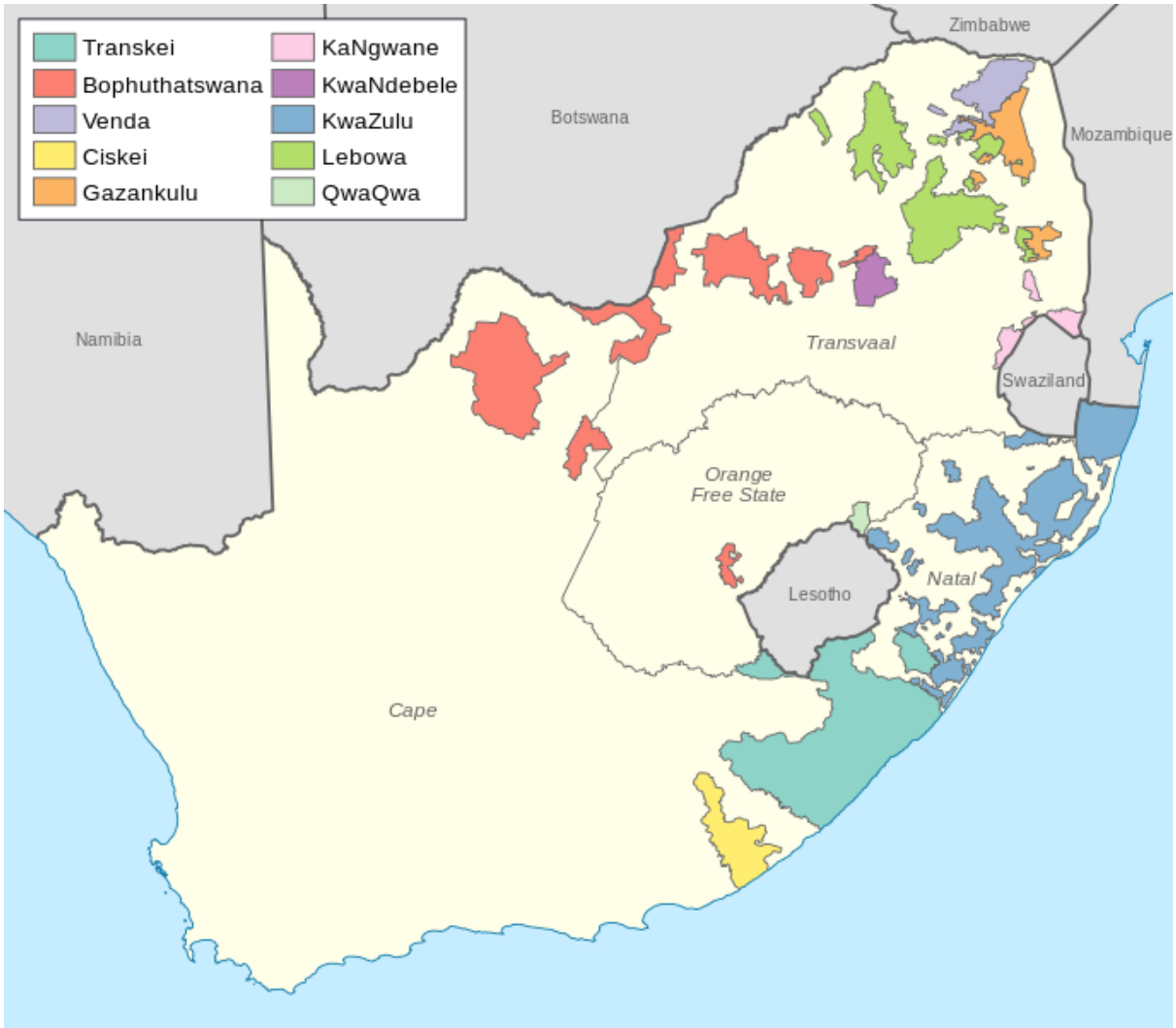
[240] Gail Super 'The Spectacle of Crime in the 'new' South Africa: A Historical Perspective (1976-2004)' (2010) 50 *British Journal of Criminology* 2 at 4.

[241] Comaroff & Comaroff op cit note 19 at 212.

[242] See for example Jeffrey Butler, Robert I Rotberg & John Adams *The Black Homelands of South Africa: The Political and Economic Development of Bophuthatswana and KwaZulu* (1977).

considerable area of the country and housed a much larger and highly contested proportion of its population. The following map indicates their extent before their dissolution in 1994.

Figure 6 Map of 'homelands' in South Africa at the end of Apartheid, before reincorporation



Source: Wikimedia Commons.[243]

The creation of these ethnic 'bantustans' saw whole regions ostensibly transferred from the direct administrative responsibility of the SAP to hastily-established new police

[243] At https://commons.wikimedia.org/wiki/File:Bantustans_in_South_Africa.svg Accessed 5 July 2018.

forces that were poorly trained and managed,[244] under-resourced and under-staffed as compared to the SAP, and notoriously brutal towards and dubiously legitimate in the eyes of their 'citizens'.[245] Their political ambiguity made for complex relationships with the SAP. Certain functions were to varying degrees devolved to local police, but these structures were 'carefully monitored and manipulated by the South African government to prevent any homeland from becoming a threat to the perceived interests of the Republic'.[246]

In policing as in other spheres, the bureaucracy was balkanised, making for inconsistent, irregular and chronically scattered statistical information, which was particularly inadequate for 'non-whites'.[247] The ontology and epistemology of the state itself became ambiguous, with different state structures not necessarily corresponding in their interpretation of their jurisdictions. South West Africa, now Namibia, was yet another jurisdictional and statistical grey area. Borders were subject to frequent re-categorisation, re-delimitation, and legal and moral contestation. The legal position of gambling — criminal in SA but easily accessible with just a short trip across a bantustan 'border' — shows up how profit could be made from this ambiguity and plausible deniability.

In the bantustans there was little incentive for transparency or pretence at democracy, so crime record keeping occupied a low institutional priority in these areas. Little or none of their records of recorded crime have survived. Patronage and state-sponsored terror were widespread.[248] This saw parallels in black urban communities in white-designated areas, where the SAP operated primarily as a counterinsurgency force. It formed dirty tricks units and committed heinous crimes, seldom leading to the prosecution and punishment of the

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[244] Etienne Marais 'Policing the Periphery: Police and Society in South Africa's 'Homelands'' in *22nd Congress of the South African Sociological Association* (1992).

[245] Peter Gastrow & Mark Shaw 'In Search of Safety: Police Transformation and Public Responses in South Africa' (2001) 130 *Daedalus* 1 at 262.

[246] Truth and Reconciliation Commission 'Volume 2 Chapter 5: The Homelands from 1960 to 1990' in *Final Report of the Truth and Reconciliation Commission* (1998) at 410–11.

[247] Leah Gilbert 'Urban Violence and Health - South Africa 1995' (1996) 43 *Social Science & Medicine* 5 at 874.

[248] Wilfried Schärf 'The Resurgence of Urban Street Gangs and Community Responses in Cape Town during the Late Eighties' in Desirée Hansson & Dirk Van Zyl Smit (eds) *Towards Justice?: Crime and State Control in South Africa* (1990) at 234.

officers involved.[249] Even given this impunity, it naturally had little incentive to keep accurate record of such incidents. Many aspects of black urban life were criminalised and staggering numbers of black men were incarcerated, usually for short terms, for 'violating residency, alcohol, labour and tax ordinances'.[250] The SAP engaged with black communities less as individual bearers of rights to safety than as large, confrontational collectives.[251] It enjoyed little popular legitimacy among the black majority.[252] In black urban communities, where levels of crime and violence were already understood to be high,[253] many turned to alternative tools of justice, like street committees and 'community courts'.[254] Such vigilantism was at times sanctioned by the state for its own political ends.[255] Very few of the crimes committed in predominantly black areas would ever have been reported to the police and been recorded in official statistics. Localised victim surveys suggested that there were major racial differences in crime reporting, and that the extent of underreporting in black urban communities was very high.[256] In the late 1980s in Mamelodi, for example, only about 40 per cent of households that had been victim to house burglary said that they had reported

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[249] Nico Steytler 'Policing Political Opponents: Death Squads in Cop Culture' in Desirée Hansson & Dirk Van Zyl Smit (eds) *Towards Justice?: Crime and State Control in South Africa* (1990).

[250] Kynoch op cit note 238 at 66.

[251] Elrena van der Spuy 'Political Discourse and the History of South African Police' in Desirée Hansson & Dirk Van Zyl Smit (eds) *Towards Justice?: Crime and State Control in South Africa* (1990) at 92.

[252] Ellen G Cohn & James Rotton 'Even Criminals Take a Holiday: Instrumental and Expressive Crimes on Major and Minor Holidays' *Journal of Criminal Justice* 31 no. 4 (2003): 351–60.

[253] Gary Kynoch 'Urban Violence in Colonial Africa: A Case for South African Exceptionalism' (2008) 34 *Journal of Southern African Studies* 3 at 631; Mark Shaw *Crime and Policing in Post-Apartheid South Africa: Transforming under Fire* (2002) at 2.

[254] Gastrow & Shaw op cit note 246 at 261.

[255] Nicholas Haysom 'Vigilantism and the Policing of African Townships: Manufacturing Violent Stability' in Desirée Hansson & Dirk Van Zyl Smit (eds) *Towards Justice?: Crime and State Control in South Africa* (1990).

[256] Antoinette Louw 'Surviving the Transition: Trends and Perceptions of Crime in South Africa' (1997) 41 *Social Indicators Research* 1–3 at 141.

this to the police.[257] More rural communities were even less likely to report their crime victimisation experiences to the police.[258]

Even for legally unambiguous white-designated areas, work with official quantitative data was hardly more feasible. Crime statistics were seldom disaggregated below the national level. This shallow nature of the data made only the most basic analysis possible,[259] to the point where a visitor in 1992 wondered whether the state 'wish[ed] to preclude rational consideration' of its crime problems.[260]

The SAP faced serious difficulties with understaffing and staff literacy and training.[261] The need for more boots-on-the-ground required compromise in the competence of recruits.[262] It has been said that perhaps about 10 per cent of its personnel in the 1980s were focused on ordinary crime detection and investigation.[263] Far more were concerned with enforcing a raft of petty Apartheid laws or quelling political 'unrest'. Ordinary crime fighting and detection resources were overwhelmingly concentrated in 'white' areas, which were far from the worst affected by crime.[264]

The state's mentality of constant national siege introduced additional constraints, such that it was difficult to get a tolerably adequate quantitative picture of crime and criminal justice. The 'total onslaught' on a fragile national security was alleged to aim for no less than 'the violent overthrow of the South African democratic state, and the destruction of Christian

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[257] van der Westhuizen op cit note 177.

[258] Glanz & Strijdom *The Nature and Extent of Crime in Umlazi and KwaMashu* op cit note 177; Strijdom & Boshoff *Die Omvang van Die Rapportering van Misdaad Deur Blankes, Kleurlinge En Indiërs* op cit note 177.

[259] See for example James Midgley 'Crime Statistics in South Africa' (1971) 15 *International Journal of Offender Therapy and Comparative Criminology* 3.

[260] Norval Morris 'Keynote Address' in Lorraine Glanz (ed) *Managing Crime in the New South Africa: Selected Readings* (1992) at 15.

[261] Van der Spuy op cit note 251 at 86.

[262] Derrick Fine & Desirée Hansson 'Community Responses to Police Abuse of Power: Coping with the Kitskonstabels' in Desirée Hansson & Dirk Van Zyl Smit (eds) *Towards Justice?: Crime and State Control in South Africa* (1990).

[263] Gregory D Breetzke 'Understanding the Magnitude and Extent of Crime in Post-Apartheid South Africa' (2012) 18 *Social Identities* 3 at 301.

[264] Mana Slabbert 'Problems Facing Criminological Researchers in South Africa' in *Crime and Power in South Africa* (1985) 17.

values and the capitalist economy'.[265] This crude vision of fragile order versus anarchy meant that a wide range of criminal justice activities were considered 'beyond the threshold of legitimate public concern,' a thin line was drawn between criticising the police and subverting the 'national interest', and police institutions were legally shielded from certain forms of surveillance.[266] Researchers could for example be prosecuted for reporting 'falsely' on prison conditions.[267]

Finally, there was the complication that the state sought wherever possible to criminalise black political behaviour.[268] The distinction between political and 'ordinary' crime was obscured by all the actors and it all depended on who was doing the defining.[269] The tumultuous 'transition' period introduced particular difficulties, as crime and disorder became extraordinarily politically complex. The phenomenon of activists engaging in crime and criminals claiming political motivation was such that it led to the coining of the term '*comtsotsi*' or comrade *tsotsi*.[270] Transition-era violence was messy, hard to characterise, and often saw political conflicts diffuse into 'generational conflict between radical youth and traditional elders, disputes over chiefship succession, crime, economic rivalry (as in the so-called 'taxi' wars) and cycles of vendetta-like clan conflict'.[271] Even explicitly political conflicts, such as between the African National Congress and Inkatha Freedom Party, could be markedly ambiguous.[272] The Truth and Reconciliation Commission's attempt to separate politics and crime for purposes of political reconciliation meant it failed to engage the

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[265] Van der Spuy op cit note 251 at 99.

[266] Philip H Frankel 'South Africa: The Politics of Police Control' (1980) 12 *Comparative Politics* 4 at 481.

[267] Slabbert op cit 264.

[268] Van der Spuy op cit note 251 at 96.

[269] Super op cit note 240 at 4.

[270] Kynoch op cit note 238 at 67.

[271] Alexander Johnston 'South Africa: The Election and the Transition Process: Five Contradictions in Search of a Resolution' (1994) 15 *Third World Quarterly* 2 at 188.

[272] Gary Kynoch 'Crime Conflict and Politics in Transition-Era South Africa' (2005) 104 *African Affairs* 416.

complex nature of especially late Apartheid criminality.[273] For many years it was particularly difficult to draw a meaningful distinction between politics and crime.

In short, the SAP enforced racist laws in blatant alignment with white supremacy and had little legitimacy among the black majority. Its mandate and jurisdiction were ambiguous and variable. It had limited capacity, irrationally allocated. It operated covertly, viciously, and with impunity. All this under conditions of — and while actively fomenting and muddying — complex and unruly violent conflict.

This was the nature of twentieth century South African policing. This was the context that would-be quantitative criminologists had to contend with in the use and interpretation of official crime statistics. Although other contexts show similarities in kind, few can match quite the degree of the distortion this inevitably had on recorded crime statistics. The following section details how the discipline's different intellectual traditions responded to this context in their conception and use of crime statistics.

Ideological responses and constraints

The stories that a discipline tells about itself — the conceptual and historical maps that participants have of their own work relative to that of others, especially those that came before — are important and inevitably contested.[274] Rather than a neat chronology of the kind suggested in introductory undergraduate classes, the evolution of criminology has tended more often to look like 'an untidy meander…of pluralism, diversity and hybridity,' with the

[273] Graeme Simpson ''A Snake Gives Birth to a Snake': Politics and Crime in the Transition to Democracy in South Africa' in Bill Dixon & Elrena Van der Spuy (eds) *Justice Gained?: Crime and Crime Control in South Africa's Transition* (2004) at 21.

[274] See for example the debates around Bill Dixon's 'Introduction' in Bill Dixon & Elrena Van der Spuy (eds) *Justice Gained?: Crime and Crime Control in South Africa's Transition* (2004) ix–xxxvi. Some of the various reviews are: CMB Naudé 'Book Review: Justice Gained? Crime & Crime Control in South Africa's Transition' (2004) 17 *Acta Criminologica: Southern African Journal of Criminology* 3; W Naudé 'Poor Young and Unmarried: Men and Crime in South Africa' (2005) 18 *Acta Criminologica: Southern African Journal of Criminology* 1 at 126–39; Bill Dixon, Elrena van der Spuy & Dirk van Zyl Smit 'Book Review: Justice Gained? Crime & Crime Control in South Africa's Transition' (2005) 18 *Acta Criminologica: Southern African Journal of Criminology* 1.

result that there is never just one, but rather a number of 'competing, ready-made and, perhaps, rather self-serving accounts of what we think has happened'.[275]

In his seminal texts on this subject, however, Dirk van Zyl Smit has recounted the history of South African criminological thought as forming within three major intellectual traditions: Afrikaner nationalism, legal reformism, critical criminology.[276] Developing on this framework, Dixon proposed that transitional and post-transition South Africa had seen the development of a fourth strand, which he termed 'democratic administrative criminology'.[277] This section makes use of these distinctions, slightly simplified and in a different order for purposes of readier contrast. Its novelty is that it outlines how each has approached the question of what can or should be explained by crime prevalence data, especially in the form of criminological statistics. It argues that, and demonstrates why, each has failed to productively employ criminological statistics as tools for genuine aetiological inquiry.

Afrikaner nationalist criminology

The first strand of South African criminological thinking was a positivism arguably little different from that being practised at the time in the North.[278] Here it was founded in the 1930s out of interest in the social and economic impoverishment of Afrikaners, and their related deviance and criminality.[279] The depression years saw growing scholarly and popular concern with the problem of poor whites. The causal theories favoured by this tradition were both social and biological. The crimes committed by whites were ascribed to their poverty, which in turn was blamed on the failures of capitalism, while those of 'non-whites' were due to their cultural but also genetic inferiorities.[280]

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[275] P Rock ''What Have We Done?': Trends in Criminological Theorising' (2011) 24 *Acta Criminologica: Southern African Journal of Criminology* 1.

[276] Van Zyl Smit *Adopting and Adapting Criminological Ideas* op cit note 14.

[277] Dixon *Introduction* op cit note 274 at xvi.

[278] Naudé op cit note 274 at 122.

[279] Dirk van Zyl Smit Contextualising Criminology in Contemporary South Africa' in Desirée Hansson & Dirk Van Zyl Smit (eds) *Towards Justice? Crime and State Control in South Africa* (1990) at 4.

[280] Van Zyl Smit *Adopting and Adapting Criminological Ideas* op cit note 14 at 236.

Criminological statistics played a major role in the construction of these problems. They were frequently quoted as evidence of the hardship of poor whites and of the inherent pathology of the coloured and 'Bantu' groups.[281] Indeed, although others have disputed whether a handful of academics should be credited with the power to bring about Apartheid,[282] it does seem plausible that the 'science' of crime numbers played some part in the foundation of a national vision of protectionism and Afrikaner upliftment, as well as the strict separation of the 'races'.[283]

With Apartheid, this brand of racialised, social and biological positivism became the official criminology, shaped the development of university curricula and thus came to lead 'mainstream' criminological thinking into the 1970s and 1980s.[284] An uncritical, utilitarian positivism became the dominant criminological framework,[285] as developed into the sub-categories of police science and penology.[286]

Its empirical research agenda during this long period was limited, seldom straying beyond belabouring its formative conservative theoretical assumptions, as its primary concern was the justification of the status quo. There was no incentive to foreground the stark discrepancies in the nature of policing provided to different sectors of the population. There was every incentive to present an image of the police as protectors of a unified moral community in the face of misguided liberals or malicious radicals.

As communism became a global bogeyman, the anti-capitalist elements of earlier Afrikaner nationalist criminology were de-emphasised.[287] Its worldview became more unambiguously consensus based. That is, it 'assumed that the South African society is a

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[281] Ibid at 228.

[282] CMB Naudé 'Book Review: Justice Gained? Crime & Crime Control in South Africa's Transition' (2005) 18 *Acta Criminologica: Southern African Journal of Criminology* 3 at 111.

[283] Van Zyl Smit *Adopting and Adapting Criminological Ideas* op cit note 14 at 241.

[284] Ibid at 245.

[285] Mana Slabbert 'The Development of Criminology: From Traditional to Contemporary Views on Crime and Crime Causation' (1987) *Kronos* 12.

[286] WP Erasmus ''n Terugblik Oor Vier Dekades van Kriminologie in Suid-Afrika' (1989) 3 *Acta Criminologica: Southern African Journal of Criminology* 2.

[287] Van Zyl Smit *Contextualising Criminology* op cit note 279 at 6.

cohesive integrated unit where all share the same values and norms, or should, and those who don't are seen as dissidents or deviants because they threaten order'.[288]

With the intellectual discrediting of racial 'science' and the Apartheid ideology, this strand of criminology moved away from essentialising racist explanations,[289] towards a diluted version, 'with the old offensive racial allusions edited out.'[290] Middle-range American criminological theories came to dominate. The framing now became about social and economic conditions, and especially the impact of modernisation and the resultant social disorganisation. Now it was not so much that 'the Bantu' was inherently criminal, but that his rapid movement from tribal, rural life to an urban environment with European cultural values was responsible for weakened social controls, anomie and therefore high rates of delinquency.[291] Apartheid and 'separate development' could now be seen as a kindness, to protect 'the Bantu' from his own inability to adapt to city life. Incidentally, this led to social disorganisation perspectives becoming enduringly unpopular on the left,[292] except, for some, to the extent that they were later absorbed into 'transition theory' explanations of South African crime.[293]

To account for 'Coloured' delinquency, a greater emphasis was placed on strain theories, in which crime was a response to blocked opportunities to succeed at European cultural goals.[294] This allowed for some scope to blame the state for having placed these groups in such difficult and criminogenic conditions,[295] but an easy response was that it signalled a need only to more effectively soak up excess labour, in order to preserve the state

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[288] Slabbert op cit note 285.

[289] Super op cit note 18 at 41.

[290] Van Zyl Smit *Adopting and Adapting Criminological Ideas* op cit note 14 at 245.

[291] Super op cit note 18 at 46.

[292] Monique Marks 'Youth and Political Violence: The Problem of Anomie and the Role of Youth Organisations' 1992 http://www.csvr.org.za/publications/1543-youth-and-political-violence-the-problem-of-anomie-and-the-role-of-youth-organisations.

[293] Super op cit note 18 at 62.

[294] Cilliers op cit note 106.

[295] James Midgley 'Crime and Normlessness: Anomie in an Urban South African Community' in James Midgley, Jan H Steyn & Roland Graser (eds) *Crime and Punishment in South Africa* (1975) 23–38.

and social structure.[296] Again, these arguments were supported by ready appeal to criminological statistics.[297]

The more openly racist, Afrikaner nationalist brand of this unselfconsciously positivist brand of criminology declined by the 1980s and has died off (at least in public, scholarly expression) in post-Apartheid South Africa. Its intellectual successors, many still based at the historically Afrikaans universities, have (as predicted)[298] succeeded in reinventing themselves as purveyors of atheoretical, 'politically neutral' technical criminal justice expertise.[299] Their societal outlook remains largely consensus-based, such that they have a tendency to a traditional 'law and order', punitive stance.

These, still, are ready users of the official criminological statistics. Quantitative analysis, largely produced by scholars based at the University of South Africa (UNISA) and the University of Pretoria, continues to be published — although its popularity does appear to have waned in recent years.[300] Their interest, however, is for the most part managerial. It is in the practicalities of improving the criminal justice system's capacity to deter crime rather than in 'debating metaphysical questions to which there are no sure answers' — such as the fundamental reasons why some people, places, or times see more crime than others.[301] This ideological tradition treats aetiology as at best a handmaiden to law and order.

Moreover, much of this work fails to account for the extent to which these statistics fall short of an objective or 'accurate' measure of crime. It does not engage with the epistemological and ontological challenges outlined in the previous chapter. It implicitly erases the structural in favour of the individual, except where there is political value in emphasising the plight of certain sub-populations (such as white farm owners). It tends to read crime statistics at face value, as an authoritative record of 'true' crime prevalence. As

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[296] Dennis Davis 'Criminology and South Africa' in *Crime and Power in South Africa* (1985) at 10.

[297] See for example Williamson op cit note 105; Midgley, Steyn & Graser op cit note 105.

[298] Dixon *Introduction* op cit note 274 at xvi.

[299] Dirk van Zyl Smit 'Criminological Ideas and the South African Transition' (1999) 39 *The British Journal of Criminology* 2 at 210.

[300] Francois Steyn & Harriét Klopper 'Ubi Vuimus Quo Vadimus Acta Criminologica?' (2015) *Acta Criminologica: Southern African Journal of Criminology* Special Edition 5.

[301] Jonny Steinberg 'Introduction: Behind the Crime Wave' in *Crime Wave: The South African Underworld and Its Foes* (2001) at 8.

such, its claims seldom survive much scrutiny, for reasons that were suggested in the previous chapter but that will become clearer in the following section.

A consensus perspective on crime — one which takes as given the notion that crime signifies that which society as a whole deems acceptable and unacceptable behaviour[302] — has never gone down as easily in the so obviously socially divided South African context. Its critics have never had to work too hard.

Critical criminology

The University of Cape Town's Institute (later, Centre) of Criminology was a pioneer in the development of the second very loose grouping, which grew - from especially the 1980s - out of shared radical sympathies (often based on the work of critical British criminologists).[303] This tradition was explicitly counter-hegemonic and focused on the role of socio-political structures[304] and exposing existing wrongs and state crimes.[305] Its critique of the positivist approach centred on the absurdity of quantifying or explaining South African crime without accounting for Apartheid, black disenfranchisement and oppression, and state violence.[306] The consensus perspective simply could not withstand the obvious reality that there was no prospect of moral consensus under Apartheid. There could be no obfuscation of the oppressive nature and operation of the law as a product of elite interests.

Spotting the difference between crime and politics may be impossible at the best of times.[307] Under Apartheid, even more obviously than in other contexts, the law was so manifestly the product of illegitimate power. Indeed, the formation and basis of the Union of South Africa and the Apartheid state were acts of lawlessness and injustice on a massive

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[302] Des Rosiers & Bittle op cit note 216 at xii.

[303] Dixon *Introduction* op cit note 274.

[304] Slabbert op cit note 285.

[305] Van Zyl Smit *Criminological Ideas and the South African Transition* op cit note 299 at 200.

[306] Clifford Shearing 'Book Review: 'Crimes of Violence in Black Townships by GL Ndabandaba (1987)' (1990) 30 *British Journal of Criminology* 2.

[307] Cohen op cit note 78.

scale, built on unconstrained violent oppression and repression.[308] This focus on state lawlessness meant that critical criminologists were interested more in the mechanisms of crime control than in crime itself.[309]

To the extent that it concerned itself with measures of 'ordinary' crime prevalence, the radical tradition used them to expose the criminogenic nature of colonial economic and power structures and the policies of the Apartheid state. For example, the rise in criminal street gangs in Cape Town was ascribed to the social devastation wrought by the Group Areas Act.[310] But for the most part, it had no use for official assessments or measures of what was or wasn't criminal. These scholars held to a thoroughly instrumentalist criminology, in which South Africa's criminal justice institutions were best understood as tools for the defence of the Apartheid order.[311] This, as well as their keen understanding of the political nature and drastically unequal distribution and operation of Apartheid law enforcement, made official statistics hopeless as a source of crime prevalence knowledge for critical researchers.[312]

As in other contexts, this led to the accusation that, in casting offenders as the victims of state and society, they were insensitive to the rights and needs of victims of crime.[313] This criticism, however, has had little local sting. The left realism that reinvigorated quantitative, theoretically- and empirically-rigorous aetiological inquiry in the UK in the 1980s failed to find lasting purchase in the South African context.[314] Critical scholars in low crime contexts have also succeeded in using empirical data on crime prevalence to challenge law-and-order rhetoric.[315] But high crime levels seem to have placed both boldly constructivist and other

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[308] Dullah Omar 'An Overview of State Lawlessness in South Africa' in Desirée Hansson & Dirk Van Zyl Smit (eds) *Towards Justice? Crime and State Control in South Africa* (1990) at 18.

[309] Ronald Weitzer 'Review of 'Towards Justice? Crime and State Control in South Africa'' (1991) 18 *Social Justice* 1/2 at 271.

[310] Don Pinnock 'Breaking the Web: Gangs and Family Structure in Cape Town' (1985) in *Crime and Power in South Africa* 22–32.

[311] Weitzer op cit note 309.

[312] Slabbert op cit note 264 at 16.

[313] Naudé op cit note 282 at 125.

[314] Dixon *Globalisation* op cit note 24 at 373.

[315] Des Rosiers & Bittle op cit note 216 at xi.

empirical work on crime prevalence beyond the suitable purview of critical scholars in South Africa.

Here the critical approach carried (and continues to carry) such an obvious moral and logical weight that it had little reason to seek compromise. Instead, critical theorists tended to 'associate empiricism — in all of its forms — with administrative, uncritical, utilitarian criminology'.[316] As labelling theory and various other radical sociological theories attest, there is no reason why critical scholars should be disqualified from the task of aetiology. They tend, however, to hold to an epistemic (but by no means intellectual) humility not shared by the positivists. Critical criminologists have exceedingly good conceptual tools to problematise the process of the production and wielding of official knowledge about crime.

Post-transition, this tradition has remained wary. It continues to hold up selected crime statistics as a mirror to state and structural injustice.[317] More than any others, however, it remains aware of their problematic nature, preferring to investigate their social and political construction, functions and reactions rather than what might be gleaned from their content.[318] It prioritises qualitative, narrative-based research with a focus on the structural.[319]

The socioeconomic structure of post-Apartheid South Africa continues to make critical approaches irresistible. The radical reflex is only too easy. Unfortunately, such an approach is not useful for unravelling causality.[320] It has in fact inhibited such use by those researchers who might do so thoughtfully. Critical scholars present an image of a South African state awash in a 'stream of stats' that it dissects as an increasingly technicised mode of social control.[321] Such a description may resonate in Northern contexts or in comparison with the data drought of the past, but here seriously overestimates the sophistication of the South African technocratic machinery around crime.

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[316] Artz & Moult op cit note 60 at 3.

[317] Henkeman op cit note 75.

[318] For example Jean Comaroff & John L Comaroff *The Truth about Crime: Sovereignty Knowledge Social Order* (2017).

[319] Artz & Moult op cit note 60 at 4.

[320] Glaser op cit note 26 at 336.

[321] Comaroff & Comaroff op cit note 318 at 158.

Even the most senior decision-makers within formal city safety structures lack access to such basic knowledge as how many residents there are in each of the police station areas within their municipalities.[322] Many were surprised to find that the areas to which resources had been targeted were not in fact the ones recording the highest crime prevalence, once population size had been accounted for. None can give accurate account of each station area's profile in terms of age or gender distribution, level of unemployment, and so on. Few have a good sense of how the crime situations in various station areas have developed over the long term, or how this might relate to changes in other factors. The state itself lacks the resources and skills to make sensible governance use of its crime statistics.

The crime statistics and their associated analytical tools remain remarkably crude and are arguably at least as underutilised in governance as they are in scholarship. Yet the moral weight of the conflict perspective remains such that in South Africa there has been little pressure for more critical scholars to attempt close and thoughtful engagement with the aetiological question.

Legal reformist and democratic administrative criminology

The third major intellectual tradition in South African criminological history is that which Van Zyl Smit described as legal reformism. Dixon's later addition of democratic administrative criminology shares its characteristics in terms of the use of crime prevalence data, so the two are combined here.

The loose grouping of legal reformists, dominated by lawyers, has historically 'sought to make the existing system work more humanely but also more efficiently...[using] the findings of 'value-free' empirical research and the intervention of professional social workers.'[323] This included more conservative and liberal-humanitarian elements,[324] but all arguably in fairly limited conflict with the dominant ideology of the South African state.[325] Its interest was in formal equality before the law, initially primarily for whites, but later also

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[322] Personal observations.

[323] Van Zyl Smit *Criminological Ideas and the South African Transition* op cit note 299 at 200.

[324] Van Zyl Smit *Contextualising Criminology in Contemporary South Africa* op cit note 279 at 3.

[325] Davis op cit note 296 at 7.

for other racial groups.[326] It tended to understand crime more as matter of individual pathologies than as features of social or economic relations.[327]

The technical work of legal reform took on a larger and more important role leading up to and immediately after 1994.[328] It has continued largely unchanged in post-Apartheid South Africa, with the activities of a new generation of activist lawyers, now emboldened by the legal and normative strength of constitutionalism.[329]

This intellectual tradition has used criminological statistics where convenient as tools for criminal justice system reform, rather than for meaningful investigation of the causes of crime. A recent case in point is that of the Social Justice Coalition, which has linked its campaign around the unequal distribution of police resources to statistics on the unequal distribution of murder.[330]

Closely related to this, there has emerged in post-Apartheid South Africa the tradition of what Dixon has described as 'democratic administrative criminology… with its institutional roots in the statutory research councils, the large non-governmental organisations (NGOs) working in the criminal justice sector and some of the more entrepreneurial academic research institutes'.[331] This sector has absorbed many who might previously have considered themselves reformists or critical researchers, who could not justify remaining on the side lines of the patently urgent project of institutional reconstruction,[332] especially now that the fight against crime was likened to 'a fight to entrench human rights,' as the culmination of the struggle's moral project.[333] They now find themselves more or less uneasy bedfellows with the managerialists with more conservative roots.

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[326] Van Zyl Smit *Contextualising Criminology in Contemporary South Africa* op cit note 279 at 2.

[327] Ibid at 4.

[328] Artz & Moult op cit note 60 at 4.

[329] Dixon *Introduction* op cit note 274.

[330] Themba Hirsch 'Spotlight on Inequality of Police Resources' *IOL* July 27 2017 http://www.iol.co.za/vukani/news/spotlight-on-inequality-of-police-resources-10501997.

[331] Dixon *Introduction* op cit note 274 at xvi.

[332] Ibid at xvii.

[333] Super op cit note 240 at 14.

Some see value in this shift out of academic obscurity, in the evolution from 'conventional criminology (an international-focused science) to a contemporary practical field,' which enhances 'service delivery within the criminal justice, corporate and private sectors'.[334] Others are sceptical of this 'policy work' and its alignment with the law and the legal system.[335]

This sector's relationship with criminological statistics is close — it tends to be the loudest voice in their annual public dissection — but unusually fraught. On the one hand, it is sensitive to ideological critique and is sure to hedge any discussion of the statistics' content with some important context on their limitations. On the other, it has little time or funding for 'the more contemplative, even speculative, work of theoretical deconstruction.'[336] Its relationship with the state is close, although often conflicted. This offers the promise of unrivalled policy influence but introduces constraints, not least of which is considerable pressure to concentrate on the 'operation of the criminal justice system, mechanisms of crime control and processes of criminalization at the expense of explaining crime itself and understanding the lives of those accused of committing acts defined in this way'.[337] Its interests overlap with those of legal reformists, in that its objective is often to use the crime statistics primarily as a lever of state engagement and progressive influence, rather than as a genuine instrument of discovery.[338]

Of course, the police and various other organs of the state also seek to use crime data as both means and end of management. Interestingly, Statistics South Africa seems set on becoming their public face, guarantor and chief analyst,[339] with as yet unclear practical and political implications. There are also others who 'do criminology' in other spaces, notably

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[334] Anni Hesselink 'A Review of the Practical Potential of South African Criminology' (2013) 26 *Acta Criminologica: Southern African Journal of Criminology* 2 at 136-138.

[335] Artz & Moult op cit note 60 at 4.

[336] Dixon *Introduction* op cit note 274 at xvii.

[337] Dixon *The Aetiological Crisis* op cit note 23 at 5.

[338] As opposed for example to use as an instrument of state communication or monitoring. Tim Hope 'The Distribution of Household Property Crime Victimisation: Insights from the British Crime Survey' in MG Maxfield & M Hough (eds) *Surveying Crime in the 21st Century* (2007).

[339] Sipho Mabena 'Police Data Are Not Rigorous Enough to Be Considered Official Pali Lehohla Says' *Business Live* February 14 2017 https://www.businesslive.co.za/bd/national/2017-02-14-police-data-are-not-rigorous-enough-to-be-considered-official-pali-lehohla-says/.

health faculties.[340] Other actors — often economists — have also dabbled, with their own ideological and pragmatic interests and usually with an inadequate grasp of the ways in which these statistics fundamentally differ from others.

In sum, there have been and remain three broad streams of scholarly criminological thinking in the South African context. The first has made liberal use of criminological statistics but has done so in ways that were tightly constrained to serve a morally and intellectually bankrupt end and which continues to underestimate their flaws and distortions. The second has for the most part rejected them out of hand. The third has had some limited use for them but does not concern itself with understanding the structural causes of crime and has had to content itself with markedly shallow, state-centric analysis. The result is that this resource has been allowed to lie largely fallow for these ends.

The South African context has made radical critique too easy and more orthodox quantitative methodological development too difficult. Broadly positivist theoretical development has been overestimated, outpaced, and obstructed by its more morally powerful critics. As the following section describes, it remains very difficult to make sense of the official criminological statistics.

Post-Apartheid policing and recording practices

The spatial and moral geography of the post-Apartheid state has become far less contentious. The police no longer — or, rather, to a less formal and lesser extent — function as the ‘frontline enforcers of racial legislation’, and they have undergone a series of major organisational transformations ‘to achieve greater racial and gender representativeness, and to improve relationships with previously repressed communities’.[341] The criminal justice system as a whole has seen countless changes in jurisdiction, institutional orientation, and law.

Since 1994, state statistical practices have been progressively rationalised and improved. Practical progress in the usefulness of the official crime statistics since 1994 has

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[340] Artz & Moult op cit note 60.

[341] Kynoch op cit note 238 at 71.

been considerable.[342] Recorded crime statistics are now regularly released for each of 20-odd major crime types and for each of the over 1 000 police stations nationally. The bantustans were included in the crime statistics from 1994 and the new South African Police Service (SAPS) was amalgamated in 1995. The bureaucracy slouched from balkanised to behemoth.

An electronic case administration system (CAS) was introduced to facilitate performance monitoring and case-flow management. It was slow to catch on. Early data capture capacity and practices were poor, such that in 1997, the Minister for Safety and Security appointed a Committee of Inquiry into the Collection, Processing and Publication of Crime Statistics. It was led by Dr Mark Orkin, Head of Statistics South Africa and later CEO of the Human Sciences Research Council. The Orkin Committee's 1998 recommendations to the minister led to the implementation of numerous measures. The CAS system was reorganised and streamlined, police stations received hundreds of additional computers, training programmes and manuals were developed, and thousands of staff trained to do the necessary typing and analysis.[343]

A temporary moratorium on the release of crime statistics was announced in 2000, while the system overhaul was in progress. Crime statistics were publicised again as of 2001, but the system continued to be improved over the following year. It is thus only as of about 2003 that there has been a reasonable measure of methodological consistency in the generation of South African crime statistics. However, the institution has maintained its closed stance and suspicion of external monitoring. Requests for more rapid or detailed crime statistics continue to be deflected by reference to 'the moratorium'.

High crime has led to police work being framed as 'war'. This sense of a crime crisis has not fostered a rigorous, technocratic approach. What it has encouraged is the privatisation of security provision, which in turn further undermines the ontological and epistemological realities of crime. As people come to rely increasingly on private security, their expectations of the police are reduced and blurred.

There have been progressive reforms, but there have also been 'avalanches' of corruption, brutality, and a widespread perception of the police as 'lazy, scared and self-

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[342] Antoinette Louw & Martin Schönteich 'Playing the Numbers Game: Promises Policing and Crime Statistics' in *Crime Wave: The South African Underworld and Its Foes* (2001) 41–49.

[343] Louw op cit note 256 at 141.

interested'.[344] The use of police in factional battles within government has compromised public faith. The mass killing of strikers by the police at Marikana in 2012 was also one among many examples of police incompetence and callousness. Violent use of force and the use of torture on the part of police officers to extract information or confessions from suspects are commonplace.[345] There has been populist xenophobia, with foreign nationals routinely experiencing harassment, assault, and robbery by police and South African citizens.[346] This sort of thing is unlikely to be reported.

Continued unevenness of policing and expectations

Moreover, as the refrain has it, the Apartheid legacy lives on. South Africans retain highly negative perceptions of the police, even as compared to those in other African countries that are far more constrained in terms of resources and training.[347] On the other hand, there does appear to have been some improvement in police-community relations after 1994, with a growing proportion of at least some crime types being reported to the police, to the point that recorded increases in crime prevalence may well have been a statistical illusion.[348]

The quality and character of state services, including policing, also remain highly uneven. There remain irrationalities in resource distribution, with historically white-designated areas (which in many cases remain predominantly white) allocated more officers than are justified by the relative severity of their recorded crime problems. In the 'poorest areas, especially burgeoning informal settlements and much of rural South Africa,' state policing remains 'largely absent'.[349] This feeds community justice or vigilantism.

This was demonstrated in the Khayelitsha Commission of Inquiry, which also described the breakdown in relations between the police and community in this

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[344] Kynoch op cit note 238 at 72.

[345] Ibid at 73.

[346] Ibid at 71.

[347] Robert Mattes 'How Does SA Compare? Experiences of Crime and Policing in an African Context' (2006) 18 *South African Crime Quarterly*.

[348] Ted Leggett 'Improved Crime Reporting: Is South Africa's Crime Wave a Statistical Illusion?' (2002) *South African Crime Quarterly* 1.

[349] Kynoch op cit note 238 at 71.

socioeconomically deprived and highly crime-ridden area. The Commission pointed to the area's 'difficult history', the 'widespread perceptions that SAPS does not respond promptly to calls for assistance, and does not investigate crime properly or at all,' widespread perceptions of police corruption, and so on.[350]

Variation in inclination to report crimes to the police is large. Gender, race, and location are all demonstrably important determinants of reporting. The South African national victims of crime survey reveals, for example, that white crime victims in South Africa are about 40 per cent more likely than black crime victims to report a theft of personal property to the police, and that victims of housebreaking in the Western Cape are about 70 per cent more likely to report the incident to the police than those in the Eastern Cape.[351] It is thus very difficult to determine to what extent apparent trends or differences in crime prevalence as measured by official recorded police statistics reflect real trends or differences in crime prevalence or rather trends and differences in various communities' inclination to report their crime victimisation experiences to the police.

Disaggregation and spatial boundaries

The publicly released crime statistics are still not disaggregated in the most obvious, analytically useful ways. They provide no detail on the victims' or perpetrators' ages, genders, or population groups. Statistics disaggregated in these ways have been vital in helping make sense of recent crime trends in the United States and elsewhere.[352] Population group (or 'race') was dropped from the official crime statistics in 1992. Reluctance to reintroduce it is understandable, but it has had the unfortunate effect of making it very difficult to respond convincingly to deeply politicised popular myths about the racial dynamics of crime.[353]

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[350] Commission of Inquiry into Allegations of Police Inefficiency and a Breakdown in Relations between SAPS and the Community in Khayelitsha *Towards a Safer Khayelitsha* (2014) at xxv.

[351] My own calculations from the Statistics South Africa data for the Victims of Crime Survey 2014 available at: http://interactive.statssa.gov.za:8282/webview/.

[352] Roland Chilton & William J Chambliss 'Urban Homicide in the United States 1980-2010: The Importance of Disaggregated Trends' (2014) *Homicide Studies*.

[353] See for example Silber & Geffen op cit note 186.

The crime statistics are also grouped into broad legal categories, such as robbery with aggravated circumstances, obscuring such differences as that one incident involved 'a person who is robbed of R10 at knifepoint outside a neighbourhood bar,' while another involved 'an R18 million highway-heist of cash in transit in which six security guards are killed.'[354]

South African crime statistics also fail to provide any detail on the alleged crime's exact (or even, for the sake of anonymity, approximate)[355] location,[356] date or time.[357] This although the tendency in crime analysis elsewhere has been to move to ever finer spatial resolutions, as evidence mounts that crime is often extremely concentrated in neighbourhoods.[358] As managerial tools, such highly geographically focused technical approaches have rightly been accused of stripping place from context and fetishising the dreaded 'hot spot'.[359] Yet as analytical tools, supported by technical tools, they can enable incomparably rich layering and integration of multiple dimensions of context.[360] The degree of spatial aggregation in crime analysis is also theoretically important, as for example neighbourhood-level explanations may be unsuitable for processes that are in fact driven by just a couple of street segments (or chronic offenders).[361] The dearth of good spatial research

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[354] André Pelser & Chris de Kock 'Violence in South Africa: A Note on Some Trends in the 1990s' (2000) 13 *Acta Criminologica: Southern African Journal of Criminology* 1 at 85.

[355] Crime data released monthly by constabularies in the United Kingdom for example indicate the street and nearest cross-street of every recorded crime.

[356] Only a few analysts have been granted limited access to geocoded data notably Gregory D Breetzke 'Exploratory Spatial Data Analysis of Violent Economic and Sexual Offenders in the City of Tshwane South Africa' (2008) 1 *Acta Criminologica: Southern African Journal of Criminology* CRIMSA Con; Gregory D Breetzke & Andre C Horn 'A Geodemographic Profiler for High Offender Propensity Areas in the City of Tshwane South Africa' (2009) 41 *Environment and Planning* 1; Breetzke op cit note 204

[357] Such details have elsewhere helped reveal such nuances that different types of murder may be more or less likely on different national holidays. Cohn & Rotton op cit note 252.

[358] Martin A Andresen & Nicolas Malleson 'Testing the Stability of Crime Patterns: Implications for Theory and Policy' (2011) 48 *Journal of Research in Crime and Delinquency* 1 at 59.

[359] Gillespie op cit note 239.

[360] This case is made for example in Michael F Goodchild et al. 'Toward Spatially Integrated Social Science' (2000) 23 *International Regional Science Review* 2.

[361] Andresen & Malleson op cit note 358 at 76.

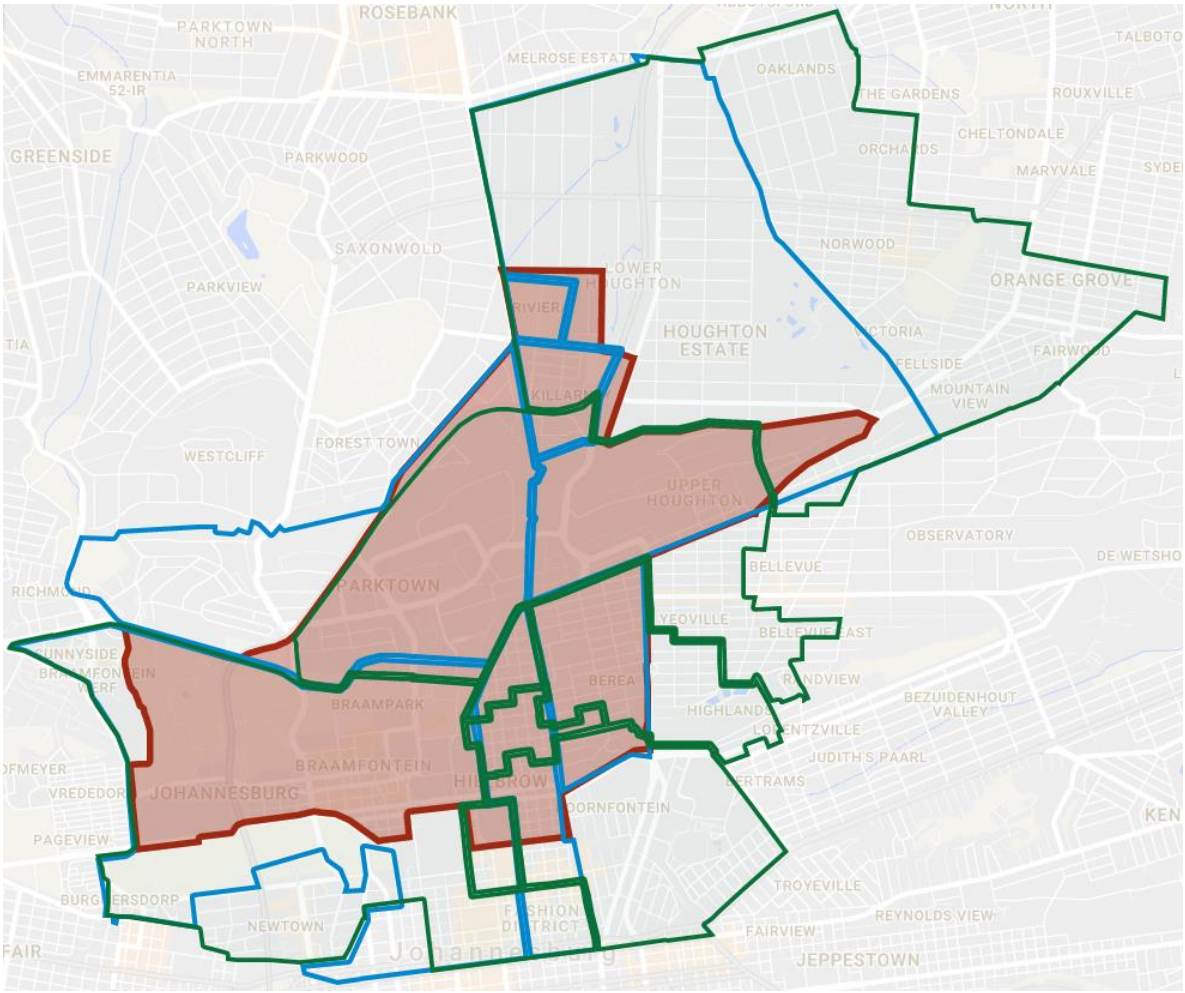
in South African crime analysis is especially unfortunate, given the extent of socio-spatial segregation.[362]

An even more critical obstruction to productive crime analysis in South Africa is the difficulty of linking the SAPS data with any other datasets that could offer aetiological leads. The geographical boundaries of the South African Police Service's police station areas do not correspond with the boundaries of any other official authority or existing source of other potentially relevant data. A policing system that is still relatively nationally centralised has precluded much incentive for horizontal data co-ordination. Police station area boundaries cut arbitrarily across the boundaries of Census districts, suburbs, electoral wards, municipalities, and even provinces. This means that linking recorded crime numbers with socio-demographic, political, health, economic or any other data requires highly technical skills and the use of Geographic Information System technology.

See, for example, the following map. It shows how the City of Johannesburg's Hillbrow police station area cuts across very different neighbourhoods (including the crowded inner-city of Braamfontein and the wealthy suburb of Upper Houghton). Some demographic, political and other data is available on the level of each of the areas outlined in blue or in green — but none for the police station area's area in red.

[362] Breetzke op cit note 263 at 300.

Figure 7 Map showing Hillbrow police station area (red) with overlapping ward boundaries (green) and suburb boundaries (blue)



Not only is there poor correspondence between SAPS data and other datasets, but those other datasets are often as contentious as the crime statistics. Obtaining defensible population data alone is a challenge. Statistics South Africa conducts a census but only once a decade. Subsequent population estimates are subject to numerous assumptions and in any event do not disaggregate to small enough geographic areas to meaningfully capture demographic shifts. The rapid urbanisation and growth of South African cities poses a serious challenge for demographers. Moreover, there have been improvements in rigour that make it difficult to find consistency between different census years. Each census thus represents a

significant methodological shift. How exactly to account for such shifts can be controversial.[363]

Only a handful of analysts have grappled with the myriad practical challenges around South African data sources and boundaries to attempt longitudinal crime rate analysis at sub-national level.[364] Unsurprisingly, these have tended to be those with keen appetites for technical and quantitative challenges, rather than those with rich theoretical interests. Each appears to have begun the task from scratch (often in apparent ignorance of earlier attempts) and most have reported their methodology in terms too broad to allow for ready replication. There has thus been no accumulation of experience or refinement of method. Repeating the data-linking task over different years introduces additional complications, because of the length of time and boundary inconsistencies between census years.[365]

Given the ease and frequency with which (high) levels of crime and violence in South Africa are ascribed to such deeply historical factors as the legacy of colonialism, Apartheid, or transition, it is striking how seldom and cursorily the long-term features in analyses. Impressionistic review with some historical depth is rare enough,[366] but quantitative work has

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[363] Johnston op cit note 271 at 188.

[364] Namely Lizette Lancaster & Ellen Kamman 'Risky Localities: Measuring Socioeconomic Characteristics of High Murder Areas' (2016) *South African Crime Quarterly* 56; Haroon Bhorat et al. *The Socio-Economic Determinants of Crime in South Africa: An Empirical Assessment* (2017); Gabriel Demombynes & Berk Özler 'Crime and Local Inequality in South Africa' (2005) 76 *Journal of Development Economics* 2; Michael O'Donovan 'Crime Poverty and Inequality in South Africa' in Chandre Gould (ed) *National and International Perspectives on Crime and Policing: Towards a Coherent Strategy for Crime Reduction in South Africa beyond 2010* (2010); P Schmitz & T Stylianides 'Mapping Crime Levels and Court Efficiency per Magisterial District in South Africa' (2002) in *6th Annual International Crime Mapping Research Conference Denver CO December 2002*; Noel Verrinder 'Untangling the Determinants of Crime in South Africa' (2013); Antony Altbeker 'Murder and Robbery in South Africa: A Tale of Two Trends' *Crime Violence and Injury Prevention in South Africa: Data to Action* (2008).

[365] Verena Kroth, Valentino Larcinese & Joachim Wehner *A Better Life for All? Democratization and Electrification in Post-Apartheid South Africa: Supporting Information* (2015) ii; Gina Weir-Smith 'Changing Boundaries: Overcoming Modifiable Areal Unit Problems Related to Unemployment Data in South Africa' (2016) 112 *South African Journal of Science* 3–4.

[366] Glaser op cit note 26 at 334.

an even stronger tendency to short-termism. *Bona fide*[367] exceptions are time series with spans from 1955 to 1990,[368] from 1975 to 1993,[369] and from 1968 to 2003.[370]

But South Africa is a large and infamously divided country, with crime rates that are likely very unequally distributed. A finer spatial grain of analysis was previously impossible (except for those few stations which featured in occasional Parliamentary questions,[371] or by means of conviction statistics,[372] which present an even greater interpretive challenge than most police-recorded crime statistics). For the years since 1994, however, station-level crime figures have been released on an ongoing basis, and it should finally be possible to look a bit more closely.

Popular interest in releases of South African police crime figures seems to go little beyond percentage changes in a year-on-year comparison to the most recent. Media and scholarly analysis may sometimes extend as far as the last decade. There exists no single, publicly and easily accessible set of data that spans much greater a time frame. One key reason for this is that each official police statistical release contains the figures for only the ten years that precede it. The previous release is deleted from its website when it uploads the next one, although some figures continue to be reflected in annual reports, which are accessible online only as far back as 2008.[373]

In fact, it seems that the SAPS itself keeps no official record of its historical crime statistics much prior to this date. In March 2017, a Promotion of Access to Information Act (PAIA) request was submitted to its National Deputy Information Officer for electronic, machine-readable records of station-level crime statistics for the years 1994/95 through

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[367] That is to say excluding the blatantly partisan methodologically absurd screed in Rob McCafferty 'Murder in South Africa: A Comparison of Past and Present' (2003).

[368] Glanz *Crime in South Africa: Incidence Trends and Projections* op cit note 177.

[369] Mark Shaw 'Crime Police and Public in Transitional Societies' (2002) 49 *Transformation: Critical Perspectives on Southern Africa* 1.

[370] James Douglas Scott Thomson *An Examination of Homicide Statistics in South Africa (1948-2003) Using a Durkheimian Analysis of Anomie* (2007).

[371] See for example Fredericks 'Criminological Statistics' 30.

[372] Glanz *Crime in South Africa: Incidence Trends and Projections* op cit note 177 at 53.

[373] See the SAPS website annual report landing page at https://www.saps.gov.za/about/stratframework/annualreports_arch.php accessed 18 September 2019.

2004/05. The official, eventual, and final police response was that their 'masterfile' contained figures dating only as far back as 2006, although 'other members' might have older records.[374]

The Institute for Security Studies, the paragon of democratic administrative criminology, currently provides invaluable access to the longest publicly-available time-series of station-level crime figures from 2004, for a current total of 16 years.[375] Its website also has national and provincial crime figures for the years 1994/19 through 2003/20.

There is no readily available way to access station-level statistics prior to 2004 or at any level prior to 1994. This despite the highly politicised question of how crime levels in post-Apartheid South Africa compare with those under Apartheid or before. This is critical for macro-aetiology, because different theoretical understandings can predict very different causal relationships if investigated in cross-section or in time series.[376] Empirical tests in the United States have decades of refinement in, for example, attempting to capture the difference between static and dynamic measures of cities' structural characteristics — i.e. how much crime is due to the overall level of a given macro-condition versus how much due to changes in that condition.[377]

Chapter conclusion

Whereas the previous chapter introduced some of the epistemological and ontological challenges with aggregate crime measurement in general terms, this chapter has demonstrated

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[374] Personal email communication from SAPS Captain Mzwanele Gqoba on 25 April 2017.

[375] See its online Crime Hub at https://issafrica.org/crimehub/facts-and-figures/crime-statistics-wizard

[376] For the general case see Julie A Phillips 'Explaining Discrepant Findings in Cross-Sectional and Longitudinal Analyses: An Application to US Homicide Rates' (2006) 35 *Social Science Research* 4. An interesting specific example is found in divorce rates which have been shown to be significant predictors of murder rates in US neighbourhoods. This effect might be expected to decrease over time if the divorce rate is understood as indicating a change in values or to be steady if it indicates levels of social control. Mark Beaulieu & Steven F Messner 'Assessing Changes in the Effect of Divorce Rates on Homicide Rates across Large U.S. Cities 1960-2000: Revisiting the Chicago School' (2010) 14 *Homicide Studies* 1.

[377] Mitchell B Chamlin 'A Macro Social Analysis of the Change in Robbery and Homicide Rates: Controlling for Static and Dynamic Effects' (1989) 22 *Sociological Focus* 4.

how these have played out in the South African context. Their extent has been such that the criminological statistics have rarely been closely examined.

In different ways, each of the main intellectual traditions within the discipline have constrained close engagement with these issues. Positivists have had very little of value to work with but have lacked the inclination to acknowledge and account for the implications of this deficiency. Critical scholars have had a great deal of value to work with, so have lacked the inclination to engage with the quantitative in any but the most general terms. So it is that few have succeeded in defensibly dividing the matter of ‘crime’ in the aggregate into analytically useful parts, to examine its distribution and trends. Furthermore, this blind spot has gone unnoticed. The following chapter demonstrates the extent of these failures.

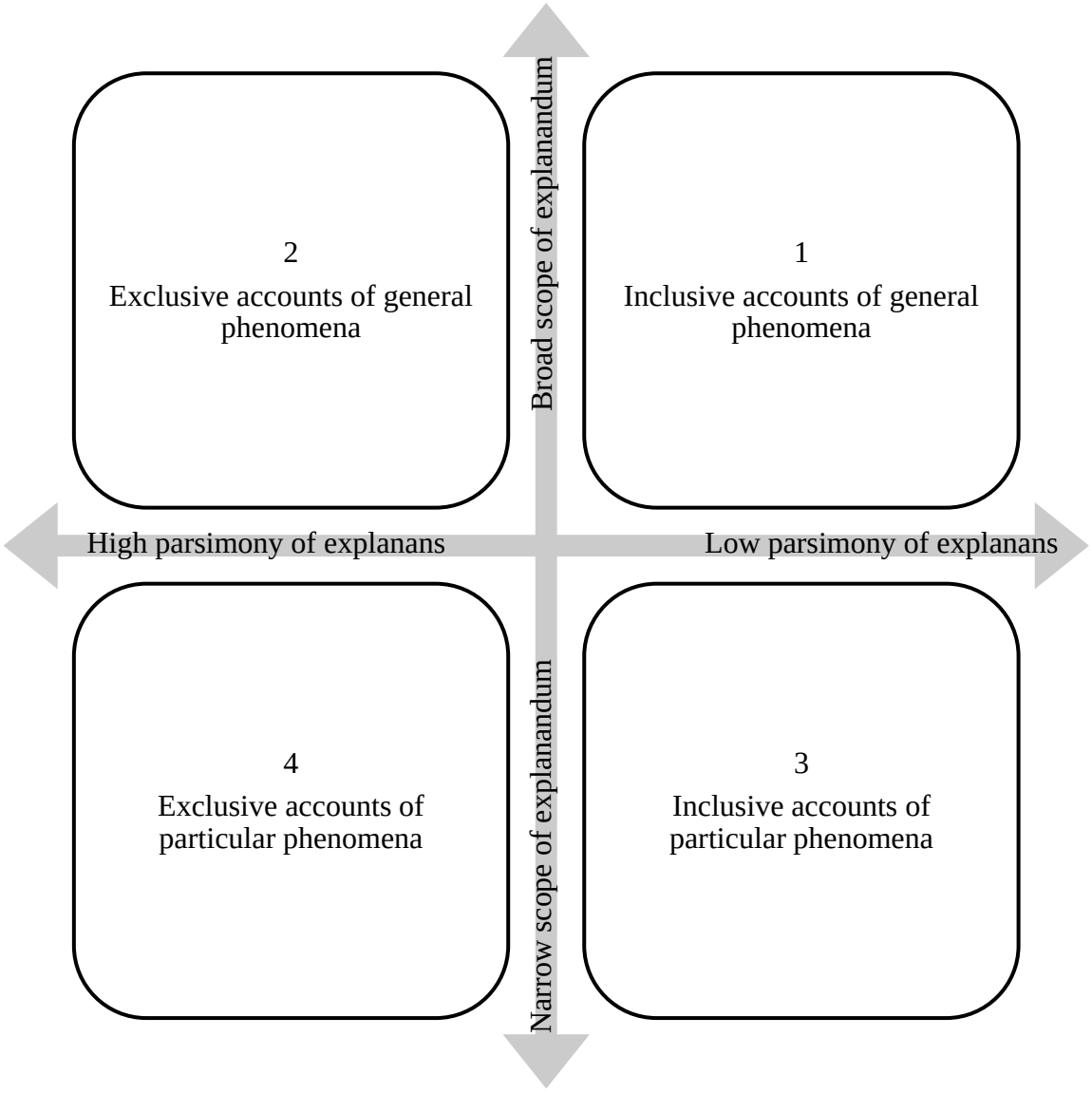
Chapter five: A discipline in dilemma

This chapter combines the heuristic tools developed in the second and third chapters with the contextual knowledge in the fourth to conduct a stylised categorisation and evaluation of that post-Apartheid academic literature on macro-level crime causation in South Africa that takes an implicitly positivist approach (that is, that assumes that criminal behaviour can to a meaningful extent be explained by observable phenomena external to the individual).

It makes two key arguments. The first is that the discipline has been hamstrung by its failure to properly engage with its dilemma of empirical testability. Some have erred in considering crime prevalence to be obvious, and others in considering it unimportant. Failure to acknowledge the scale of the twin challenges of the importance and the difficulty of crime prevalence measurement has inevitably led South African macro-aetiology to stagnation. These epistemological and ontological snags are greater than any have yet acknowledged. In seeking insulation from reproof, scholars have precluded progress. Escape from stagnation will require a shift towards vulnerability.

For purposes of demonstration, this review takes a novel format. Rather than trace certain theoretical streams chronologically or contrast them conceptually, it takes an additional step back to look at the explanatory strategies within which various theoretical positions and/or research methodologies have functioned. It employs the typology of four explanatory strategies proposed in chapter two, defined by approaches to scope (how general or particular a range of crime phenomena each has taken as explanandum) and parsimony (how inclusive or exclusive each has been in its selection of explanans). Each has featured both quantitative and qualitative methodologies, as well as a range of theories. A recent model text is presented as example of how each has tended to unfold in post-Apartheid South African criminology. These positions are represented on the following diagram.

Figure 8 The model types of explanatory strategy



These positions are ideal types — perhaps even parodies. Most texts engage in some hedging, seek a middle ground or combine elements of two or more explanatory approaches. Yet this chapter proposes that there is analytical value in this simplistic four-part model, as it helps reveal the core similarities and differences in challenges of testability. Moving beyond the discipline's aetiological stagnation requires that we fully grasp these distinctions and thereby chart a path between the horns of the impossibility and the necessity of crime prevalence measurement to determine how crime statistics might be used to make defensible claims about long-term South Africa crime prevalence trends in a way that might be more macro-theoretically productive.

The chapter's second key argument is that those explanatory approaches that have succeeded in producing novel and substantial results have done so by limiting their scope and parsimony to the realm of the testable. There is simply no meaningful way to gain empirical purchase on 'crime' as a general phenomenon, as well as on all its potential structural determinants. Far better to be selective in the scope of explanandum, as well as parsimonious in explanans. The more inclusive and general a proposed explanation, the less likely it is to offer the prospect of logical clarity, and the more likely it is to end in a cul-de-sac of vague speculation. The more parsimonious and particular a proposed explanation, the likelier it is to be conceivably testable. The task of understanding 'crime' should be abandoned in favour of applying proper rigour in the development of knowledge about a more limited phenomenon.

Delimitation and structure

This analysis addresses only that literature which exercises a 'sociological imagination' — that is, which locates its explanation within some understanding of the relationship between the individual and the wider society.[378] More specifically, it focuses on that which purports to explain aggregate levels of crime in South Africa, either overall or in their distribution within the country, by means of some other aggregate level condition(s). This is work that more or less explicitly takes at least one macro-condition as primary explanans and suggests a causal relationship of some kind to the explanandum of macro-level crime conditions.

This is a less ambitious undertaking than it would be in some other places. In the industrialised world (chiefly the United Kingdom and United States), the abundance of empirical criminological research is such that it has become popular to conduct regular meta-analyses or systematic reviews to summarise and take stock of the available evidence on various aspects of and approaches to the aetiological question. This has even made it necessary to develop checklists of methodological quality to help inform the weighting of different studies in the combined statistical assessments.[379] For example, one meta-analysis of the effectiveness of just one type of crime intervention (known as 'focussed deterrence'), which had fairly strict criteria for inclusion in the review (including that the studies involved

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[378] Dixon *Understanding 'Pointy Face'* op cit note 67 at 6.

[379] Joseph Murray David P Farrington & Manuel P Eisner 'Drawing Conclusions about Causes from Systematic Reviews of Risk Factors: The Cambridge Quality Checklists' (2009) 5 *Journal of Experimental Criminology* 1.

both before and after measures of officially recorded crime, and had to be either a randomised controlled trial or a quasi-experimental evaluation with comparison groups) identified 11 such studies conducted in urban US settings in a period of just 12 years.[380] These contexts produce a body of research that in sheer volume dwarfs that in South Africa.

Not only this, but their empirical tests have the benefit of decades of refinement in for example attempting to capture the difference between static and dynamic measures of cities' structural characteristics — i.e. how much crime is due to the overall level of a given macro-condition versus how much due to changes in that condition.[381] Structural empirical criminological enquiry at this level of refinement is in its infancy in South Africa. Anglo-American theoretical concepts are often used to interpret domestic research findings, but seldom actually tested for their applicability or used to inform variable selection for empirical analysis 'or to provide a clearer specification for the use of one or more statistical model'.[382] This despite the evidence that some typical causal culprits do not translate well between very different societies,[383] and that there is likely limited value to be found in simply scanning the South African scene for things that look like the 'shiny concepts' developed by theorists in other contexts.[384]

Even so, it would be impossible to provide an exhaustive account of all the academic work that discusses or touches on the question of the causes of any or all crime in South Africa. Over 600 articles were published between 1994 and 2013 in a single local academic journal, *Acta Criminologica: Southern African Journal of Criminology*, about half of which made some empirical claims.[385] Although many of these are primarily about other crime-

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[380] Anthony A Braga & David L Weisburd 'The Effects of Focused Deterrence Strategies on Crime' (2012) 49 *Journal of Research in Crime and Delinquency* 3.

[381] Chamlin op cit note 377.

[382] Gregory D Breetzke & Andre C Horn 'Key Requirements in the Development of a Spatial-Ecological Theory of Crime in South Africa' (2008) 21 *Acta Criminologica: Southern African Journal of Criminology* 1.

[383] For example whereas many cross-national studies have found a significant relationship between inequality and murder rates anthropologists have shown that that some extremely egalitarian societies have very high murder rates. In small nonindustrial societies inequality does not seem to be associated with levels of murder. Richard Rosenfeld & Steven F Messner 'The Social Sources of Homicide in Different Types of Societies' (1991) 6 *Sociological Forum* 1.

[384] Jonny Steinberg 'How Well Does Theory Travel? David Garland in the Global South' (2016) 25 *The Howard Journal of Crime and Justice* 4.

[385] Steyn & Klopper op cit note 300.

related issues (such as crime typologies, policing, corrections, rehabilitation, and so on), they likely draw on or refer to various aetiological theories. A good deal of empirical, theoretically grounded criminology is also done in other academic spaces or outside the academy entirely, as intimated in the previous chapter.[386] Any account must necessarily be stylised and selective.

This review draws only on that fraction of South African criminology which focuses explicitly on explaining rather than preventing, crime itself rather than existing or proposed reactions to crime. These are artificial distinctions but provide an entry point to a representation and assessment of the kind of aetiological theorising and research that the discipline has been producing. Some, especially those more embedded in the criminological field, attempt to sidestep explicit claims of causation. In most cases, however, and in the case of the texts discussed below, these are merely convenient semantic delusions.

Assessing the model explanatory approaches

Each of the four strategies, defined by scope of explanandum and parsimony of explanans, has strengths and weaknesses in its capacity to produce causal insights. Each has grappled and fared differently with the question of testability — that is, of how to gain purchase on the empirical. They are addressed in order of their declining popularity.

The first has fallen at the first hurdle, of giving useful empirical solidity to its independent variables. As such, despite their popularity, explanations of its kind have remained vague and unrefined, showing little or no progress over time. The second, in clearing this, reveals the larger challenges in making relatively defensible, comparable statements about how much ‘crime’ is happening where and when. This is partly because the more wide-reaching, generalisable data on offer in South Africa — the kind required to assess explanations of ‘crime levels’ overall or in distribution — are for the most part simply not up to the tasks to which they have been put.

The scarcity of empirical evaluation of much of what is said about macro-level crime causation in South Africa is such that it has been difficult to develop precision in scope or even maintain logical clarity. Vague (albeit generally plausible) speculation remains the order

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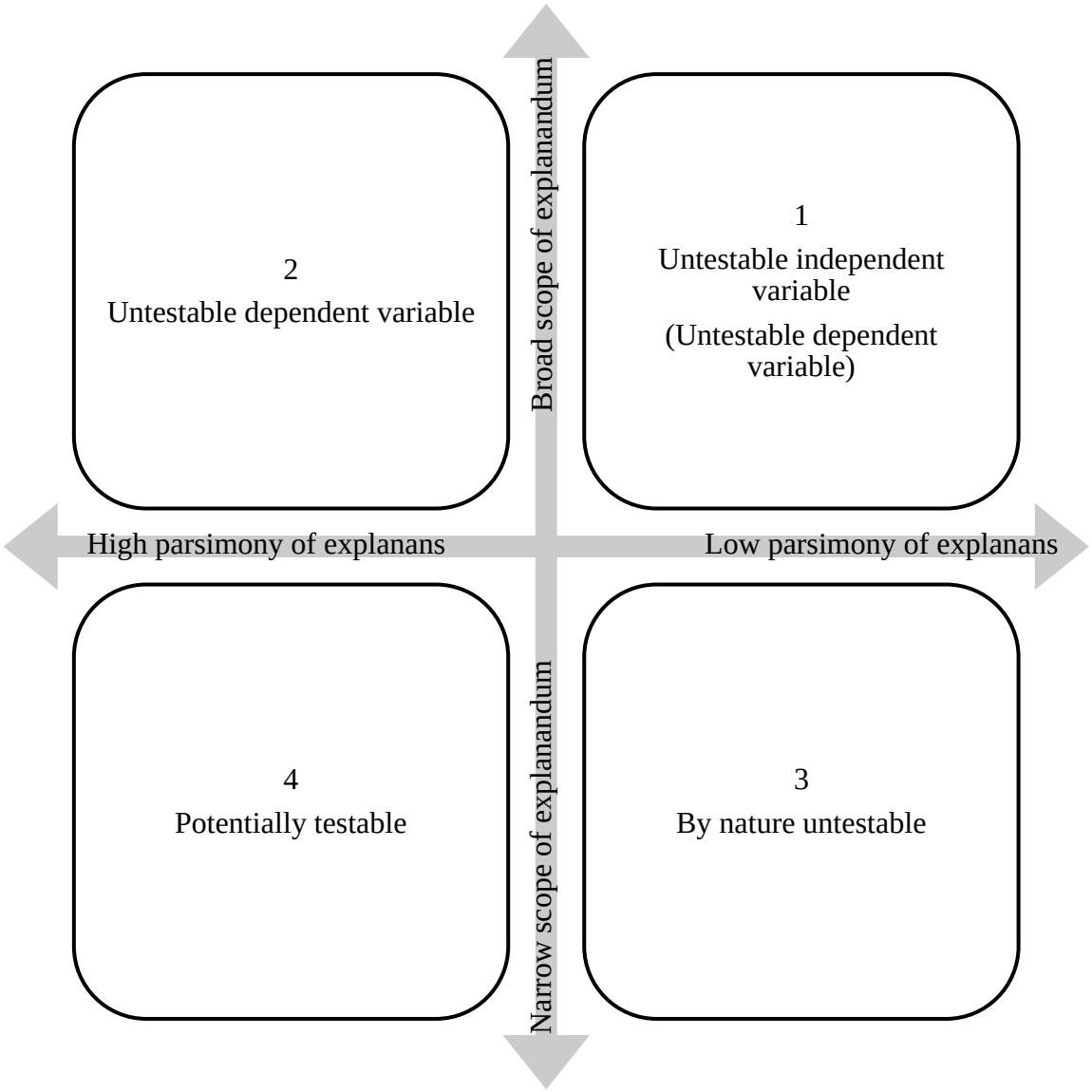
[386] Artz & Moult op cit note 60.

of the day. The approaches that have sought broad explanatory scope have had particularly limited success with testability. The key testability challenges of the four model explanatory strategies are shown below.

Figure 9 Testability of the model explanatory strategies



The following section demonstrates the extent to which each has treated macro crime prevalence trends and patterns as trivial. It also argues that there is a need to address directly the problem of testability in primary South African criminology, and that this can only be done by asking questions that limit their scope to the realm of the defensibly testable. The empirical solidity of each explanatory approach is proportional to its epistemic humility. The

broader the proposed scope of explanandum and the more inclusive the explanans, the less prospect there is for the formulation of conceivably testable and refutable hypotheses.

Strategy 1: Inclusive accounts of general phenomena

The first explanatory strategy within our typology of post-Apartheid macro-aetiological South African criminology comprises those studies that aim to provide a more or less comprehensive account of the causal factors or processes at play in the causation of the general phenomenon of South African crime prevalence. It is favoured by those in that third intellectual tradition of legal reformist and/or democratic administrative criminology, but it would not be out of place in any introductory undergraduate textbook. Its explanandum is 'crime levels' or 'violent crime levels' overall or in their distribution within the country; its explanans is a wide range of proposed causal factors.

This appealing combination of both broad explanatory scope and inclusiveness of explanans have made this a popular approach in the South African context.[387] Indeed, most of what gets written about the causes of crime and violence in South Africa seeks to explain why the country's levels of crime and/or violence are high compared to other countries or compared to a more acceptable but undefined level. It tends to be implicitly on the national scale and cross-sectional. The testability pitfalls of this explanatory strategy are considerable. They are most fairly demonstrated with reference to one of its strongest examples.

Between 2007 and 2010, a series of reports was produced by the Centre for the Study of Violence and Reconciliation (CSVR), commissioned by the Ministry of Safety and Security. These reports sought to explain whether and why South Africa seemed to

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[387] See for example David Abrahams 'A Synopsis of Urban Violence in South Africa' (2010) 92 *International Review of the Red Cross* 878; Berg & Scharf 'Crime Statistics in South Africa 1994-2003' op cit note 113; Louis Franklin Freed *Crime in South Africa: An Integralist Approach* (1963); Holtmann & Domingo-Swarts op cit note 113; Sibusiso Masuku 'Prevention Is Better than Cure: Addressing Violent Crime in South Africa' (2002) *South African Crime Quarterly* 2; Ingrid Palmary 'Social Crime Prevention in South Africa's Major Cities' (2001); Pelser & de Kock op cit note 354; Martin Schönteich & Antoinette Louw 'Crime in South Africa: A Country and Cities Profile' (2001) Occasional Paper; Graeme Simpson 'Explaining Endemic Violence in South Africa' (1993) *Weltfreidensdienst Quersbrief* 3; HC van Zyl & A Theron 'An Assessment of Some Factors Contributing towards the Climate of Violence in a Sociopolitically Changing South Africa' (1995) 8 *Acta Criminologica: Southern African Journal of Criminology* 1.

experience high levels of violent crime[388] (as well as two related questions, namely why there is so much 'acquaintance violence' between people who are known to each other, and why there is such a high degree of violence in many criminal incidents).[389] The goal was not to motivate for the superiority of any specific explanatory factor, but to show 'what types of explanations should be regarded as of greatest relevance to the South African situation'.[390]

Its conclusion, to paraphrase the final summary CSVR paper,[391] was that 'some of the factors which distinguish South Africa' and help account for its high levels of violence are:

1. The legacy of Apartheid and colonialism, specifically:
    a. Brutalisation and the culture of violence — a long history of urban violence and brutal treatment by the state and in labour practices.
    b. The impact of Apartheid on families and the education system — absent fathers, inconsistent primary caregivers, and problems such as alcoholism and violence.
    c. Racism — internalised feelings of inferiority and low self-worth.
    d. Firearms — the proliferation of firearms from local and regional conflicts in especially the 1980s and 1990s.
    e. Impunity in township areas — the entrenchment of criminal groups and criminal cultures due to Apartheid under-policing.
2. Factors in post-Apartheid South Africa that reinforce the legacy of Apartheid, including:
    a. Inequality — SA has very high levels of inequality which takes a form that reinforces the psychological legacy of Apartheid.
    b. Other structural economic factors, including:
        i. Sophisticated capitalist consumer economy — providing numerous high-quality consumer goods as potential crime targets;
        ii. Sophisticated promotion of consumerism — driving a need for status and social credibility through possession of these goods;
        iii. Leadership of the black elite not providing a good example — fostering a perception that self-enrichment and corruption are pervasive and acceptable.
    c. State institutions not working evenly — the criminal justice and education systems are ineffective in addressing violent crime and in supporting positive youth socialisation.

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[388] The Centre for the Study of Violence and Reconciliation 'The Violent Nature of Crime in South Africa' 2007 162–63.

[389] Ibid at 6.

[390] Ibid at 162.

[391] The Centre for the Study of Violence and Reconciliation 'Why Does South Africa Have Such High Rates of Violent Crime?' 2009.

3. Other factors, including an unstable regional context — pushing people from other countries into SA, including ones seeking non-legal opportunities.

These CSVR reports have been described as reflecting 'mainstream conventional wisdom in academia in South Africa, and elsewhere, about why young men commit so much violent crime'.[392] In fact, they likely represent the single most thorough exposition of the dominant macro-level explanatory approach of the discipline. This approach, as others have noted, amounts to the recitation of a series of likely factors — all of which are self-evidently sensible, but none of which is defined in any detail or demonstrated to have much empirical support.[393]

Internal dimensions

The CSVR's is a comprehensive list, incorporating theoretically unrelated features of bureaucratic history, culture, economic profile and development, political leadership, current bureaucratic functioning, regional conditions, and so on. The CSVR reports make no attempt to so much as speculate how these dozen-odd factors (and some others mentioned in earlier components of the series) should be ranked in importance. By implication, all are given equal explanatory weight. This attempt not to overlook any major, potentially significant factors was admirable in the context of its brief, but had the unfortunate effect of producing a result that was less argument than list. This would not be so much a problem if it didn't seem to cement this list approach as the disciplinary norm.

So it is common for papers within this mould to begin with an apocalyptic description of the severity of the national problem of crime or violence, with a caveat about the shortcomings of the data, followed by the assertion that a mono-causal explanation would be fruitless,[394] and then a list of the proposed causes of South African crime and/or violence including: political factors, Apartheid, ethnicity, social change and greater expectations,

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[392] Elrena van der Spuy & Clifford Shearing 'Curbing the Filling Fields: Making South Africa Safer' (2014) 625 *The ANNALS of the American Academy of Political and Social Science* 1 at 188.

[393] Ibid at 195–96.

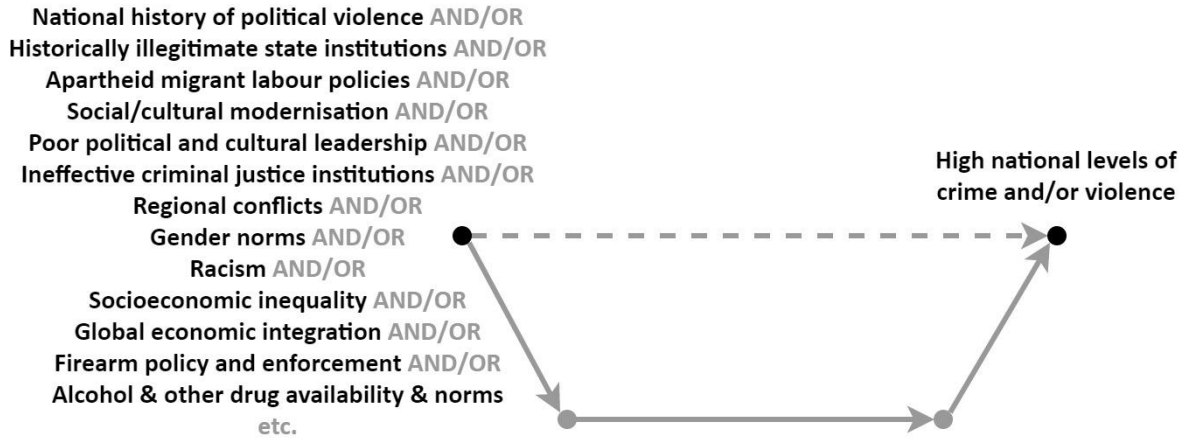
[394] Simpson op cit note 387.

economic factors, unemployment, poverty, and the family.[395] Proponents of this strategy tend to avoid direct claims of causation, preferring to speak of conducive environments, vulnerabilities, distinguishing features, or risk factors. This apparent circumspection is a semantic illusion. Although self-conscious enough to thus recognise the shakiness of their ground, those who use these terms never give coherent account of how they meaningfully differ from causal claims.

Each of the list items is generally accompanied by a paragraph or, at most, page of supporting text. There is often a sense of multiple theoretical traditions and concepts being invoked in rapid succession, with the minimum possible elucidation. This popular practice in South African criminological thought is an exercise in practical reasoning, 'in which theoretical approaches are used in a somewhat eclectic and pragmatic manner in order to justify or make sense of current practices'.[396]

The causal model of this type of explanation might reasonably be represented on a Coleman diagram as follows.

Figure 10 Coleman diagram of CSVR causal model



The shape of this causal model is wide-ranging in terms of its proposed causal macro-factors and general in terms of its explanandum, but as such does not offer any detail on how

[395] Van Zyl & Theron op cit note 387.

[396] Van Zyl Smit *Contextualising Criminology* op cit note 279 at 1.

each or any of these factors might operate onto the individual level, proceed on the individual level over time, or aggregate back up to the macro-level. No single theoretical account could do so for such a diverse range of variables. The nodes at the individual level therefore remain unlabelled. The grey colour of the lines reflects the fact that there is in fact no empirical evidence provided to substantiate the proposed relationships. As we will return to below, it is hard to imagine how such evidence might possibly be sought.

A variant of the ad hoc narrative list approach exemplified by the CSVR is one that uses quantitative methods to determine the 'risk factors' of crime.[397] These risk factors constitute a less comprehensive list than those offered by more narrative and qualitative methods, as they tend to be derived from whatever the dataset that has already been selected, but remain theoretically eclectic at best. One paper, for example, notes that 'some of the more prominent theories of offending' to 'bear in mind' in interpreting its findings are biological theories, learning theories, social learning theories, and rational choice theories.[398] This all-inclusive theoretical review occupies a box filling less than half of one page. Its causal model takes a similar shape to that shown in the figure above, except that its macro-level dotted line might reasonably be indicated in black, as it does offer some empirical evidence for the existence (and possibly strength) of a macro-level relationship.

But if positing the existence of a causal relationship between two macro-conditions does not constitute social theory, still less does superficially listing numerous plausibly relevant conditions together with some theoretical buzzwords. Few would deny that crime is caused by underlying political, social and economic factors, by structural shifts in community and social controls, and by fluctuations in opportunities, targets and motivations. Invoking all at once, however, is arguably more fruitless than selecting one for systematic observation.

In order to make them function as useful analytical tools, it would be necessary to specify, for example, whether in discussing the role of economic deprivation the key causal factor proposed is absolute deprivation, relative deprivation (in wealth or income or

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[397] See for example Patrick Burton, Lezanne Leoschut & Angela Bonora 'Walking the Tightrope: Youth Resilience to Crime in South Africa' (2009) Monograph Series; Lincoln J Fry 'Factors Which Predict Interpersonal Violence in South Africa' (2014) 56 *South African Family Practice* 5; Mohamed Seedat et al. 'Violence and Injuries in South Africa: Prioritising an Agenda for Prevention' (2009) 374 *The Lancet*.

[398] Burton, Leoschut & Bonora op cit note 397 at 4.

consumption), the concentration of poverty, or economic segregation.[399] Such concepts are difficult to untangle methodologically, but they are drawn from distinct theoretical frameworks, imply quite different processes at the individual level, and might lead to inconsistent empirical interpretations and subtly different policy implications.[400] For each concept, there may be several measurement approaches, which should be selected so as to best reflect the relevant theoretical assumptions.[401] Equally important is the selection of the level and unit of analysis.[402] Poverty may be quite differently theorised and measured on the scale of the nation, the city, the neighbourhood, the family, and the individual.[403] Depending on theoretical understanding, variables may also be expected to operate differently if investigated in cross-section or in time series.[404] These myriad factors can be decisive in what a given general theory predicts in each specific set of circumstances.

This is not to say that there is no value in lists. However, there is no prospect of specifying and tracing the way(s) in which each one of a list of a dozen or more macro-level variables operate onto the individual level, proceed within an individual life over time, and then aggregate to the macro-outcome. When an explanation amounts to a list of plausible but entirely unrelated theories and/or causal variables, there is no prospect of useful logical

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[399] David Eitle Stewart JD Alessio & Lisa Stolzenberg 'Economic Segregation Race and Homicide' (2006) 87 *Social Science Quarterly* 3.

[400] Failure to account for conceptually distinct but empirically closely related socio-economic conditions for example by statistically controlling for poverty when what is ostensibly being investigated is inequality results in inconsistent and spurious results. For more on this particular model misspecification problem in cross-national research see William Alex Pridemore 'Poverty Matters: A Reassessment of the Inequality-Homicide Relationship in Cross-National Studies' (2011) 51 *British Journal of Criminology* 5.

[401] For examples of the importance and implications of the measurement of inequality in homicide research see Aki Roberts & Dale Willits 'Income Inequality and Homicide in the United States: Consistency across Different Income Inequality Measures and Disaggregated Homicide Types' (2015) 17 *Homicide Studies* 1; DL Hicks & JH Hicks 'Jealous of the Joneses: Conspicuous Consumption Inequality and Crime' (2014) 66 *Oxford Economic Papers* 4.

[402] A useful overview of the historical development in this field is David Weisburd, Wim Bernasco & Gerben JN Bruinsma *Units of Analysis in Geographic Criminology: Historical Development Critical Issues and Open Questions* in David Weisburd, Wim Bernasco & Gerben J N Bruinsma (eds) *Putting Crime in Its Place: Units of Analysis in Geographic Criminology* (2009).

[403] See for example Nieuwbeerta et al. op cit note 82; Ali Teymoori et al. 'Revisiting the Measurement of Anomie' (2016) 11 *PLoS ONE* 7; John R. Hipp 'Block Tract and Levels of Aggregation: Neighborhood Structure and Crime and Disorder as a Case in Point' (2007) 72 *American Sociological Review* 5.

[404] For the general case see Phillips op cit note 376 and Beaulieu & Messner op cit note 376.

clarity or a coherent account of levels of structural explanation. To be fair, the CSVR did provide some additional analysis for some items on its list in other papers in the series. Most do not. Most simply run through the list like a catechism, as if truth is a function of repetition.

Another, considerably superior variant on this first explanatory approach of seeking to provide an inclusive account of the general phenomenon of crime is one that aims slightly more at a middle-range explanation. As discussed in chapter two, this is the domain of many of the orthodox criminological theories. Its prime examples in the South African case are those texts that explain crime by means of the conceptual clusters of the 'Apartheid legacy' or the 'transition' from Apartheid. These offer some superficial theoretical coherence in their explanans and are considerably narrower than the accounts offered by such as the CSVR. In their explanandum they have been less clear, but broadly have explored the (perceived) phenomenon of an increase in national crime rates in the years around and after 1994.

Drawing extensively on earlier work by Mark Shaw, Louw argues, for example, for the causal role of the nature of the political transition, and in particular its 'three related dynamics: the breakdown of community bonds and weakened social control particularly in black communities; the impact of political violence; and the acceleration of political, social and economic trends which had begun before the formal political transition in 1990.'[405] Some more specific factors within these processes include the end of the State of Emergency in 1990, the weakening of the state's repressive capacity, the amplification of intra-community conflict and marginalisation related to the negotiation process, the abundance of firearms related to violent political contestation, the instability and rapid reorganisation within the criminal justice system, the weakened border controls, and the collapse of the rigidly-enforced spatial, racial boundaries that had previously insulated some areas and confined some crime to those areas where it was less likely to receive official police recording attention.

The 'Apartheid legacy' and 'transition' approaches do offer some superficial restraint in both explanans and explanandum, thus perhaps facilitating testability. However, the factors proposed still stretch over a considerable range of theoretical domains, including ideas about state repression, bureaucratic functions, social disorganisation, and crime opportunities. Indeed, most transition or Apartheid legacy theorists have arguably done little better than

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[405] Louw op cit note 256 at 149.

slightly reduce the length of their lists of proposed causal factors. It is unclear what value there is implicitly pointing to any and all major changes around the 1990s as the causes of crime. They offer little prospect of developing clarity on exactly what causal variables, relationships and processes are being proposed or prioritised.

As Glaser puts it in his critique of the 'Apartheid legacy' paradigm of explanation, such an approach is irrefutable:

> But that is also its biggest weakness: it is too all-encompassing. In effect, it is saying that violent crime has to be explained by South Africa's history. But which part of the Apartheid legacy should we emphasise? Political violence? Harsh working conditions? Pass laws? The discrediting of the judicial system? The migrant labour system? The disruption of family life? All of these issues need to be dealt with in their own right. They are, of course, linked to Apartheid but they also have distinct trajectories. Invoking the Apartheid legacy without careful dissection offers us too much, and ultimately too little, by way of explanation.[406]

The causal models of the 'Apartheid legacy' or 'transition' do little to show how each or any of these factors operate onto the individual level, proceed on the individual level over time, or aggregate back up to the macro-level. A related difficulty for much of the transition theory work of the 1990s is its failure to describe or define its core concepts in any detail. It neglected to draw on the extensive political science literature on democratisation, with instead an apparent assumption that 'transition' is a process 'too well understood to require explanation, let alone analysis, and the supposedly criminogenic features of a "transitional society" too humdrum and obvious to need detailed description'.[407]

To the extent that South African theorists have been clear about what they mean by transition and what causal mechanisms they consider most pertinent, there have been several different formulations, including:

- Transition = Durkheimian process of modernisation → social disorganisation → more crime.[408]

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[406] Glaser op cit note 26 at 338–39.

[407] Dixon *Introduction* op cit note 274 at xxi.

[408] Vanessa Barolsky & Suren Pillay 'A Call for Comparative Thinking: Crime Citizenship and Security in the Global South' (2009) 27 *South African Crime Quarterly*.

- Transition = gap between collapse of repressive state control and creation of consensus-based social regulation → resort to self-help → more crime .[409]
- Transition = weakened criminal justice institutions → failure to enforce law → more crime.[410]
- Transition = period of widespread political violence → pervasive trauma and normalisation of violence → more crime.[411]

Incidentally, there have also been some non-causal accounts, including:

- Transition = improved relations between police and communities → increased reporting → more recorded crime.[412]
- Transition = fairly arbitrary point in longer violent history → continuity → crime.[413]
- Transition = coincides with neoliberal deregulation → private profiteering from ambiguities in sovereignties and norms → crime.[414]

These may all at some point use the term 'transition', but they are very different arguments. They logically entail quite different predictions about crime patterns and trajectories. They could imply very different policy recommendations. To make sense of the proposed causal processes around transition, it would for example be necessary to specify which dimensions of transition (political, social, economic, or cultural) we are concerned with, at which phase of the process (pre-transition, transition, or consolidation), and the ways in which we account for unevenness in continuity and change.[415] Such claims could and should then be developed and critiqued through some form of operationalisation and empirical evaluation, or risk being little more than just-so stories of crime causation.

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[409] Simpson op cit note 387.

[410] Berg & Scharf op cit note 113.

[411] Brandon Hamber ''Have No Doubt It Is Fear in the Land' an Exploration of the Continuing Cycles of Violence in South Africa' (2000) 12 *Southern African Journal of Child and Adolescent Mental Health* 1.

[412] Leggett op cit note 348.

[413] Kynoch op cit note 272; Glaser op cit note 26.

[414] John L Comaroff & Jean Comaroff in John L Comaroff & Jean Comaroff (eds) *Law and Disorder in the Postcolony* (2006).

[415] Dixon *Cloud over the Rainbow* op cit note 112 at 11; Dixon *Introduction* op cit note 274.

Unfortunately, this is seldom done. Much of the work along these lines has amounted to simply a slightly shorter list of causal factors or, especially in subsequent years, as examples of the practice of naming as explaining. Simply stating that the observed crime phenomenon is explained by transition or the legacy of Apartheid is akin to saying that it is due to the entire sociopolitical history of the country. This type of explanation is the bane of those who grade undergraduate criminology essays.

External dimensions

The problem with inclusive accounts of the general phenomenon of crime is that that this explanatory approach has seemed in the South African context not so often to open up and guide as to foreclose more rigorous investigation of the causal significance of each of the various items on their lists. Their inclusion in such a list suggests that they have been empirically established and are already well understood in the South African context, when this is seldom the case. Lists are made to stand in for, and give illusion of, the more detailed, exclusive, particular theoretical and empirical work they should be based on. In fact, list-based explanation such as the CSVR's tend to be light on citations. Those that are provided tend to be of Anglo-American theory textbooks or one or two small-scale local studies, but there is seldom any attempt to demonstrate an empirical link with crime levels in the South African context. The CSVR report, for example, supports its assertion of the causal significance of an alleged culture of ambivalence towards the law by citing just two papers, both of which were concerned only with organised crime groups in specific communities. This was the best that the CSVR researchers had to draw on.

Further, as already mentioned, the weakness of explanatory approaches that seek to give inclusive accounts of general phenomena is that they are of no use in making clear predictions in specific cases.[416] They explain everything but predict nothing.[417] A long list of more-or-less unrelated usual causal suspects may be pleasingly complete as an ad hoc account of why South African has high levels of crime and/or violence, but it can explain no particular facts within or beyond that generality (such as why one part of the country might have higher levels of crime than another), let alone predict them. The proposed explanans

[416] Bennett op cit note 45 at 467.

[417] Gawronski & Bodenhausen op cit note 123 at 14.

consists of too many moving parts that one would need to define and measure and study in interaction in order to give the explanation any predictive value.

Each of its components might be subject to testing and assessment in isolation or in practical or theoretical selection, but in its entirety, an explanation of this form is impossible to subject to empirical investigation. There is no methodology, however mixed, that could simultaneously operationalise a national history of political violence (as binary yes/no or in spectrum?), the historical illegitimacy of state institutions, the enforcement of socially corrosive migrant labour policies, social and cultural modernisation, the nature of political and cultural leadership, the effectiveness of contemporary criminal justice institutions, (the presence, proximity, and/or severity of?) regional armed conflicts, gender norms, racism, socioeconomic inequality, global economic integration, firearm policy and enforcement, alcohol and other drug availability and consumption norms, and so on. This list constitutes an entirely ad hoc explanation that cannot conceivably be tested.

This is crucial — there is no way to operationalise all or enough of the independent variables required to give such an explanation purchase on the empirical. They are too numerous and too diverse. They can't be spelled out clearly in terms of levels of explanation and the logic of their specific proposed causal mechanisms, so they must inevitably remain vague and ad hoc. The problem of testability for these types of explanations stalls the traditional scientific feedback loop of inductive reasoning from empirical observation to theoretical generalisation, and deductive reasoning through specific hypothesis development and testing, etc. They are entirely unfalsifiable. Thus it is that effectively the same lists can be reproduced, with no appreciable refinement, in texts published in 1995,[418] 2001,[419] 2009,[420] and no doubt so on.

On the other hand, the quantitative, risk-factors methodologies within this explanatory approach do succeed in operationalising their independent variables by limiting them to such quantifiable factors as age, gender, income, educational attainment, frequency of illegal substance use, attitudes towards violence, and so on. In this they transcend the problem of the

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[418] van Zyl & Theron op cit note 387.

[419] Palmary op cit note 387.

[420] The Centre for the Study of Violence and Reconciliation 'Why Does South Africa Have Such High Rates of Violent Crime?'

testability of the independent variable. However, they remain constrained by the difficulty of operationalising their dependent variable.

Explanations of this first type are the ultimate low-risk strategy. Most readers will find something in it to agree with and it is unfalsifiable; no conceivable observation could disprove it. Its empirical implications (such as for other countries, places within the country, or trends over time) are impossible to divine or test. For example, the causal impact on crime of a national history of political violence and other Apartheid-related factors may conceivably be expected to dissipate over time; the causal impact of social/cultural modernisation or global economic integration may rise and then fall; racism and toxic gender norms may provide a constant causal pressure; changing firearm policies and regional conflicts could make for independent fluctuations.

If South Africa's levels of crime and violence were to fall precipitously and unambiguously, would this prove or disprove the CSVR's explanation? This raises an additional difficulty, as not only does the inclusiveness of the explanans pose a problem for testability, but so does the generality of the explanandum. How might 'crime levels' or 'violent crime levels' overall be usefully operationalised? That usual caveat about the shortcomings of the data hides a multitude of sins, as we will return to below in the section on the second major explanatory type.

A final consideration for the value of this first explanatory type, which aims to provide a comprehensive, multi-theoretical account of the causal factors or processes at play in the causation of the general phenomenon of South African crime prevalence, is its use in guiding policy. As a basis for designing an entire policy framework from scratch, it is without peer. Indeed, it has been readily adopted. Drawing from this standard South African macro-explanatory approach, the National Crime Prevention Strategy, for example, is 'pragmatically eclectic'; it lists all the familiar factors and draws conceptual fragments as convenient from control, strain, opportunity, and structural theories.[421] It is essentially a 'check-list of almost every conceivable contributor to crime.'[422] Kitchen sink theory has become kitchen sink policy.

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[421] Dixon *Introduction* op cit note 274 at xxvi; Dixon *Cloud over the Rainbow* op cit note 112 at 33.

[422] Glaser op cit note 26 at 339.

This policy popularity may reflect the fact that suggesting that crime is caused by any and all socio-economic conditions arguably functions primarily as a tool for deflection. Thus the police are quick to meet every release of crime statistics with a reminder that broad societal ills are to blame.[423] Every conceivable 'social' problem — urbanisation, alcohol, deprivation, a 'culture of violence', 'culture of entitlement' etc. — is lumped together to prove the inevitability of high South African levels of crime or violence.[424] If crime is caused by everything, then there is little that the state or any other party can be expected to do about it directly, except perhaps make marginal improvements to the functioning of the criminal justice system.[425]

Yet despite having been commissioned by the government and its results presented to the Parliamentary Portfolio Committee on Police, the CSVR reports themselves were not well-received among policymakers. Their response was that this was all very well but didn't seem to tell them anything they didn't already know or to offer useful guidance on what government could do about it. One of the study's lead authors speculated that its lack of policy traction was due to the fact that aspects of its conclusions (such as its emphasis on poor policing and socioeconomic conditions) were politically uncomfortable and that its timing (released not long after the ANC 'palace coup' and resulting change in administration) saw it slip between the cracks.[426]

This may be so, but another explanation is that the study's recommendations were so wide-ranging. They numbered about 30 and stretched across nine pages of the report — four pages of its executive summary.[427] The recommendations fell into five categories, namely: focusing and strengthening the criminal justice response to violent crime, adopting other safety measures, addressing the culture of violence and criminality, supporting positive and healthy child and youth development, and engaging in issues of social justice. Just the first of these five consisted of nine sub-points, for example including:

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[423] Heidi Giokos 'Crime Stats Reflect Societal Ills Says Popcru' *IOL* September 2 2016 http://www.iol.co.za/news/crime-courts/crime-stats-reflect-societal-ills-says-popcru-2063947.

[424] Pelser & de Kock op cit note 354.

[425] Super op cit note 18 at 42.

[426] David Bruce 'Does Anyone in Charge Care about Violence?' *Sunday Times* November 21 2010.

[427] The Centre for the Study of Violence and Reconciliation 'Tackling Armed Violence' 2010.

> (c) Strengthening evidence-based crime investigation and prosecution: Efforts to strengthen the process of crime investigation and prosecution should seek to maximise the potential of the criminal justice system to effectively investigate and prosecute cases involving armed violence using evidence-based approaches. This includes improving support to police and prosecutors in relation to the use of different types of evidence including witness evidence, physical evidence and confession evidence. For instance, the increased use of DNA evidence envisaged in the draft Forensic Procedures Bill should be focused on suspects and convicted persons related to cases of armed violent crime. A critical issue here will also be a more sophisticated response to the problem of witness intimidation. …
>
> (e) Strengthening measures to ensure police integrity including strategies to identify corrupt police and to ensure effective investigations and disciplinary or criminal prosecution of police members implicated in corruption.
>
> (f) Use of stop and search tactics including vehicle stops and, in areas where there is a substantial problem of street robbery, the stop and search of pedestrians, in order to locate illegal firearms.
>
> (g) Clarifying police powers, and exploring potential police strategies, to address the use of knives or other instruments associated with sharp-force violence. [428]

This extraordinarily comprehensive set of recommendations might well usefully form the basis of a whole-of-government overhaul of criminal justice policy. But in many ways it amounts to, 'Do all the things you are currently doing but do them better.'

In summary, this first explanatory strategy within our four-fold typology is defined by its general scope of explanandum and the inclusiveness of its proposed explanans. It aims to give comprehensive account of the general phenomenon of crime prevalence. It has proven a popular choice in the South African context and is understandably tempting to those who have read widely and have a sense of the complexity and nuance of the problems at hand. The social world is complex and many or all of the items on such lists as the CSVR's are indeed probably implicated in the causal webs of crime. A complete and fully satisfying explanation of crime in South Africa would likely need to incorporate them all. So, its key advantage is that it gives the impression of having left nothing out, of having fully explained the country's crime problem in at least most of its undeniable complexity. This is explanatory warfare by carpet bombing.

However, its theoretical inclusiveness means that it is ultimately unable to deliver logical clarity, to offer a coherent grasp of the particulars of the causal interaction of different levels of explanation, to seek or find empirical evaluation, or make predictions. Because it

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[428] The Centre for the Study of Violence and Reconciliation 56–57.

has no prospect of operationalising its independent variables, it inevitably remains an ad hoc list of probable but vague explanations, rather than an explanation in its own right. Any reasonably thoughtful layperson could generate a similar list on the basis of their general knowledge of the South African context. Lists and syntheses of the state of knowledge on various theoretically unrelated causal factors may well be useful to analysis or policymaking from scratch, but are of limited use in identifying specific strategic intervention points for policy attention.

This first explanatory strategy is an unlikely source of any further productive developments. It under-simplifies. Regurgitating a list of concepts that have at some stage shown some explanatory relevance in Anglo-American contexts may remain valuable in shaping introductory texts but ultimately lead to an inevitable theoretical cul-de-sac. In seeking to deflect potential criticism, such an approach precludes potential progress. It has been fundamentally compromised by its tendency to implicitly treat the question of crime prevalence patterns and trends as trivial in the sense of being too obvious to require close, theoretically informed examination.

Strategy 2: Exclusive accounts of general phenomena

The second explanatory strategy within our typology comprises those studies that seek to explain a broad range of crime phenomena, such as crime prevalence or 'crime levels' overall or in their distribution, by means of a very limited range of explanatory factors. Unlike the first explanatory type, it does not aim to give a comprehensive account of the causal factors at play, but rather focuses on one or a small selection of causal factors that constitute a single, coherent theoretical concept. At its most extreme, it takes the form of quantitative models that purport to explain the level and distribution of all criminal behaviour (and indeed most other human behaviour) by means of a single behavioural principle (rational choice) and a handful of logically derived causal variables. In the South African context, this approach has been the unfortunately popular arena more of 'economists' than those who might call themselves 'criminologists'.

The model text here is a recent working paper by Haroon Bhorat and others at UCT's Development Policy Research Unit (DPRU), entitled: 'The socio-economic determinants of

crime in South Africa: an empirical assessment'.[429] In this study, the authors combined the official 2011 station-level crime statistics for the whole country with demographic data from the 2011 Census to investigate the association between reported crime rates and station area-level unemployment and income and intra-station area inequality. For theory, it draws from the standard economic model of crime, in which 'criminal behaviour depends on, amongst other things, the payoff from committing a crime successfully, conditioned by the likelihood of obtaining legitimate sources of income, together with this commensurate level of legal labour market income'.[430] In this model, certain socio-economic conditions are significant for crime because they signal the relative returns to crime, or at least property crime. So, for example, the unemployment rate is predicted to be significant because it represents the expected returns to abstaining from crime. The rational agent weighs the expected returns to criminal acquisition against the expected returns to legitimate acquisition and, all else being equal, selects that which is greater.

The Bhorat paper applies this theoretical model through 'a combination of nonparametric and parametric analyses, including an IV regression design,'[431] and finds:

- An inverted U-shaped relationship between station area income and property crime, suggesting that larger station area incomes indicate higher returns to crime but that, past a certain income level, individuals take effective measures to protect themselves;
- An inverted U-shape between income and violent crime, for reasons that fall beyond the model (perhaps because violent crimes are less reported in poorer areas);
- No relationship between any socio-economic factors and robbery, likely because robbery is more opportunistic and involves less scope for rational decision-making;
- No relationship between inequality and violent crime; and
- No relationship between unemployment and any crime type.

Bhorat et al note that insignificant findings should not be taken to signal that the indicator has no impact on crime, since station area-level data may not be appropriate for investigating individual-level driving factors.

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[429] Bhorat et al. op cit note 364.

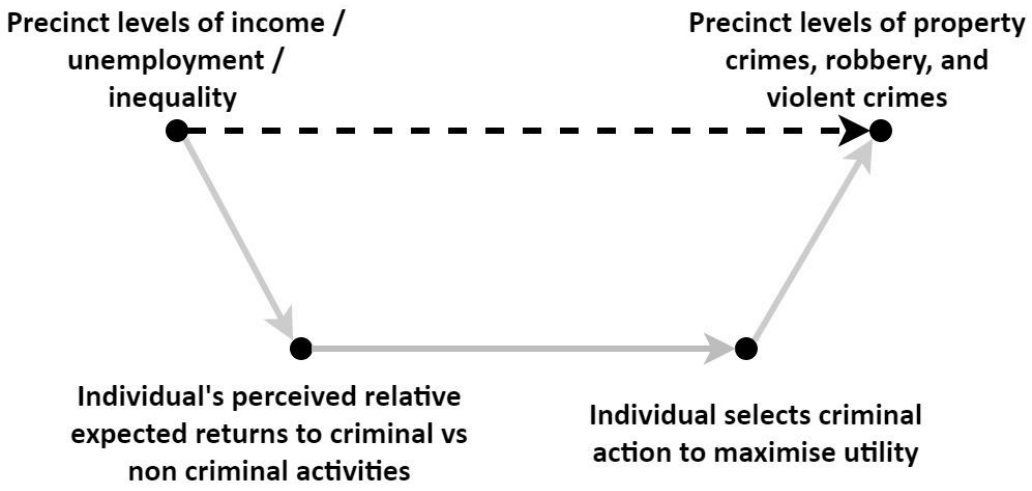
[430] Ibid at 1.

[431] Ibid at ii.

Internal dimensions

The levels of explanation within a causal model of this second type might be represented on a Coleman diagram as follows.

Figure 11 Coleman diagram of Bhorat et al causal model



Unlike the CSVR, Bhorat et al offer a coherent theoretical account that provides some clarity on what exactly is the process being proposed. Each of the four nodes within its causal model can therefore be labelled. Also, unlike the CSVR, there has been an attempt at empirical evaluation — thus the dotted line is indicated in black. This has been entirely at the macro-level, using data on macro-level variables, with the mechanisms of macro- to micro-causation, the process on the micro-level, and micro- to macro-causation or aggregation merely inferred from theory — these lines thus remain grey. This is a common criticism of such quantitative approaches: that they may produce statistical evidence to suggest the existence of a causal relationship, but in fact do little to reveal the nature of that relationship.[432]

At least four other papers have used similar theory and data (slight modifications of the traditional economic model of crime, different isolations of causal factors, units of analysis, data years, and statistical techniques) to provide, untangle or at least examine 'the

[432] Dixon *Understanding 'Pointy Face'* op cit note 67 at 6.

determinants' of crime in South Africa.[433] Here there is no talk of conducive environments, vulnerabilities, distinguishing features, or risk factors — but straightforwardly, causes. Clearly the diffidence of the sociologists is not shared by the econometricians. This difference between the disciplines' degrees of epistemological humility is unfortunate and appears to be chronic.[434]

These studies are open to dispute on theoretical grounds — that is, on whether their accounts of the lines in grey are warranted. For instance, rationality may be a weak tool to explain more emotionally-driven crimes.[435] Most violence in South Africa seems to generate very little material reward for its participants and to involve little rational calculation of enrichment.[436] Indeed, some have argued that South African property crime is distinctive in the gratuitousness of its violence — that more violence is used than seems necessary to gain access to the desired goods.[437] The economic model of crime may also be difficult to square empirically with the many papers and meta-analyses that reveal that 'most punishment-oriented or criminal justice system predictors are weakly related to crime rates', again suggesting that rational calculation of expected costs and benefits may not play an important role in crime causation.[438]

But rational choice theory is not the necessary or only option for this explanatory strategy. Other papers on South African crime levels have employed quite different

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[433] Kay V Brown 'The Determinants of Crime in South Africa' (2001) 69 *South African Journal of Economics* 2; John M Luiz 'Temporal Association the Dynamics of Crime and Their Economic Determinants: A Time Series Econometric Model of South Africa' (2001) 53 *Social Indicators Research*; FLE Blackmore 'A Panel Data Analysis of Crime in South Africa' (2003) 6 *South African Journal of Economic and Management Sciences* 3; Verrinder op cit note 364.

[434] See for example Ted Goertzel et al. 'Homicide Booms and Busts: A Small-N Comparative Historical Study' (2012) 17 *Homicide Studies* 1.

[435] Keith Hayward 'Situational Crime Prevention and Its Discontents: Rational Choice Theory versus the 'Culture of Now'' (2007) 41 *Social Policy and Administration* 3. For a response see Graham Farrell 'Situational Crime Prevention and Its Discontents: Rational Choice and Harm Reduction versus 'Cultural Criminology'' (2010) 44 *Social Policy & Administration* February.

[436] Antony Altbeker *Adding Injury to Insult: How Exclusion and Inequality Drive South Africa's Problem of Violence report on Component 4 of a study conducted by the Centre for the Study of Violence and Reconciliation (CSVR) for the Justice Crime Prevention and Security (JCPS) cluster 31 October 2008* at 4.

[437] David Bruce 'Anger Hatred or Just Heartlessness? Defining Gratuitous Violence' (2010) *South African Crime Quarterly* at 14.

[438] Pratt & Cullen op cit note 83 at 379.

theoretical models and causal variables, from the impact of the availability of alcohol or other drugs,[439] to theories from evolutionary psychology about male intra-sexual competition.[440] Some have attempted to compare the explanatory value of various theories around specific explanatory variables,[441] or have picked over the quantitative data without any explicit theory whatsoever.[442] Others have been more obviously focused on methodologies, for example those designed for the analysis of spatial data (again, with[443] or without[444] any real attempt at theory). With very few exceptions,[445] however, the critical feature that these studies share is their inadequate grasp of their dependent variable. Their empirical basis is almost invariably official criminological statistics.

Quantitative models of social causation can be criticised for their assumption that the relationships among the variables are linear and additive, 'like the recipe for a cake — take two parts poor education, one part impulsivity, and three parts poverty and you cook up a delinquent'.[446] Unlike type one explanations, they also tend to strike criminologists as gross over-simplifications of the broad, complex phenomenon of all criminal behaviour. Notably, Bhorat et al's literature review explicitly disregards anything that is criminological or anthropological in nature, constraining itself only to economic research.[447] There is a sense

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[439] Julie Berg 'The Rise of 'Tik' and the Crime Rate' (2006) 18 *South African Journal of Criminal Justice* 3; Neo K Morojele & Judith S Brook 'Substance Use and Multiple Victimisation among Adolescents in South Africa' (2006) 31 *Addictive Behaviors* 7; Charles Parry et al. 'The 3-Metros Study of Drugs and Crime in South Africa: Findings and Policy Implications' (2004) 30 *The American Journal of Drug and Alcohol Abuse* 1.

[440] Naudé op cit note 274.

[441] Demombynes & Özler op cit note 364; Petronella Jonck et al. 'Education and Crime Engagement in South Africa: A National and Provincial Perspective' (2015) 45 *International Journal of Educational Development*.

[442] O'Donovan op cit note 364.

[443] Breetzke op cit note 204.

[444] Alexandra Hiropoulos & Jeremy Porter 'Visualising Property Crime in Gauteng: Applying GIS to Crime Pattern Theory' *South African Crime Quarterly* 47 (2014): 17–28.

[445] D Mark Anderson 'The Effects of Poverty on the Susceptibility to Crime in South Africa' 2008 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1289648; Breetzke op cit note 356.

[446] Michael D Maltz 'Look before You Analyze: Visualizing Data in Criminal Justice' in AR Piquero & D Weisburd (eds) *Handbook of Quantitative Criminology* (2010) at 26.

[447] Bhorat et al. op cit note 364 at 2.

that these were methodological hammers that happened upon crime data as a deceptively convenient nail.

But heavily quantitative methods aren't the only ones that make use of this explanatory strategy of linking a single or small, theoretically cohesive selection of macro-level causal factors with the general phenomenon of crime prevalence. Another approach distinguishable in the South African context (although seen less often in formal academic spaces than the popular press), is the use of a methodology of 'common sense' or what one might charitably describe as informal autoethnography. In this vein it has been proposed, for example, that the key macro-variable in the causation of crime in South Africa is a culture of violence,[448] a culture of disrespect for the law,[449] or the nature and personality of top police leadership.[450]

These arguments are often circular, such as suggesting that crime is caused by a culture of lawlessness, which in turn is evidenced by levels of crime. Their conclusions are blithely reproduced in lists of causal factors along the lines of the first explanatory strategy. However, they have declined to advance beyond the broadest level of ad hoc generality. This is because they share with almost all methods within this explanatory strategy (and indeed the previous) a fundamental flaw — the operationalisation of their dependent variable.

External dimensions

This second explanatory strategy within our typology, which comprises those studies that seek to explain crime prevalence overall or in its distribution by means of a limited range of explanatory factors, produces explanations that are more superficially parsimonious than the more inclusive accounts seen in the first strategy. Bhorat et al's explanation, for example, relies on a single behavioural principle and just three causal variables.

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[448] Anthony Collins 'Violence Is Not a Crime: The Impact of 'acceptable' Violence on South African Society' (2013) 43 *South African Crime Quarterly*; Hamber ''Have No Doubt It Is Fear in the Land' an Exploration of the Continuing Cycles of Violence in South Africa.'

[449] Altbeker *A Country at War with Itself* op cit note 68.

[450] Doraval Govender 'Reflections on the Strategic Leadership in the South African Police Service on Violent Crimes and Policing' (2012) *Acta Criminologica: Southern African Journal of Criminology* 2.

Unfortunately, this parsimony is illusory. It in fact relies on important background assumptions about the typical operationalisation of the dependent variable of crime prevalence levels, namely official criminological statistics. These assumptions are unwarranted. These type two explanatory approaches are sabotaged by their misunderstanding of the nature of official crime statistics as a measurement of crime prevalence. Most acknowledge that under-reporting compromises the completeness of the data, and even concede that this reporting-error is non-random. However, they fatally underestimate the significance of this fact. These primarily quantitative researchers that dally with the subject of crime would do well to note the approach of those whose primary expertise is on South African crime and policing. These latter tend to use the police crime statistics either not at all or at best very gingerly and tentatively.[451]

All attempts to explain crime prevalence overall face the serious stumbling block of how this might be determined empirically. How do we know how much crime is happening? Is there, in fact, an ontological and epistemological reality to 'crime'? Caveats about data quality and completeness are commonplace, but those from the more quantitative traditions, like Bhorat et al, have tended to seriously underestimate the extent and implications of that constraint.

There is major variation in all the relevant parties' inclinations and capacities to detect an incident of possible criminality, identify it as possibly criminal, deem it worthy of official attention, and substantially accurately report and officially record it. A given incident's appearance in official statistics is subject to numerous and powerful social and institutional factors that winnow down the proportion of all criminal acts that make it into those statistics. For most crime types, the official numbers recorded by the police should at best be considered a lower bound of the 'real' prevalence of crime. Fraudulent claims may compromise even this.

Crucially for quantitative work, the measurement errors in crime statistics introduce systematic distortions around precisely those variables in which we are likely to take an aetiological interest. Analyses of recorded crime rates that fail to account for large differences in reporting behaviour will inevitably be seriously misleading. Because they neglect the significance of the non-random variability in the reporting and recording of most crimes,

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[451] See for example Altbeker *Murder and Robbery in South Africa* op cit note 364.

econometric approaches like Bhorat et al's are simply not modelling what they purport to be modelling. What they identify as determinants of crime may just as well be determinants of reporting. Reporting factors can completely confound any results. This is so for any analysis that takes the official recorded crime statistics as given. No manner of statistical complexity or subtlety can make sense of this hopelessly distorted measure of crime prevalence.

Inferring crime prevalence levels and distribution from the police-recorded crime statistics is like inferring disease prevalence levels and distribution from diagnostic data provided by general practitioners. Using such data might well lead one to conclude, for example, that only the wealthy suffer from flu or depression or erectile dysfunction. One may just as well seek to draw conclusions about the relative climates of Earth and Mars based on how often their respective residents care to mention the heat. These measurement problems with most criminological statistics have already been described in chapter two, but suffice to say here that quantitative models that use as dependent variable such measures as the official recorded rates of sexual assault, stock theft, or 'drug-related crimes' should be met with nothing short of derision.

Most of the official criminological statistics do not withstand scrutiny as a defensible measure of 'real' crime prevalence. An admirable small handful of papers have opted for a different operationalisation of their dependent variable, obtaining their crime prevalence and distribution data not from the police but from correctional services.[452] Unfortunately, this measure shares all the problems and distortions of the criminological statistics and introduces a great many more. There is little reason to believe that the distribution of sentenced prisoners reflects the 'real' distribution of criminal behaviour. There is plenty of reason to believe that it does not. It is by now widely accepted that race, gender, and class play critical roles in judicial adjudication.

Victimisation and other population-level survey data are sadly underutilised for the purpose of operationalising aggregate levels of crime.[453] Statistics South Africa's national victims of crime survey may yet grow to offer radical aetiologists a more palatable measure of their dependent variable. There is still, unfortunately, a critical scarcity of large-scale,

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[452] Breetzke op cit note 356; Breetzke & Horn op cit note 356.

[453] An exception is seen in the survey-based quantitative model of Anderson op cit note 445. Unfortunately this study uses data from 1993.

nationally representative datasets that could feasibly be used in quantitative models of overall crime causation.[454]

The subjective, ad hoc impressions of crime prevalence as used in the more qualitative, less systematic causal claims that fall within this second explanatory strategy can operate only on the broadest possible level of generality. Informal, subjective accounts of patterns in crime prevalence may well be misleading. Frustratingly few of those who seek to explain crime prevalence, broadly defined, seem to grasp how serious and chronic is their challenge of testability.

Another exasperating feature of the quantitative papers in this mould, which has been observed in econometric research more broadly, is the apparent interest primarily in the statistical techniques rather than in making a substantive contribution to knowledge about the subject matter.[455] As such, Bhorat et al neglect to specify any recommendations beyond that policy-makers should 'pay attention to precinct-level inequality' and that different crime types imply 'different foci for policymakers'.[456] Yet explanations of this type, with their apparent parsimony and broad scope, could conceivably be of clear value for policy. A simple, singular recommendation that purports to target the overall phenomenon of crime is an undeniably appealing prospect. Accompanied by an effect size and a graph, it is irresistible. To the lay reader, the more inscrutable the formulae and smattering of econometric jargon, the more authoritative are the text's conclusions. Unfortunately, none in South Africa has yet grappled well enough with the testability problem of the dependent variable of aggregate crime levels to warrant such esteem.

The more qualitative work in this explanatory strategy does not share this problem, arguably because it largely originates in its policy vision, rather than in any spirit of more open-ended empirical or theoretical curiosity. In this it is akin to the Afrikaner nationalist intellectual tradition described in the previous chapter.

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[454] Safety and Violence Initiative 'Towards a More Comprehensive Understanding of the Direct and Indirect Determinants of Violence against Women and Children in South Africa with a View to Enhancing Violence Prevention' (2016) 37.

[455] Ted Goertzel & Benjamin Goertzel 'Capital Punishment and Homicide Rates: Sociological Realities and Econometric Distortions' (2008) 34 *Critical Sociology* 2 at 241.

[456] Bhorat et al. op cit note 364 at 34.

This second approach within our typology aims to explore the causal significance of just a single or small, theoretically cohesive selection of macro-variables for the general phenomenon of crime prevalence. Its advantages over the explanations from the first explanatory type are that it offers greater (superficial) parsimony and as such can provide greater logical clarity and offer a theoretically coherent account of what exactly it is proposing in terms of its levels of explanation. It has seen quantitative empirical exploration at the macro-level, using data on macro-level variables, although the statistical relationships so established have limited capacity to reveal the nature of those relationships.

More fundamentally, however, these kinds of explanation are compromised by the difficulty in defensibly operationalising the dependent variable of crime prevalence distribution. Most criminological statistics are simply not up to such a task. Whereas type one explanations are akin to theoretical carpet bombing (aim for all the possible targets in the hopes of hitting something worthwhile), the military analogy for type two explanations is that of counter-insurgency. Like American forces in Vietnam, these explanations may muster impressive technical superiority, but struggle to isolate and get to practical grips with enemy combatants.

The testability problem in terms of its dependent variable(s) has meant that this explanatory approach has proven and will continue to be a limited source of valuable causal explanation. The fact that many of its proponents are dabblers in the criminological field render its conclusions touchingly naïve to those more familiar with the nature of South African policing and precisely the extent to which contextual factors determine the creation of official criminological statistics. For all its appeal in the apparent rigour and complexity of its statistical methods, the shortcomings of the readily available datasets are so large that drawing causal insights from such an approach are akin to analysis that takes as given the claims of an advertisement.

Strategy 3: Inclusive accounts of particular phenomena

The third ideal type within our typology of explanatory strategies does not seek to explain crime prevalence overall or in its distribution, but rather purports to account for a narrowly defined crime phenomenon, for example bounded by crime type, space, time, and/or named and theoretically-defensible features of the perpetrators or victims. It proposes that a

specified, small, theoretically and/or methodologically cohesive selection of crimes are accounted for by numerous theoretically unrelated macro-factors.

Unlike the second type of explanation, it aims for a relatively comprehensive account of the causal factors or processes at play in a particular isolation of cases. At its most inclusive, it takes an inductive theoretical approach, beginning with relatively open-ended observations of specific cases and a search for regularities or patterns, perhaps proceeding to more formal theoretical generalisation (or simply naming the specific cases under examination as instances of established theoretical categories). Its methods tend to be qualitative. This means that it tends to produce something that may look rather more like description than explanation in the traditional (social) scientific sense.

The typical qualitative methods of observation, interviews and documentary analysis are more often used for non-aetiological questions, and indeed it remains controversial whether qualitative methods can by themselves answer causal questions, 'since the traditional, positivist/empiricist view is grounded in a philosophical understanding of causation that inherently restricts causal explanation to quantitative or experimental methods…[and due to the need to] address the practical methodological issue of how qualitative methods can identify causal influences and credibly rule out plausible alternatives to particular causal explanations, a key tenet of scientific inquiry'.[457] Yet ethnographies of marginalised groups and spaces as tools of causal understanding are an established tradition in criminological explanation. Typically, the focus is on certain isolations of potential or known perpetrators, although victim profiles have also been done — most often of victims of murder or domestic violence.[458]

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[457] Joseph A Maxwell 'Using Qualitative Methods for Causal Explanation' (2004) 16 *Field Methods* 3 at 246.

[458] Rika Snyman 'A Profile of the Murder Victim in South Africa as an Aid to Prevention' in (eds) Chris Sumner Mark Israel et al *International Victimology: Selected Papers from the 8th International Symposium on Victimology* (1996); Shanaaz Mathews et al. 'The Epidemiology of Child Homicides in South Africa' (2013) 91 *Bulletin of the World Health Organization* 8; Rachel Jewkes, Jonathan Levin & Loveday Penn-Kekana 'Risk Factors for Domestic Violence: Findings from a South African Cross-Sectional Study' (2002) *Social Science & Medicine* 55; Morojele & Brook op cit note 439; Lu-Anne Swart Mohamed Seedat & Juan Nel 'The Situational Context of Adolescent Homicide Victimization in Johannesburg South Africa' (2015) *Journal of Interpersonal Violence*; Fry op cit note 317.

In its ideal form, this explanatory approach results in thick descriptions. It is typified by Chandré Gould's *Beaten bad: the life stories of violent offenders*.[459] This study is a qualitative exploration, based around narrative interviews with 20 inmates serving sentences for violent crimes in South African prisons, as well as observations and discussion with others (police, family members, neighbours and teachers) who could provide contextual information on seven of the participants. This text's conclusions can be paraphrased as follows.

The combination of structural violence (for example, high levels of poverty and lack of access to quality education) and physical violence, in the absence of warm, trusting relationships, is shown to cause complex trauma and lay the basis for further violence. Simple dualities such as victim and perpetrator are of little use in this context. Here, the children who become criminally violent men are mostly victims themselves — of trauma, racism, bullying, corporal punishment and brutalising institutions. Their families are often dysfunctional or broken and they continually encounter adults who reinforce their distrust of authority figures. While this is not to suggest that the men are blameless for the often-cruel acts of violence perpetrated, it does imply the need for a more nuanced and compassionate response than has been taken up to now.[460]

Internal dimensions

This third explanatory approach lends itself to absorbing human narratives that flourish best in long form, as demonstrated by the success of two recent popular books. Through his close familiarity borne of literally decades of observation, Pinnock's *Gang Town* explores the ways in which certain individual experiences (such as exposure to socioeconomic, developmental and/or nutritional deprivation and trauma in childhood) translate into adult involvement in gangs in parts of Cape Town.[461] Similarly, Shaw's *Hitmen for Hire* uses the perpetrator life narrative to explore the world of South African contract killers.[462] Other narrative historical accounts of criminal behaviour in particular times and/or places use this same explanatory

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[459] Gould op cit note 74.

[460] Ibid at 1.

[461] Don Pinnock *Gang Town* (2016).

[462] Mark Shaw *Hitmen for Hire: Exposing South Africa's Underworld* (2017).

approach with a quite different methodology.[463] Slightly less inclusive accounts have made use of surveys, for example with sentenced prisoners,[464] or with populations suspected to contain a significant number of perpetrators,[465] or with victims.[466] As with type one explanations, quantitative methods using this explanatory approach tend to produce what amount to lists of risk factors and effect sizes for the causation of certain crimes.[467]

In its thick, narrative form, this is Dixon's proposed route out of South Africa's aetiological crisis: a detailed qualitative exploration of the life course of the individual criminal. The reasoning in such texts, such as Gould's, are plausible. As with qualitative explanations of the second type, however, they often tend to the circular. So, Gould effectively suggests that high levels of violence are the result of high levels of violence. This raises questions about whether the proposed mechanisms of the causal relationships may not be spurious — that there may not be other variables that in fact explain both the subjects' experiences of violence in childhood and their perpetration in adulthood.

They are also often marked by vagueness about what exactly is being proposed as the important causal factor(s). This is related to the fact that the defining characteristic of such an explanatory approach is its extremely limited parsimony. The story of just one of Gould's 20 participants fills 17 pages of the report and draws on a range of theoretical concepts including self-control, socialisation and attachment styles, understandings of the neuroscience of trauma, epigenetics, counter-cultural sources of morality, and so on.[468] And even this was an intentionally selective account, as the interviews gave rise to many other subjects and themes that are not discussed in this report.[469] Rather than proposing one rationale for the

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[463] Gary Kynoch 'Reassessing Transition Violence: Voices from South Africa's Township Wars 1990-4' (2013) 112 *African Affairs* 447; Gary Kynoch 'From the Ninevites to the Hard Livings Gang: Township Gangsters and Urban Violence in Twentieth-Century South Africa' (1999) 58 *African Studies* 1.

[464] See for example Peter Wedge Gwyneth Boswell & Amanda Dissel 'Violence in South Africa: Key Factors in the Background of Young Serious Offenders' (2000) 13 *Acta Criminologica: Southern African Journal of Criminology* 2.

[465] Rachel Jewkes et al. 'Rape Perpetration by Young Rural South African Men: Prevalence Patterns and Risk Factors' (2006) 63 *Social Science & Medicine* 11.

[466] Fry op cit note 317.

[467] Lancaster & Kamman op cit note 364.

[468] Gould op cit note 74 at 43–44.

[469] Ibid at 24.

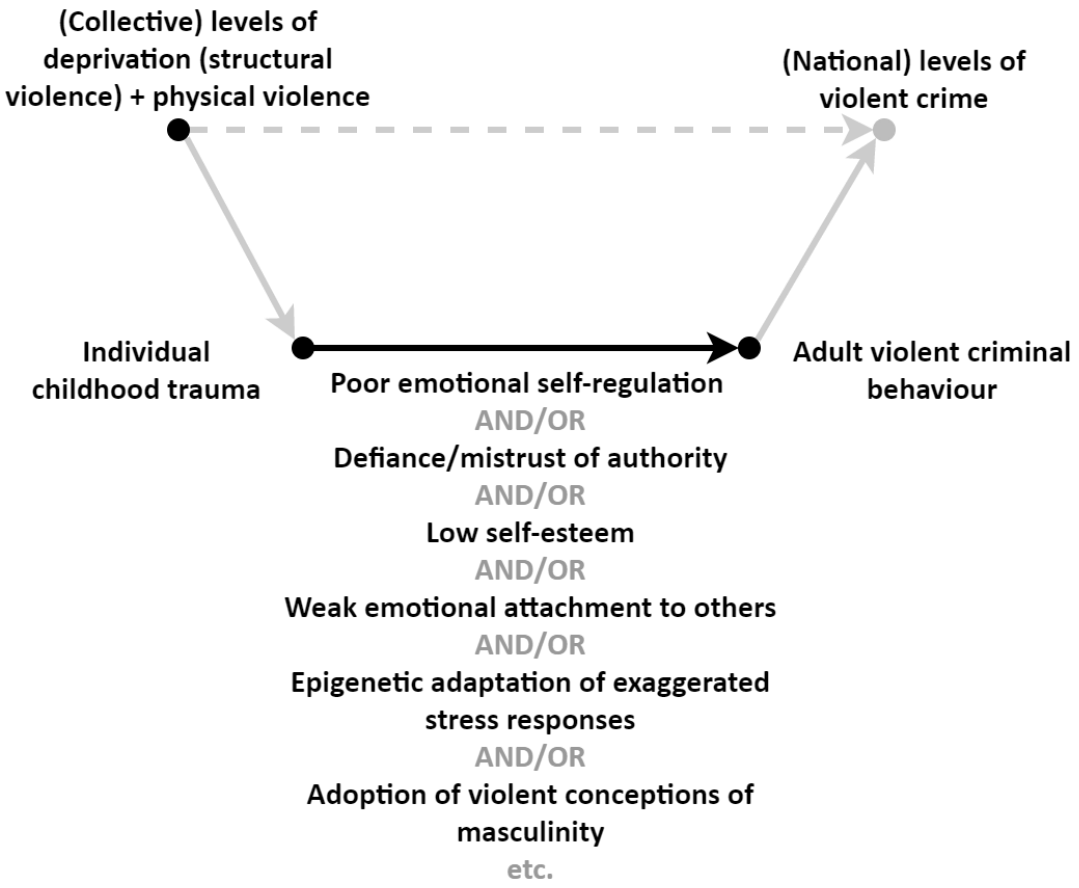
relationship between certain predetermined variables, it recounts narratives that raise many variables and hint at numerous possible relationships between them. As Gould freely acknowledges, this approach:

> can only go so far in providing an understanding of how these factors influence and inform the trajectory of an individual's life; how that may vary from person to person; or how the sequence or timing of stressors can influence an individual's response. The complexity of individual lives and the many factors we may not be able to identify and separate into clear, measurable variables mean that research such as this can offer depth, nuance and additional understanding of how many factors…influence the course of a life.[470]

Similarly, Pinnock's *Gang Town* draws on theories around the development of criminality across the life course, parenting and socialisation, the ecology of neighbourhoods, biological factors and epigenetics, and so on. The rigid, linear structure of a Coleman diagram is ill-suited to capturing the complexity of such a wide-ranging account, but the following may be a passable attempt to reflect the kind of causal argument being made.

[470] Ibid at 11.

Figure 12 Coleman diagram of Gould causal model



In other words, this explanation invokes conditions of deprivation and violence on the vaguely defined collective level, and hints at the significance of this process for the collective outcome of violent crime in South Africa. Gould's account is unusual in how little emphasis it places on describing the crime phenomenon being explained; most other explanations in this mould set their stage in the most catastrophic terms possible. Gould focuses attention on describing the numerous inter-related processes that translate individual childhood trauma into individual adult involvement in violent crime. Other studies based on this explanatory strategy will define their causal nodes differently and foreground different constellations of causal processes but will tend to produce causal models of a similar nature — fairly tentative and thin on either collective end, but empirically solid and broad in the individual middle.

This is because the difficulty with the perpetrator narrative is that it can't make any more than the most guarded claims about direct causality and it offers no prospect of isolating causal factors or determining their real or relative predictive value. Only a small number of

South African studies have sought to do so, thus far only for gender-based violence.[471] Cohort studies and representative cross-sectional surveys make this mode of explanation possible by sacrificing some of their inclusiveness in terms of causal factors. This is an area ripe for further growth, provided it can avoid slipping into the first explanatory mode and taking the form of a simple list of causal risk factors.

This third type of explanation is also constrained by its limited scope. It does not seek to, and thus cannot be maligned for failing to explain crime prevalence overall or in its distribution. As those that favour this explanatory approach will happily concede, no account that seeks to be inclusive can be sufficiently comprehensive and nuanced to usefully reflect the causal processes at play in all crimes at all times and places.

External dimensions

The difference between type one explanations and these in type three lies in the breadth of their explanatory scope. It is precisely this restraint in explanandum that makes their empirical work feasible. Theoretically wide-ranging narratives are of little use in explaining wide, diverse ranges of behaviour, but can be useful in explaining specific, fairly cohesive isolations of crime phenomena.

Indeed, this type of explanation achieves its empirical value by being selective in scope. So, Gould has a good answer to the question 'How do you know?', namely, 'Because the subject told me so directly.' But the interview subject in question can only speak to the narrative of her/his own life. If we concede that perpetrators are reliable sources on the causes of their own criminal behaviour, this is a solid and entirely defensible grounding in the empirical.

This inductive theoretical approach sidesteps the question of direct testability. But there is no simple way to turn these observations into specific hypotheses in unlike cases. Such an approach thus has little or no predictive value. Despite Gould's attempts at a sample group broadly representative of national demographics, there is little reason to believe that these 20 sentenced inmates' life narratives provide sufficient basis on which to explain

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[471] Safety and Violence Initiative 'Towards a More Comprehensive Understanding of the Direct and Indirect Determinants of Violence against Women and Children in South Africa with a View to Enhancing Violence Prevention.'

macro- or even other micro-level crime outcomes in, for example, the offending behaviour of women, or non-violent offenders, or among the better-off. Such a study can't reveal how much of the variance in criminal violence is explained by the factors it foregrounds as opposed to others, or why area A has higher levels of crime than area B this year, but perhaps not the year before. It cannot account for why only some of those with such childhood experiences go on to mete out violence on others. Any broader claims about unlike perpetrators or crimes can only be inferred indirectly and tentatively.

It takes a deft hand to formulate this kind of research into convincing policy recommendation. A policymaker may reasonably wonder whether the knowledge it produces, albeit compelling, is new or surprising or concrete enough to have warranted the exercise. Gould succeeds admirably in weaving these multifaceted narratives into relatively clear recommendations for initiatives that support and develop positive parenting, and to improve the early identification of at-risk children and adolescents. As a rule, however, this explanatory strategy makes for policy recommendations that are at a high level of generality.

The strength of this third type of explanatory approach, which seeks to give an inclusive account of the causal factors for a very particular isolation of the crime problem, is that it allows for incomparable depth and nuance, at least when using qualitative methods. Dixon may well be correct that this is an area of aetiological exploration that South African criminology has neglected, to its detriment. But its tightly limited scope, lack of parsimony, inability to test for and establish the existence (never mind strength and exact nature) of a causal relationship, and limited policy usefulness mean that the answers it produces are destined to be partial.

If the appropriate military analogy for type one explanations is carpet-bombing, and that for type two is a clumsy counter-insurgency, that for type three is the careful selection and swarming of a strategic target with all available weapons and resources.

Strategy 4: Exclusive accounts of particular phenomena

The fourth, last, and rarest explanatory strategy within our typology is that which seeks to explain a narrowly delimited proportion of the overall phenomenon of crime by means of an also narrowly delimited proportion of explanatory factors. Unlike types one or two, it does not aim to explain crime prevalence overall or in its distribution, but a specific crime phenomenon bounded by crime type, space, time, and/or features of the perpetrators or

victims. Unlike type one but like type two, it does not aim to give a comprehensive account of the causal factors at play, but rather focuses on one or a small, theoretically cohesive selection of causal factors proposed as important.

Its best examples in the South African crime context pertain to the impact of specific cultural values on intimate partner violence,[472] and of firearm policies on rates of murder,[473] as exemplified by the research by Richard Matzopoulos and others in 'Firearm and nonfirearm homicide in 5 South African cities: a retrospective population-based study'.[474]

The objective of this study by Matzopoulos et al was to assess the effectiveness of South Africa's Firearm Control Act (FCA) of 2000 at reducing firearm murder, by means of a quantitative longitudinal analysis of five years of data (from 2001 to 2005) from the National Injury Mortality Surveillance System (NIMSS), across five South African cities (Cape Town, Durban, Johannesburg, Port Elizabeth, and Pretoria). The NIMSS database 'collates information gathered from death registers, autopsy reports, and ancillary police and laboratory documentation from forensic pathology laboratories'.[475] The study compared the trends in rates of murders due to firearms with those due to others methods, adjusting for age, sex, race, day of week, city, year of death, and population size.

It concluded:

> There was a statistically significant decreasing trend regarding firearm homicides from 2001, with an adjusted year-on-year homicide rate ratio of 0.864 (95% confidence interval [CI] = 0.848, 0.880), representing a decrease of 13.6% per annum. The year-on-year decrease in nonfirearm homicide rates was also significant, but considerably lower at 0.976 (95% CI = 0.954, 0.997). Results suggest that 4585 (95% CI = 4427, 4723) lives were saved across 5 cities from 2001 to 2005 because of the FCA. … Strength, timing and consistent decline suggest stricter gun control mediated by the FCA accounted

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[472] Naeemah Abrahams & Rachel Jewkes 'Effects of South African Men's Having Witnessed Abuse of Their Mothers during Childhood on Their Levels of Violence in Adulthood' (2005) 95 *American Journal of Public Health* 10; Rachel Jewkes et al. 'Gender Inequitable Masculinity and Sexual Entitlement in Rape Perpetration South Africa: Findings of a Cross-Sectional Study' (2011) 6 *PLoS ONE* 12.

[473] NM Campbell et al. 'Firearm Injuries to Children in Cape Town South Africa: Impact of the 2004 Firearms Control Act' (2013) 51 *South African Journal of Surgery* 3; Western Cape Department of Community Safety *The Effect of Firearm Legislation on Crime: Western Cape* (2015); Guy Lamb *Jagged Blue Frontiers: The Police and the Policing of Boundaries in South Africa* (2017).

[474] Richard G Matzopoulos, Mary Lou Thompson & Jonathan E Myers 'Firearm and Nonfirearm Homicide in 5 South African Cities: A Retrospective Population-Based Study' (2014) 104 *American Journal of Public Health* 3.

[475] Ibid at 455.

> for a significant decrease in homicide overall, and firearm homicide in particular, during the study period.[476]

Internal dimensions

In what may reasonably strike the busy reader — especially policymaker — as a major advantage, this entire report of the Matzopoulos et al study comes to a length of just four-and-a-half pages (five-and-a-half including the list of references). This is extraordinarily parsimonious not just in the length of the final report, but in terms of the neatness and simplicity of the causal argument being implied. This is made possible by restricting the analysis to a single material item as the causal factor or explanans (the firearm), and a single measurable factor as explanandum (changes in the proportion of firearm murders in five major South African cities over a five-year period). No attempt is made to contribute to knowledge about general crime prevalence patterns or trends. As far as studies like that of Matzopoulos et al are concerned, the goal is only to explain this very particular crime type, as reflected in these very particular, localised measurements.

Even so, this hasn't in this case translated to much logical clarity. Perhaps because the nature of the relationship struck the authors as so obvious as to demand no explanation, none is provided as to exactly how they arrived at the hypothesis of 'a significant decrease in firearm homicide specifically attributed to the increasingly stricter gun control coinciding with the phased implementation of the FCA that was fully implemented by 2004'.[477] There are a number of ways in which such a relationship might conceivably hold. Two major theories are often contrasted in the criminological literature: crime facilitation and weapon effects.[478] Both theories 'are predicated on the perceived and actual advantage weapons provide weapon carriers' and their impact in increasing the deadliness of assaults, but whereas the first proposes that criminal intent precedes and motivates weapon carrying, the second suggests that weapon carrying in fact 'triggers' more criminal involvement and

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[476] Ibid.

[477] Ibid.

[478] Amanda D Emmert Gina Penly Hall & Alan J Lizotte 'Do Weapons Facilitate Adolescent Delinquency? An Examination of Weapon Carrying and Delinquency among Adolescents' (2018) 64 *Crime & Delinquency* 3 at 343.

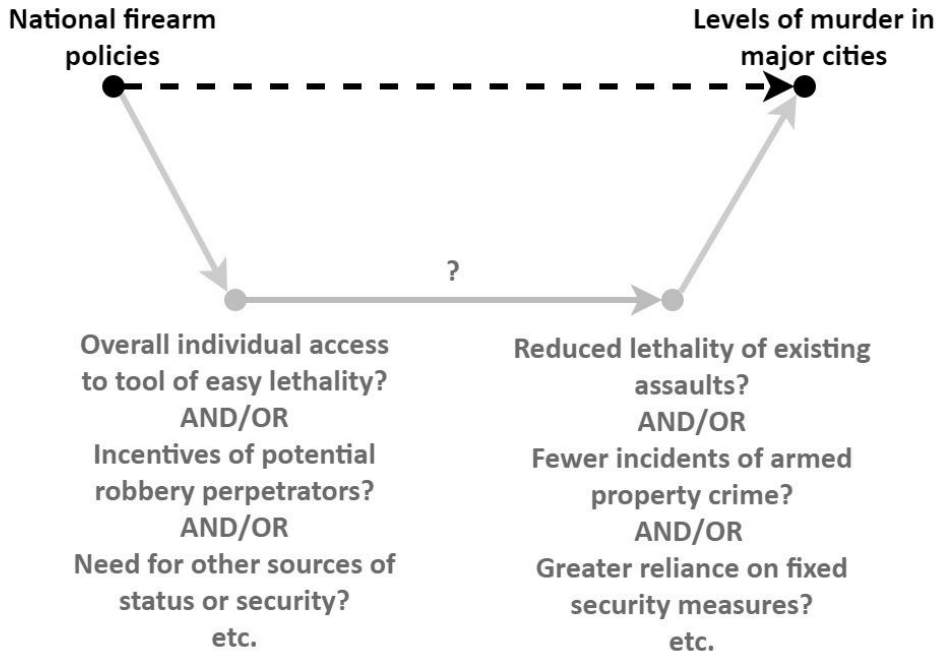
emboldens individuals to behave in ways that they would not do were they not carrying a weapon.[479]

So, for example, the important causal impact of the implementation of the FCA might be negligible on the overall rate of violent criminal incidents, but reduce the lethality of these events. Alternatively, reduced access to firearms among those at risk of engaging in violent crimes might shift their incentives towards other means of making money or passing the time. There may also be quite different reasons. The policy implementation might, for example, result in a cultural shift away from casual possession of and reliance on firearms as a means of status or security, towards a reliance on other means.

Indeed, this is a common weakness of quantitative explanatory approaches that rely on apparently simple and narrowly defined macro-level causes and effects: they may make convincing claims about the existence and strength of a causal relationship but neglect even to attempt to open that black box of causality to show its workings. Thus, they tend to produce explanations that are empirically solid at either collective end and in the macro-level relationship between them, but more tenuous in the individual middle, as suggested on the following diagram.

[479] Ibid.

Figure 13 Coleman diagram of Matzopoulos et al causal model



On the other hand, there are also those South African studies within this fourth broad explanatory approach that offer more than just such theoretically meagre quantitative accounts. Some typical examples relate to the proposed role of certain gender norms,[480] childhood adversity,[481] or the two combined,[482] in the perpetration of gender-based violence. These, too, find their strength in the exclusiveness of their proposed causal factors (explanans) and the specificity of their explanandum, which allow for such methods as representative surveys. Their authors are intimately acquainted with and forthright about their theoretical and ideological positions.

Explanations of this form have the advantage of extraordinary parsimony. They have succeeded in making persuasive claims because they have found a defensible means of empirical engagement. This is because they have tightly limited both their explanatory scope

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[480] Jewkes et al. op cit note 472.

[481] Abrahams & Jewkes op cit note 472.

[482] Shanaaz Mathews Rachel Jewkes & Naeemah Abrahams ‘‘I Had a Hard Life’: Exploring Childhood Adversity in the Shaping of Masculinities among Men Who Killed an Intimate Partner in South Africa’ (2011) 51 *British Journal of Criminology* 6.

and their proposed causal variables, and have thus been able to make relatively defensible use of data.

External dimensions

Whereas the first and second explanatory types flounder around the question of testability, and the third sidesteps it, in this the type fourth approach as demonstrated in Matzopoulos et al excels. It produces clear and specific hypotheses that can be tested and assessed on the strength of a statistical relationship. Matzopoulos et al have a defensible grip on the empirical. This is reflected in the fact that at least one of the causal lines in its Coleman diagram is rendered in black, rather than grey. This is closely related to its constrained scope. Crucially, the goal in Matzopoulos et al is not to explain crime prevalence overall; it is only to explain changes in levels of firearm murder in five major South African cities over a five-year period.

This tight focus is the basis of its empirical strength, as it draws only on that data which is genuinely defensible for exploring such a question — mortuary statistics. The NIMSS mortuary statistics are understood to be a representative, virtually complete record of all deaths due to other than natural causes within their areas and period of coverage. This offers the rare prospect of making a reliable claim about relative crime prevalence levels over space or time. This methodology would be of little or no use in examining the causation of most other crimes, like sexual assault or burglary.

The strength of this explanatory strategy, which is pragmatically selective in both its dependent and independent variables, is that it makes it possible to select only those observations that are genuinely defensible for these ends. This is why a causal model such as that proposed by Matzopoulos et al boasts a black, rather than grey dotted line at the macro level. Unlike the appealingly conclusive just-so stories of the first explanatory type (which can offer no empirical access to either their proposed independent or dependent variables), the naïve generalisations of the second (which may conceivably operationalise their proposed independent variables but fail to grasp quite how undependable are their dependent variables), and the woolly narratives of the third (which achieve some empirical solidity at the individual level by sidestepping macro-level causal claims), this fourth approach offers the prospect of operationalisation of all its variables.

This is not to say that it is beyond criticism. Quite the contrary. Because it is so bold as to nail its explanatory colours to the mast, to propose a testable — and thus contestable — relationship between two or more clearly-defined and empirically accessible variables, it is open to refutation in a way none of the other explanatory approaches would brave. Precious little criminological analysis in South Africa can boast anything approximating experimental conditions, with the result that they cannot hope to eliminate any or all alternative explanations.

But it is precisely this fallibility that makes this fourth explanatory approach so admirable and constructive. Explanations of the first type are little more equivocal than horoscopes; those of the second are as empirically hollow as homeopathy; those of the third are as perceptive but also nebulous as poetry. Each may offer meaning. There is no conceivable contradictory observation that would lead to the rejection of the accounts offered by the CSVR, Bhorat et al, or Gould. Each of these thus swells, rather than curtails the volume of knowledge. Only this fourth explanatory approach offers that superlative prospect of refutation.

Yet perhaps the single clearest advantage of this fourth explanatory approach, as demonstrated in this study of Matzopoulos et al, is that it can so succinctly and directly translate into specific policy recommendation. Having succinctly established that a single, clearly defined explanatory factor is likely to be responsible for a given variation in the single, clearly defined crime phenomenon (for example, that about 4600 lives were saved across the five cities from 2001 to 2005 because of the FCA), the policy implication is equally singular and clear: stricter gun control policies. To continue the military analogy, this explanatory approach is akin to a targeted assassination. It may succeed or it may fail. It may select a strategically appropriate target, or it may not. In either event, it produces more clarity than murk.

Chapter conclusion

This chapter has implemented the meta-theoretical explanatory distinctions introduced in the third chapter — that is, a four-part typology of approaches to parsimony of explanans and scope of explanandum, plus the heuristic simplification offered by Coleman diagrams, and the other metrics of theoretical comparison of precision and logical consistency, testability and empirical validity, and relevance to policy. By these means, it has conducted an

unsympathetic evaluation of that post-Apartheid academic literature on structural crime causation in South Africa that takes an implicitly positivist/empiricist approach — which is to say, that which assumes that criminal behaviour can to a meaningful extent be explained by observable aggregate phenomena external to the individual.

Its value lies in its systematic nature and severity. There is likely no conceivable explanatory approach within this hazy field that could fully satisfy these exacting diagnostics. The goal has not been to malign or disqualify the entire existing body of South African criminological analysis. Instead, this chapter has sought to illustrate the shaky, inherent meta-theoretical foundations of each of the four explanatory approaches. It is by these means that two important arguments can be made.

The first is that the discipline's dilemma of empirical testability is chronic, severe, and previously uncharted in scale. Obtaining empirical access to the proposed dependent variable(s) at play is a far more difficult task than most analysts have recognised. The operationalisation of the explanandum of crime prevalence levels, trends, or distribution is far from trivial. It is neither obvious nor unimportant. Failure to acknowledge the extent of this challenge has led South African macro-aetiology to innate vagueness — and therefore to stagnation.

The chapter's second key argument is that it is only in exercising restraint in scope of explanandum and parsimony of explanans that empirical work can offer the prospect of contradiction. There is no meaningful way to make empirical purchase on 'crime' as a general phenomenon, as well as on all its potential structural determinants. The broader the proposed scope of explanandum and the more inclusive the explanans, the less prospect there is for the formulation of conceivably testable and refutable hypotheses. The first explanatory approach amounts to claiming that everything about South Africa causes everything about its crime situation. The second suggests that one thing explains everything. The third, that everything causes one thing. The fourth, that one thing causes one other thing. With every step towards the more particular, the greater is the scope for refutation — and therefore for progress. To the extent that one values empirical rigour and the potential for theoretical advancement, as opposed to vagueness and endless repetition to the point of stagnation, there is a cost in generality. There simply is no way to fully explain everything about crime in one text. The instinct to do so should carry a large part of the blame for the fact that there is so little to be said about the patterns, trends, nature or causes of 'crime' in South Africa now that couldn't have been said, or indeed haven't already been said, 25 or even 50 years ago.

Contemporary South African criminology still bears precisely the trademarks of largely Continental criminology that were described in 1972 as consisting of '[v]ery loose general "theories", hardly refutable at all on the one hand, and an often low level of abstraction in empirical research on the other (with narrow applicability of conclusions as a consequence)'.[483] Fuzzy theory and even fuzzier methodology continue to dominate here to such an extent that their fuzziness has languished largely unremarked. Few since 1994 have had the audacity to make a causal claim specific enough to warrant opposition. The discipline has no shortage of disputes at the level of metaphysics, ideology, and identity — but almost none at the empirical. Disagreements centre on what kind of questions should be asked in what ways, by whom, and for what purpose, but seldom on whether a proposed explanation is correct in fact. The aetiological crisis is extremely severe.

[483] Dessaur op cit note 152 at 1.

Chapter six: An empirical confrontation with the dilemma

The preceding chapters have offered analyses on the levels of meta-theory, history, and critical appraisal. They stand justifiably accused of navel gazing and of devoting effort only to critique, rather than to building something. Countless scholars have been maligned for vagueness about and poor empirical grip on their object(s) of explanation. This chapter seeks to establish, as defensibly as possible, just one observation about long-term South African crime prevalence trends that would seem to deserve and require explanatory effort (or empirical refutation). It pursues an explanandum sufficiently narrow and specific as to allow for conceivable testability. It offers no explanans and no causal speculation.

This chapter has five specific goals, which together provide empirical support for the argument that the problem of South African crime prevalence measurement is far from trivial — it is practically and theoretically complex and important. The first and least is to suggest a specific object for future explanatory attempts. The second is to find some relatively defensible empirical fulcrum around which existing and future explanatory theories can be weighed. The third is to offer an example of how one might seek to grapple productively with the tensions and ambiguities in the measure of crime prevalence. The fourth is to suggest the remaining extent and inevitability of those ambiguities.

The fifth and most important goal of this chapter is to demonstrate the level and complexity of knowledge and methodological skill involved simply in making a relatively defensible claim about long-term South African crime prevalence trends. The devil of this dissertation is here, in the methodology. This extended reflection on methods begins to reveal important new ideas for South African criminology.

To these ends, this chapter details a process in which South African official police murder statistics were collected and manipulated in order to make them useful, and the key challenges and limitations within which context they must be understood. All the data used here is secondary. It was nominally publicly available. It was not, however, in a format that could be used for any analysis. This chapter shows why and how it was necessary to combine the murder figures with contemporary administrative documents and Geographic Information System technology to generate rates per capita.

This chapter works on the proposition proposed in this chapter that the murder statistics officially recorded by the South African police, combined with appropriate population data to produce murder rates per capita and corroborated with other sources, might

be used to make defensible claims about crime prevalence in a way that could prove productive for aetiological theory. They remain far from perfect for this purpose but have much to recommend them. Trends and patterns in murder offer a more particular object of explanation than crime in general. Whereas ‘crime’ is a category of behaviour too broad and shifting to lay much claim to ontological reality, ‘murder’, or intentional homicide, is relatively narrow.

Murder is relatively unambiguous and consistent in lay interpretation and legal definition. Murder rates have even greater epistemological advantages. They are a uniquely robust quantitative tool to make relatively defensible statements about how much crime is happening where and when. They are subject to far less discretion in reporting or recording than is the case for any other crime. Victims of murder are not in a position to report the event to the police, but by the same token, they are not in a position to opt *not* to report to the police. Murder usually leaves an indisputable and categorical trace in the form of the corpse. This makes the police account of its extent subject to routine corroboration from independent sources, such as population registers and especially mortuary records.

As compared to other crime types, there is reason to believe that its ‘real’ incidence is more fully and stably captured in official statistics, such that not only are its ontological and epistemological constraints reduced, but they are also relatively stable across space and time. This makes its accounting uniquely appropriate for purposes of comparison over disparate contexts, including large areas and the long term. Murder statistics thus allow for incomparable analytical breadth and depth. They are collected and described here over the longest possible time frame and at the lowest possible level of geographic aggregation. Collecting, scanning, and digitising these figures was the project of many months. Wrangling them into a useful shape took many more. The task is massively complicated by the poor correspondence between different administrative data sources. Police hierarchies of evaluation and jurisdiction have little in common with their counterparts in the fields of health or electoral politics. However, close empirical engagement with scale in time and space offers a rich source of new ideas for causal inquiry.

The dilemmas of South Africa murder rates

The preceding chapters have in effect motivated against the use of most recorded crime statistics as tools of aetiological testing. This chapter argues for making an exception of

murder statistics. This has extensive precedent. A vast volume of international literature uses murder rates as the only or primary dependent variable for causal theory — not only in the field of criminology, but also sociology, politics, economics, public health, and so on. On the level of the nation, region, city or neighbourhood, it has been the key quantitative tool used to explore and develop theories around the significance of:

- modernisation or development,[484]
- poverty,[485]
- inequality,[486]
- democracy,[487]
- political legitimacy,[488]

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[484] Steven F Messner 'Societal Development Social Equality and Homicide: A Cross-National Test of a Durkheimian Model' (1982) 61 *Social Forces* 1; John Arthur 'Development and Crime in Africa: A Test of Modernization Theory' (1991) 19 *Journal of Criminal Justice* 6; Marc Ouimet 'A World of Homicides: The Effect of Economic Development Income Inequality and Excess Infant Mortality on the Homicide Rate for 165 Countries in 2010' (2012) 16 *Homicide Studies* 3.

[485] William C Bailey 'Poverty Inequality and City Homicide Rates: Some Not so Unexpected Findings' (1984) 22 *Criminology* 4; Lance E Hannon 'Extremely Poor Neighborhoods and Homicide' (2005) 86 *Social Science Quarterly*; William Alex Pridemore 'Cross-National Empirical Literature on Social Structure and Homicide: A First Test of the Poverty-Homicide Thesis' (2008) 46 *Criminology* 1; Marc Hooghe et al. 'Unemployment Inequality Poverty and Crime: Spatial Distribution Patterns of Criminal Acts in Belgium 2001-06' (2011) 51 *British Journal of Criminology* 1; Meghan L Rogers & William Alex Pridemore 'The Effect of Poverty and Social Protection on National Homicide Rates: Direct and Moderating Effects' (2013) 42 *Social Science Research* 3.

[486] Harvey Krahn Timothy F Hartnagel & John W Gartrell 'Income Inequality and Homicide Rates: Cross-National Data and Criminological Theories' (1986) *Criminology* 24 no. 2; Steven F Messner & Reid M Golden 'Racial Inequality and Racially Disaggregated Homicide Rates: An Assessment of Alternative Theoretical Explanations' (1992) 30 *Criminology* 3; Célia Landmann Szwarcwald et al. 'Income Inequality and Homicide Rates in Rio de Janeiro Brazil' (1999) 89 *American Journal of Public Health* 6; Pablo Fajnzylber Daniel Lederman & Norman Loayza 'Inequality and Violent Crime' (2002) 45 *Journal of Law and Economics* 1; Eric Neumayer 'Inequality and Violent Crime: Evidence from Data on Robbery and Violent Theft' (2005) 42 *Journal of Peace Research* 1; Tatiane Menezes et al. 'Spatial Correlation between Homicide Rates and Inequality: Evidence from Urban Neighborhoods' (2013) 120 *Economics Letters* 1; Geoff Harris & Claire Vermaak 'Economic Inequality as a Source of Interpersonal Violence: Evidence from Sub-Saharan Africa and South Africa' (2015) 18 *South African Journal of Economic and Management Sciences* 1.

[487] Gary LaFree & A Tseloni 'Democracy and Crime: A Multilevel Analysis of Homicide Trends in Forty-Four Countries 1950-2000' (2006) 605 *The ANNALS of the American Academy of Political and Social Science* 1; Alexander Testa Joseph K Young & Christopher Mullins 'Does Democracy Enhance or Reduce Lethal Violence? Examining the Role of the Rule of Law' (2017) 21 *Homicide Studies* 3.

[488] Mitchell B Chamlin & John K Cochran 'Economic Inequality Legitimacy and Cross-National Homicide Rates' (2006) 10 *Homicide Studies*4; Frank J Elgar & Nicole Aitken 'Income Inequality Trust and Homicide in 33 Countries' (2011) 21 *European Journal of Public Health* 2; Amy E Nivette & Manuel Eisner 'Do Legitimate Polities Have Fewer Homicides? A Cross-National Analysis' (2013) 17 *Homicide Studies* 1.

- cultural values,[489]
- and social support structures,[490] among many others.

One reason for this is that murder, or intentional homicide, is arguably the ultimate crime. The unlawful and intentional killing of a human being is an act of such gravity that it meets with almost universal condemnation.[491] It is by its definition legally unjustifiable. Indeed, its core element is the complete liability of the perpetrator.[492] Violent deaths considered at least partly justified take different names. An apparently unambiguous act whereby one human body deliberately causes sufficient damage to another human body that it is rendered incapable of sustaining life, can be categorised in numerous ways. The real and legally imagined relationships between and around the bodies involved are critical. If the act takes place in the context of formal armed conflict, it is not murder but a casualty of war. If the body that does the damage is the same one that is fatally damaged, it may be suicide or an accident, depending on what mental state it is ascribed. If the body that causes the damage is considered to have been compelled to do so by circumstances, it may be a killing in self-defence or upon legitimate orders. If the relevant authority attributes recklessness or negligence but no intention to take a life to the mental state of the perpetrator, it is culpable homicide.

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[489] Ted Robert Gurr 'Historical Trends in Violent Crime: A Critical Review of the Evidence' (1981) *Crime and Justice* 3; Charis E Kubrin & Ronald Weitzer 'Retaliatory Homicide: Concentrated Disadvantage and Neighbourhood Culture' (2003) 50 *Social Problems* 2; Dennis Mares 'Civilization Economic Change and Trends in Interpersonal Violence in Western Societies' (2009) 13 *Theoretical Criminology*; Manuel Eisner 'Long-Term Historical Trends in Violent Crime' (2012) 37 *Crime and Justice*; Steven Pinker *The Better Angels of Our Nature: The Decline of Violence in History and Its Causes* (2011); Irshad Altheimer 'Cultural Processes and Homicide across Nations' (2012) 57 *International Journal of Offender Therapy and Comparative Criminology* 7; Don Soo Chon 'Religiosity and Regional Variation of Lethal Violence: Integrated Model' (2016) 20 *Homicide Studies* 2; Janet P Stamatel 'Democratic Cultural Values as Predictors of Cross-National Homicide Variation in Europe' (2016) 20 *Homicide Studies: An Interdisciplinary & International Journal* 3.

[490] Steven F Messner & Richard Rosenfeld 'Political Restraint of the Market and Levels of Criminal Homicide: A Cross-National Application of Institutional-Anomie Theory' (1997) 75 *Social Forces* 4; Mitchell B Chamlin, John K Cochran & Christopher T Lowenkamp 'A Longitudinal Analysis of the Welfare-Homicide Relationship: Testing Two (Nonreductionist) Macro-Level Theories' (2002) 6 *Homicide Studies*1; Steve Hall & Craig McLean 'A Tale of Two Capitalisms: Preliminary Spatial and Historical Comparisons of Homicide Rates in Western Europe and the USA' (2009) 13 *Theoretical Criminology* 3; Patricia L McCall & Jonathan R Brauer 'Social Welfare Support and Homicide: Longitudinal Analyses of European Countries from 1994 to 2010' (2014) *Social Science Research* 48.

[491] United Nations Office on Drugs and Crime 'Global Study on Homicide 2019: Executive Summary' (2019) 7.

[492] Ibid.

In this sense, like all crimes, the meaning of murder remains contingent on its legal and situational context. The ontology or 'thingness' of murder remains a meta-theoretical problem. It is not a distinct, objectively defined and identified phenomenon, but the product of both action and relevant social and institutional reaction. What is 'murder' in one place and/or time may yet be 'not murder' in another, with only that difference in place and/or time to differentiate the two. There is also evidence to suggest that it is a mistake to group different types of murder together. Murders that result from gang activity between young men may for instance vary independently from, and be causally distinct from, the murder of an intimate partner or a child. The disaggregation of murders by features of the demographics of and relationships between victim and perpetrator, or of the weapons or motives involved, may well reveal hidden countertrends.[493] This is an example of a famous concept in statistics known as Simpson's paradox, which occurs when the manner of grouping of datasets results in patterns or trends that disappear or are even reversed when the groups are combined.[494] The ways in which data are aggregated or segregated can determine conclusions.

'Murder' does nevertheless offer considerable improvement over 'crime' all told as the object of explanation. It has far greater ontological coherence than a category that includes behaviours as diverse as digital media piracy and violent physical assault. Further, its meaning shows relatively little variation over time and between different national contexts. Such concepts as sexual offences are deeply socially fraught and continuously contested (see, for example, debates around the non-consensual creation and sharing of explicit photographs). The meaning of murder is rarely disputed, although there are some notable exceptions in the contexts of assisted dying, termination of pregnancy, and capital punishment. Legal change and variation in definitions of murder are comparatively slight and rare. This makes it 'particularly amenable to temporal (longitudinal) and cross-national (geographic) comparisons'.[495]

Where murder surpasses all other crime types is in its epistemology. Its occurrence is subject to far less scope for mistake, disagreement, downplaying, or outright invention. It

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[493] Sara Skott 'Disaggregating Violence: Understanding the Decline' (2019) *Journal of Interpersonal Violence* [online first].

[494] See for example Bokai Wang et al. 'Simpson's Paradox: Examples' (2018) 30 *Shanghai Archives of Psychiatry* 2.

[495] United Nations Office on Drugs and Crime 'Global Study on Homicide 2019: Executive Summary' 7.

allows for less discretion in either reporting or recording. There is no legal requirement that ordinary people report most suspected crimes to the police and Chapter three suggested the extent of disparity in inclination to report crimes to the police by such factors as gender, race, wealth, and expectations of the role of police. Victimisation surveys consistently suggest that fewer than half of all incidents of assault in South Africa are reported to the police, with significant differences by gender and geographical area.[496] This is such that observed variations in officially recorded statistics on such crimes as assault, for instance, may just as easily reflect variations in social and institutional reaction than in the occurrence of the action.

South Africa has no victim survey data with anything approaching a nationally representative sample prior to 1997. Even now, these surveys are designed to produce accurate estimates only at the national and provincial levels. They can suggest variations in crime and reporting but unfortunately cannot reliably disaggregate to smaller areas or smaller demographic groups.[497] In the absence of good data quantifying variability in reporting and recording practices over time and at the appropriate geographic level, recorded figures for most crimes cannot provide a robust enough basis on which to make meaningful quantitative comparisons over space and/or time.

In contrast, many years of surveys indicate that very nearly every murder known to households is reported to the police. In the 2018 victims of crime survey, of those who said that they had lost a member of their household to a murder in the past year, 89 per cent confirmed that they reported this to the police.[498] This figure has varied slightly from year to year, from as low as 83 per cent,[499] to as high as 98.2 per cent.[500] This indicates that police have nearly complete empirical access to at least what is known by murder victims' households. Assuming that the police proceed to record these correctly, this should mean that recorded murder rates track 'real' murder rates very closely, without needing to account for

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[496] Statistics South Africa *Victims of Crime Survey 2017/18* at 59.

[497] Ibid at 11.

[498] Ibid at 39.

[499] Statistics South Africa *Victims of Crime Survey 1997* at 53.

[500] Statistics South Africa *Victims of Crime Survey 2012* at 3.

variation in reporting behaviour. Although the victim survey data can lend credence to the official police-recorded crime rates, it can unfortunately not offer direct corroboration.

Crime victimisation surveys elsewhere seldom include murder as a crime type that respondents can select as having been victim to.[501] Not only is it obviously the case that murder victims cannot report on their own experience, but in most places with regular victim surveys, murder is so rare that their sample sizes could have little prospective of sufficient size as to get an accurate sense of its prevalence. It would be akin to using a survey to attempt to determine the number of lottery winners.

South African victim surveys are unusual in that they do include murder as a crime type that respondents can indicate that their household has experienced. Even so, the victim survey data cannot give reliable account of the prevalence of so rare an event. Only 30 households in the 2018 survey reported having lost a member to murder during the preceding year.[502] In 2017, it was only 25 households.[503] This is scant basis on which to draw any conclusions about the population and certainly cannot be disaggregated to smaller areas or demographic groups. Moreover, even here there is some semantic ambiguity. Whereas the police are naturally concerned with the perpetrators' precise degree of legal blameworthiness and therefore make clear distinction between murder and culpable homicide, or unintentional killing, respondents in household surveys are not so bound and therefore may recount culpable homicides as murder. There may well also be some murders that are recorded by SAPS but are not known at the household level — for example the murders of immigrants that have no local relatives.[504]

For these reasons, as well as the various cognitive biases described in Chapter three (such as telescoping), the murder figures suggested by victim surveys are seldom plausible. The survey of 1997 suggested that just under 45 000 households had experienced at least one incident of murder and that 83 per cent of these had been reported to the police.[505] The SAPS

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[501] Krista Jansson *British Crime Survey: Measuring Crime for 25 Years* (2007) at 8.

[502] Statistics South Africa *Victims of Crime Survey 2017/18* at 37.

[503] Statistics South Africa *Victims of Crime Survey 2016/17* at 24.

[504] Statistics South Africa *Victims of Crime Survey 2017/18* at 6.

[505] Statistics South Africa *Victims of Crime Survey 1997* at 19.

indicated that, in roughly the same reference period, it had recorded a little over half as many murders. Survey results in other years have been far lower than the SAPS figures. To account for the large disparities, Statistics South Africa have taken to suggesting that, despite fieldworker guidance, respondents were referring to incidents of both murder and culpable homicide.[506] Yet even these figures show considerable fluctuation and little correspondence with the official police data. It may also be that a sense of wider kinship results in the same incidents of murder being reported by respondents in numerous, ostensibly discrete households.[507] The methodological differences between survey and police crime prevalence estimates are so large that divergence should not be the least surprising. To the extent that the two can be compared, it is widely held that this should focus on change estimates rather than levels.[508] Their divergence should nevertheless suggest some caution in taking the police murder figures at face value.

Household reporting is not, however, the only mechanism by which a murder can come to police attention. South Africa has a strict death registration system, which falls under the mandate of the Department of Home Affairs. Under the Births and Deaths Registration Act of 1992 (variously amended), after a death occurs, notice of death should be given as soon as practicable, within 72 hours (three days) from date of occurrence.[509] Every death in the country or of a South African abroad is legally required be reported to an authorised party (the Department of Home Affairs or someone otherwise authorised to receive such reports) and the police must be informed if there is reasonable doubt whether the death was due to natural causes. An investigation as to the circumstances of the death must then be completed in terms of the Inquests Act of 1959, following which a medical practitioner certifies the cause of death. All death notification forms are then collected from the Department of Home Affairs by Statistics South Africa 'biweekly for capturing, processing, assessment, analysis and dissemination of statistical reports and datasets on mortality and causes of death'.[510]

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[506] Statistics South Africa *Victims of Crime Survey 2017/18* at 37.

[507] Kriegler & Shaw op cit note 178.

[508] Lynch & Addington op cit note 196.

[509] Statistics South Africa *Mortality and Causes of Death in South Africa: Findings from Death Notification 2016* (2018) at 1.

[510] Ibid.

Based on this data, Statistics South Africa produces annual reports on mortality and causes of death. Civil registration on the national population register is of limited but growing value as an independent source of statistics on vital events including deaths. South African cause of death classifications prior to 1994 are extremely partial, but these statistics are now estimated to have a completeness of 96 per cent of adult deaths.[511] Unfortunately, there remain serious constraints. Non-natural causes of death are insufficiently categorised. The figures for deaths due to assault are well under half those seen in the SAPS murder data.[512] South African cause-of-death statistics are not yet considered to be of good quality, partly because of the large a proportion of deaths registered as being ill-defined or of undetermined intent.[513]

Having received notice of a death suspected of being due to a non-natural cause, the police must record and investigate the death under one of three categories: murder, or intentional killing; culpable homicide, or unlawful but unintentional or negligent killing (i.e. accidents); or inquest, for non-natural but not unlawful killing (chiefly suicides).[514] This categorisation is provisional and may be revised upon investigation or court decision.

Incidents such as the killing of Reeva Steenkamp by Oscar Pistorius demonstrate the lingering scope for ambiguity in the meaning of murder.[515] Intent is sometimes a matter of degrees of difference, rather than a simple binary. Compared to other crimes, however, murder is relatively unambiguous and consistent in both lay interpretation and legal definition, such that its extent is widely understood to be relatively well and stably captured in official statistics. This means that observed variations in official murder statistics are more likely to track 'real' variations in the extent of murder than is the case for any other crime type.

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[511] Ibid at 5.

[512] Ibid at 45.

[513] Debbie Bradshaw et al *Cause of Death Statistics for South Africa: Challenges and Possibilities for Improvement* (South African Medical Research Council 2010) Available at www.mrc.ac.za. Accessed 18 January 2016.

[514] Louise Flanagan & Gabi Falanga 'Police Are Undercounting Murder' The Star 23 September 2015. Available at www.iol.co.za. Accessed 22 January 2016.

[515] Kelly Phelps 'The Role of Error in Objecto in South African Criminal Law' (2016) 80 *The Journal of Criminal Law* 1.

They remain far from perfect. According to the United Nations Office on Drugs and Crime, which collects, compares, and analyses official murder data from as many countries as possible on an ongoing basis, only a small handful of highly industrialised countries can boast murder data rated as 'good'.[516] South Africa's police-recorded murder data is considered 'fair', which categorisation it shares with India, Argentina, France, Russia, New Zealand and the United Kingdom, among others. But it is precisely in the feasibility of such an assessment that murder offers such an advantage.

By its nature, murder produces a distinctive, tangible object. It is made corporeal, if you will, by the corpse. It constitutes not only a legal event but a categorical medical one. As the ubiquity of television dramas involving forensic pathologists will attest, medical doctors have at least as much interest in damaged bodies as do police or prosecutors. Public health approaches to violence prevention offer complementary strengths to criminal justice approaches, to the point where some have 'called for a theoretical fusing of their methods through innovative synthetic approaches such as epidemiological criminology (EpiCrim)'.[517] This dual nature of criminal fatality (but also to a lesser extent other criminal acts with physical manifestations, such as violent assault) offers an unparalleled means of independent empirical corroboration. The 'Cardiff' Model, for example, is one in which data on violence are routinely shared and compared between the health and criminal justice sectors.[518]

Public health data have the disadvantage that they tend to account for the nature of the injury rather than the legality of the act that caused it. A fatal blow may result from accident, negligence, or be compelled by self-defence. South African mortuary data have been critiqued for insufficient precision and consistency in their cause of death attribution.[519] Data from criminal justice sources are therefore generally given preference over public health data.[520] Yet public health data, chiefly from the records of hospitals and mortuaries (or

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[516] United Nations Office on Drugs and Crime 'Global Study on Homicide 2019: Homicide Trends Patterns and Criminal Justice Response' (2019) 15.

[517] Brett Bowman et al. 'Linking Criminal Contexts to Injury Outcomes: Findings and Lessons from a National Study of Robbery in South Africa' (2018) 63 *International Journal of Public Health* 8 at 978.

[518] Ibid at 979.

[519] Richard Matzopoulos Kavi Bhalla & James E Harrison 'Homicide' in Peter D Donnelly & Catherine L Ward (eds) *Oxford Textbook of Violence Prevention: Epidemiology Evidence and Policy* (2015) at 12.

[520] United Nations Office on Drugs and Crime *Global Study on Homicide 2019* op cit note 516 at 14.

'medico-legal laboratories'), are invaluable as a means of validating the figures, patterns, and trends observed in police data.

Some slight deviation is standard and explained by different inclinations to error and different methodologies. Whereas the police statistics measure crime, of which death is one outcome, mortality surveillance systems measure death, of which crime is one cause.[521] For instance, it may be that multiple deaths due to a single violent event are recorded separately by pathologists but as one legal incident by police, or the police may fail to update records of attempted murder when victims succumb to their injuries.[522]

Larger deviation can point to greater issues with one or the other dataset. In Papua New Guinea, for example, where there is substantial deviation between police and hospital records of violent deaths, it seems likely that the extreme isolation of some communities and the continued primacy of traditional, non-state authorities results in murder being significantly underreported to the police.[523]

South Africa does not yet have a routine mortuary record mortality surveillance system with continuous and full national coverage. But for those times and places where there is parallel coverage, discrepancies between the murder figures from mortuaries and SAPS are at about 5 per cent,[524] or as little as 1 per cent in the Western Cape,[525] about 10 per cent in Gauteng,[526] and perhaps as much as 20 per cent in Mpumalanga.[527] Crucially, no

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[521] Michael R Rand 'The Study of Homicide Caseflow: Creating a Comprehensive Homicide Dataset' in Caroline Rebecca Block & Richard L Block (eds) *Questions and Answers in Lethal and Non-Lethal Violence: Proceedings of the Second Annual Workshop of the Homicide Research Working Group* (1993) at 113.

[522] Chris de Kock, Anine Kriegler & Mark Shaw 'A Citizen's Guide to SAPS Crime Statistics: 1994 to 2015' 2015 43.

[523] United Nations Office on Drugs and Crime 'Global Study on Homicide 2019: Executive Summary' at 21.

[524] Richard Matzopoulos et al. *The Injury Mortality Survey: A National Study of Injury Mortality Levels and Causes in South Africa in 2009* (2013) 18.

[525] Western Cape Department of Community Safety *Shadow Report on Safety Information: Murders in the Western Cape: A Case Study* (2013) at 5.

[526] See Flanagan & Falanga op cit note 514.

[527] Medical Research Council & University of South Africa 'A Profile of Fatal Injuries in Mpumalanga 2011' (2013) 5.

significant difference has been observed between the patterns and trends in murder suggested by mortuary and SAPS figures.[528]

Murder statistics are considered the gold standard of crime measurement and are often treated as an imperfect but defensible proxy for overall levels of crime or safety.[529] But a few more caveats are important. There remains scope for gaps in the data. Some, albeit likely small, proportion of murders go entirely undetected. Their victims may indefinitely be identified as missing. Those in particularly vulnerable positions, such as undocumented migrants, may not even be in a position to report an associate as missing. Deaths due to serial killing of hospital patients and of young children (i.e. infanticide and neonaticide) may escape suspicion and be misclassified as being due to natural causes. Killings in custody and due to police brutality are example of a type of murder that may well fail to be accurately reflected in official police statistics. The police are also incentivised by performance measurement metrics to 'downgrade' incidents wherever possible, such that some murders are likely misclassified as accidents, suicide, or culpable homicide.[530]

There is also the problem of police data management and publication. The SAPS does not routinely provide its data at levels aggregated any smaller than the police station area. There is also a lag time of six to 18 months between recording and publication. This means that external analysts are forced to go to considerable lengths and explore alternative methodologies for rapid and geographically precise murder data. In the Western Cape, for example, these include casualty/trauma and emergency medical services data, CPF/Neighbourhood Watch mapping, partnership mapping with cell phones, forensic pathology services, municipal data based on audio monitoring for gunshots in high crime areas, and participatory community mapping.[531] Police capacity constraints may come into play, especially at lower levels of aggregation. SAPS geo-coded data — that is, which purports to provide the exact coordinates of the incident in question — may well be too

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[528] Chandré Gould, Johan Burger & Gareth Newham 'The SAPS Crime Statistics: What They Tell Us - and What They Don't' (2012) 42 *South African Crime Quarterly*: 4; M Prinsloo et al. 'Validating Homicide Rates in the Western Cape Province South Africa: Findings from the 2009 Injury Mortality Survey' (2016) 106 *South African Medical Journal* 2 at 193.

[529] United Nations Office on Drugs and Crime *Global Study on Homicide 2013* at 16.

[530] Chandré Gould Johan Burger & Gareth Newham 'The SAPS Crime Statistics: What They Tell Us – and What They Don't' (2012) 42 *South African Crime Quarterly* at 4.

[531] Andrew Faull *How to Map Violence without Police Data* (2019).

unreliable for mapping.[532] Those who have managed to negotiate access to more detailed records in the SAPS' crime administration system report finding serious quality challenges, including a 'high proportion of missing perpetrator data and misclassified crimes'.[533]

Related to this, another major shortcoming of SAPS murder statistics is that they are not routinely disaggregated by the age, sex, race, and relationships between victims and suspected offenders. Demographic-specific trends have been of critical importance in describing and explaining crime fluctuations in especially the US.[534] The SAPS does give some indication of a few such factors in its parliamentary presentations, but only for selected crimes and at the national or occasionally provincial level. These figures do little more than reveal what appears to be a chronic problem with investigations. See, for example, the following slide from its 2019 presentation.

[532] Ian Edelstein & Robert Arnott *Point-Level Analysis of Crime in Khayelitsha: A Critical Review* (2019).

[533] Bowman et al. op cit note 517 at 984.

[534] Baumer Vélez & Rosenfeld op cit note 81.

Figure 14 Extract from SAPS parliamentary crime statistics report 12 September 2019

CAUSATIVE FACTORS OF MURDER PER PROVINCE

Causative factors	EC	FS	GP	KZN	LP	MP	NW	NC	WC	Totals
Arguments/misunderstanding	286	77	91	343	51	346	63	112	358	**1 727**
Armed Robbery	31	29	128	217	24	19	72	8	223	**751**
Domestic Violence	166	74	152	110	66	137	101	80	229	**1 115**
Faction/Intra or intergroup conflict	0	0	0	29	0	0	11	0	0	**40**
Farm related	3	7	10	11	2	2	6	0	6	**47**
Gang-related	119	25	11	5	0	1	20	1	938	**1 120**
Illegal mining	0	48	11	0	0	3	0	0	0	**62**
Mob justice/vigilantism	47	15	158	204	84	85	44	1	151	**789**
Police murders	11	3	17	18	1	4	4	3	9	**70***
Political related	0	0	0	8	0	0	0	0	0	**8**
Revenge	8	0	2	130	0	2	0	0	114	**256**
Taxi violence	23	0	140	50	1	4	0	0	103	**321**

Source: South African Police Service.[535]

This table and others like it may at first glance seem a useful tool for disaggregating different kinds of murder. However, zero methodological detail is provided, such that one is left to guess how distinctions were made between such motives as revenge, mob justice, and gang-related murders. More importantly, summing the row totals produces a full table total of 6306 murders. This represents less than a third of the total 21 022 murders recorded nationally in the same year. This suggests that the police have been unwilling or unable to categorise over two-thirds of the murder incidents, despite a lag time of six to 18 months since their recording. There is no reason whatsoever to assume that the categorised incidents were based on a random sample of dockets and are therefore representative of the full

[535] South African Police Service 'Crime Statistics: Crime Situation in Republic of South Africa Twelve Months April to March 2018/19' 2019 https://www.saps.gov.za/services/april_to_march2018_19_presentation.pdf.

population of murders. This account of the 'causative factors' of murder is almost worse than none, as it gives an entirely unwarranted illusion of understanding.

A final consideration in the interpretation of murder statistics is that the volume of violent interpersonal disputes in a society, and the proportion of those that result in death, can vary independently.[536] It is important to try to determine whether an apparent change in murder rates may not be due to a change in the lethality of violence rather than in the number of underlying violent incidents. The accessibility of weapons and medical services, but also things like declining faith in formal legal institutions' capacity to resolve disputes, can determine the tendency to escalation to fatality.[537] Lethality matters, but there is little reliable data on it even in contexts where this kind of research is considerably more widespread and refined.[538]

That said, the official, police-recorded murder statistics provide a far steadier and more reliable measure of their phenomenon of interest than is the case with any other type of crime. Their ontological and epistemological distortions are relatively stable across space and time. This makes them uniquely defensible for purposes of comparison over disparate contexts, including large areas and the long term. Spatial and temporal scales are both acutely important and interrelated considerations in research design, so we will attend to them below. The literature has tended towards ever-longer time frames and ever-smaller geographic focus.

Scales of time, space, and analysis

Literature on murder trends has shown a tendency towards analysis over ever-longer time frames. Pioneered in response to rising crime rates in the United States and Western Europe in the 1960s and 1970s, the study of macro-level murder trends over the long-term has proved full of surprises and has forced social scientists of various disciplines to rethink long-held preconceptions and causal theories.[539] Unfortunately, a small number of highly industrialised

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[536] Mark T Berg 'Trends in the Lethality of American Violence' (2019) 23 *Homicide Studies* 3.

[537] Ibid.

[538] D Eckberg 'Trends in Conflict: Uniform Crime Reports the National Crime Victimization Surveys and the Lethality of Violent Crime' (2015) 19 *Homicide Studies* 1.

[539] Randolph Roth et al. 'The Historical Violence Database: A Collaborative Research Project on the History of Violent Crime Violent Death and Collective Violence' (2008) 41 *Historical Methods* 2 at 82.

countries, predominantly in Europe, remain the focus of almost all such work on long-term crime prevalence trends. Few developing countries have the statistical capacity to produce good quality contemporary crime data.[540] Even fewer have had such capacity over a long time period — plus the luxuries of stable archival resources and sufficient scholarly capacity to attend to what may appear to be diversions from more immediate crime concerns.

Yet in South Africa a police organisation at least professing *de jure* jurisdiction over something roughly approximating current national borders has reported its recorded crime figures in annual reports to parliament for over a century. Country-, province-, and station-level recorded crime figures have also been released by the SAPS on a more-or-less regular basis since 1994.

The focus of this dissertation is on the structural or macro-level aetiology of crime, as opposed to the individual level. This could entail analysis at a level anywhere from microspatial environment through supranational factors. Whether the proposed causal factors involve trends or disparities in social controls, in criminal propensities and motivations, or in criminogenic situations should be core to methodology. It is the operation of the proposed causal theory that should determine and give meaning to the unit and spatial scale of empirical testing. Poverty, for example, must be quite differently theorised and measured on the scale of the nation, the city, the neighbourhood, the family, and the individual.[541]

Indeed, there is unlikely ever to be any consensus on the question of which level(s) of aggregation are the most productive or appropriate levels or units of analysis for the testing of different causal theories.[542] South Africa has little in the way of good quantitative spatial research, which is especially unfortunate given the extent of its socio-spatial segregation.[543] What there is tends to be based on the convenience of data access rather than theory, often resulting in logical fallacy.[544] It is likely, therefore, that valuable empirical insights can yet be found at almost any level of analysis.

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[540] Shaw, van Dijk & Rhomberg op cit note 203 at 61.

[541] See for example Nieuwbeerta et al. op cit note 82; Teymoori et al. op cit note 403; Hipp op cit note 403.

[542] A useful overview of the historical development in this field is Weisburd, Bernasco & Bruinsma op cit note 402.

[543] Breetzke op cit note 263 at 300.

[544] Bhorat et al. op cit note 364.

The degree of spatial aggregation in crime analysis is important, as for example neighbourhood-level explanations may be unsuitable for processes that are in fact driven by just a couple of street segments (or chronic offenders).[545] In recent years, however, the tendency in crime analysis elsewhere has been to move to ever finer spatial resolutions, as evidence mounts that crime is often extremely concentrated at particular addresses or microspatial areas within neighbourhoods.[546] Highly geographically focused approaches risk promoting a sense in which the only valid unit of criminogenic analysis is a small physical space or hot spot, rather than, say, broader socioeconomic or cultural factors. Some also seem to imply that a map is an explanation, as if to precisely locate is to understand. But quantitative criminological research is currently most productive at small spatial scales.

Given that the goals of this chapter did not include the testing of any particular explanatory theory, it was therefore determined that the dataset to be constructed should aim for maximum span in time as well as maximum precision in space. The longest-possible time span is from 1911 to date, and the smallest-possible unit of analysis using publicly released police data in South Africa is the station area, or precinct.[547] For reasons discussed below, however, the station area data were aggregated up to the level of their local municipalities (as at their boundaries in 2011).

Accessing these figures and converting them into a format to make some basic description possible proved to be a challenging and time-consuming task. The first step was locating data on the raw number of murder figures recorded for the appropriate geographic units and time periods, namely: annual national-level murder figures from 1911 to 2019, and annual police station-level statistics from 1994 to 2019. Collecting, digitising, and reconciling these figures alone took many months of meticulous work. Yet this was only half the battle.

For comparison between times and places of disparate population size, it essential to work with not raw figures, but rates per capita. The methodology thus necessarily consisted of three stages: first, the creation of datasets of recorded raw murder figures; second, the creation of datasets of population size estimates for the corresponding times and geographic areas; and, third, the consolidation of these two into a dataset of murder rates per capita in

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[545] Andresen & Malleson op cit note 358 at 76.

[546] Ibid at 59.

[547] The term ‘precinct’ is not in common use in South Africa.

each of the relevant times and places. The details and implications of these empirical strategies are discussed below.

National murder rates from 1911 to date

Constructing a continuous series of annual murder rates per capita over the longest possible time frame necessarily involved several caveats and compromises. For reasons discussed in previous chapters — including jurisdictional ambiguity and change, institutional capacity and alignment, and systematic alienation from most of the population — the older the figures, the more partial and unreliable they should be considered. Still, a set of annual national murder figures recorded by police in South Africa have been reported to Parliament for over a century. The process of rendering the data intelligible at this temporal scale suggests important points of discussion for South African criminology.

In accordance with shifts in institutional and reporting period norms, the relevant police reports have taken different names over time. The first was the 'Report by the Chief Commissioner of Police for the Union of South Africa for the Year 1911: Presented to both Houses of Parliament by command of His Excellency the Governor-General'. Later, for example, came the Union of South Africa's 'Annual report of the Commissioner of the South African Police for the year 1932'; then the Republic of South Africa's 'Annual report of the Commissioner of the South African Police for the period 1 July 1966 to 30 June 1967'; and most recently the Republic of South Africa's 'Annual Report for the National Commissioner of the South African Police Service for the period 1 April 2018 to 31 March 2019'. Each of these had to be identified in scattered library records.

Copies were variously located in the University of Cape Town library's government publications department, the Library of Parliament, and the Cape Town campus of the National Library. None could be found in Cape Town for nine of these 107 years, namely: 1913-1915 (for which years it seems no such reports were made), 1917, 1924, 1931, 1933, 1942, and 1944. Scans were made of the pages concerning national crime statistics. Because many of the older reports were crumbling and held together with ropes, and because of the lack of access to scanners in some archives, some scans were made by mobile phone. The figures for the annual number of murders recorded nationally were then captured electronically. Those from 2003 onwards are more readily available online.

Another methodological complication introduced by the extensive temporal scale of this dataset is that the recording authority that we may think of us a police institution, is likely better thought of as a whole series of related, more-or-less overlapping, but in many ways distinct policing institutions. In wrangling the data into a continuous time series, we are forced to confront these differences in ways great and small. Such apparently dry, technical details as exactly where successive iterations of South African police agencies have drawn the lines between one year and the next are confounding. Early figures were for calendar year of January to December. At some point before 1964 they started running July to June — i.e. 1 July 1963 to 30 June 1964. Then from 1987 they again run January to December. Then from 2002 they run from April to March — i.e. 1 April 2002 to 31 March 2003. This means that there are some overlaps of at most six months in the figures, such that the figures throughout the series cannot reasonably be summed.

In having to take practical account of the inconsistencies in norms, nature and extent of the official policing agency over this whole long period of South African history, a much larger issue is that of the 'bantustans'. As discussed in chapter four, the 'independent' TBVC states, as well as the non-independent or 'self-governing' entities (Gazankulu, Lebowa, QwaQwa, KaNgwane, KwaNdebele, and KwaZulu), covered a considerable area of the country and housed a large and highly contested number of people. What this means is that by the late 1980s, the murders committed in large parts of South Africa were excluded from the SAP's reports.[548] There is no remaining record of the crimes reported to the police in the homelands. This problem extends beyond police statistics. The Central Statistical Bureau (predecessor of Statistics South Africa) did not record deaths in the homelands and prior to 1979 there was no legal requirement to register Black deaths.[549] There thus remains no official numerical record of the deaths, violent or otherwise, of large parts of the South African population. This is a major limitation. Unfortunately, there is nothing to be done about it but acknowledge that the figures are an undercount.

It is important, however, to account as well as possible for these changes in the population figures used to generate rates per capita. From the mid-70s to mid-80s, the SAP's annual reports provide sparse record of what exactly it considered its area of jurisdiction, and

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[548] In some years there is also some ambiguity about the inclusion of South West Africa.

[549] Thomson op cit note 370 at 23, 90.

therefore statistical coverage. It provided population estimates until 1976, from which we can glean that at that point it seems to have considered itself responsible for entire area of the then Republic of South Africa. Over the next decade, it neglected to provide population estimates or clear indication of exactly which homelands' stations it had excluded from its statistical record-keeping. In 1987, it provided both crime figures and a crime rate per capita, from which one can extrapolate its population estimate. This figure is far lower than contemporary estimates of the South African population excluding the TBVC states, and even slightly lower than contemporary estimates of the number of people living in white-designated areas only. By this point, the SAP seems to have considered its jurisdiction to exclude both the independent and non-independent homelands.

Finding an appropriate national population figure by which to divide the raw murder figures required combing through decades of archived documents from the Central Statistical Services, supplementing these where possible with data from the publications of the South African Institute for Race Relations, and good deal of personal discretion. Moreover, contemporary estimates of population size and population were highly political, such that we must treat with great care any official indication of how many of which people lived where.

As of 1994, with the dissolution of the 'bantustans', the jurisdiction of the new South African Police Service abruptly expanded again to include those that were previously excluded. This makes for a spike in the murder figures from 17 467 in 1993 to 26 832 in 1994. This does not mean that there was an almost 50 per cent increase in murders between these two years. The available data is just abruptly applicable to a much larger area and population. Whereas the problem of the *de jure* geographical coverage of the murder statistics falls away, a *de facto* one remains. Stations unaccustomed to regular reporting to Pretoria would not suddenly become good at it. Officers unaccustomed to paying attention to Black deaths would not suddenly care. Communities unaccustomed to turning to the police for service would not suddenly do so.

Blessedly, the more modern population estimates pose less of a challenge. Statistics South Africa now produces annual estimates of the national population, based on census counts and projected for the years that follow by models based on known demographics. But a census is a massive and infrequent administrative task, itself involving numerous assumptions and adjustments to compensate for undercounts, and the models are of course imperfect and not beyond dispute. Different weightings of data produce different

projections.[550] It was discovered in the 2011 Census that there had been more rapid population growth than had been anticipated based on the 2001 Census. Statistics South Africa therefore revised its estimates for that period. This caused quite the kerfuffle, as the SAPS declined to recalculate their crime rates of the past ten years with revised historical population estimates,[551] despite the Institute for Security Studies calling for them to do so.[552] Despite the reduction in the ambiguity around national borders and population distribution, the question of the denominator to be used in crime rate calculations remains difficult and contested.

There is another important methodological consideration in the use of long-term national murder rates in South Africa. The argument in this chapter is that, as compared to other crime types, murder is relatively unambiguous in both legal meaning and lay interpretation and that it receives relatively universal condemnation. A major exception to this is the problem of intentional killings with political motivations. This generally offers far less difficulty than popular media sources would lead one to believe. 'Ordinary,' disorganised, more-or-less spontaneous interpersonal criminal violence is far greater in volume than that of armed conflicts or terrorism.[553] Still, it is important to note that deaths at the hands of the police, for example, would in most circumstances not be recorded as murders. In circumstances where the official recording authority holds to a legal and/or moral position that corresponds poorly to that in other times and places, this is a problem for purposes of comparison.

This problem is particularly acute in the South African historical case, where the state itself was a major contributor to violent conflict. Suspicious deaths in detention would not have been officially recorded as murders, despite the fact that the consensus of most of the South African population and of the world likely was then and certainly is now that those perpetrators should be considered legally culpable and held accountable for murder. Chapter four discussed how the nature of apartheid policing complicated the reliability of the official

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[550] See Rob Dorrington Alternative South African Mid-Year Estimates 2013 (2013).

[551] Gareth Newham 'The Police's Serious Crime Statistics Bungle – ISS' Politicsweb 6 November 2013. Available at www.politicsweb.co.za. Accessed 14 January 2016.

[552] Institute for Security Studies 'ISS Statement: Miscalculations in the 2013 National Crime Ratios' 20 September 2013. Available at www.issafrica.org. Accessed 14 January 2016.

[553] United Nations Office on Drugs and Crime 'Global Study on Homicide 2019: Executive Summary.'

crime statistics. The mandate, incentives, jurisdiction, capacity, and racist resource distribution of the South African Police all served to dis-count black suffering.

This remains the case with murder. Whether or not such violent deaths as that of Hector Peterson can meaningfully be placed in the same analytical category as an intimate partner femicide should be determined by reference to the explanatory theory in question. Rational choice theory, for example, may have little need to draw a distinction between the two. Strain theory, on the other hand, may reasonably leave to others the question of wrongful deaths at the hands of the state. The South African Institute of Race Relations, an invaluable non-state source of contemporary statistics, estimated that political fatalities contributed about 10 per cent of murder figures in the mid-1980s to a fifth or at most a quarter in the early 1990s.[554] The SAP's estimate in 1993 was that political motives accounted for about 20 per cent of the murders recorded in 1993.[555] However, as also discussed in Chapter four, determining whether any given incident should be categorised as an instance of criminal murder, or rather of political violence, is not so simple. There is simply no way to be certain. The best available data on South African historical crime prevalence remains very limited.

This section of this chapter has explored some of the methodological issues involved in constructing a nearly continuous series of South African national murder rates per capita. It suggests several interesting questions for criminology and other social sciences, for discussion in the next chapter. These are insights that would not have arisen in the vague, empirically meagre explanatory strategies that characterise most South African primary structural criminology. It is in taking seriously the epistemology of the object of explanatory interest — in avoiding the temptation to treat the question of official crime prevalence measurement as trivial — that new ideas of potential aetiological value are produced. An even richer source of promising aetiological insight comes about when methodology is forced to grapple with scale in space.

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[554] South African Institute of Race Relations Race Relations Survey various years (Johannesburg: South African Institute of Race Relations).

[555] South African Police *Annual Report 1993* at 103.

Station area murder figures and messy data

To opt for causal analysis at the structural or macro-level, rather than the individual, suggests the need for some degree of aggregation in space. Again, it is the relevant explanatory theory that should determine the appropriate spatial scale in empirical methodology. The reality, however, is that the available data on recorded crime is inevitably determined by the hierarchies of management and responsibility within the police. Crime figures are, after all, traditionally a core metric of police performance measurement.

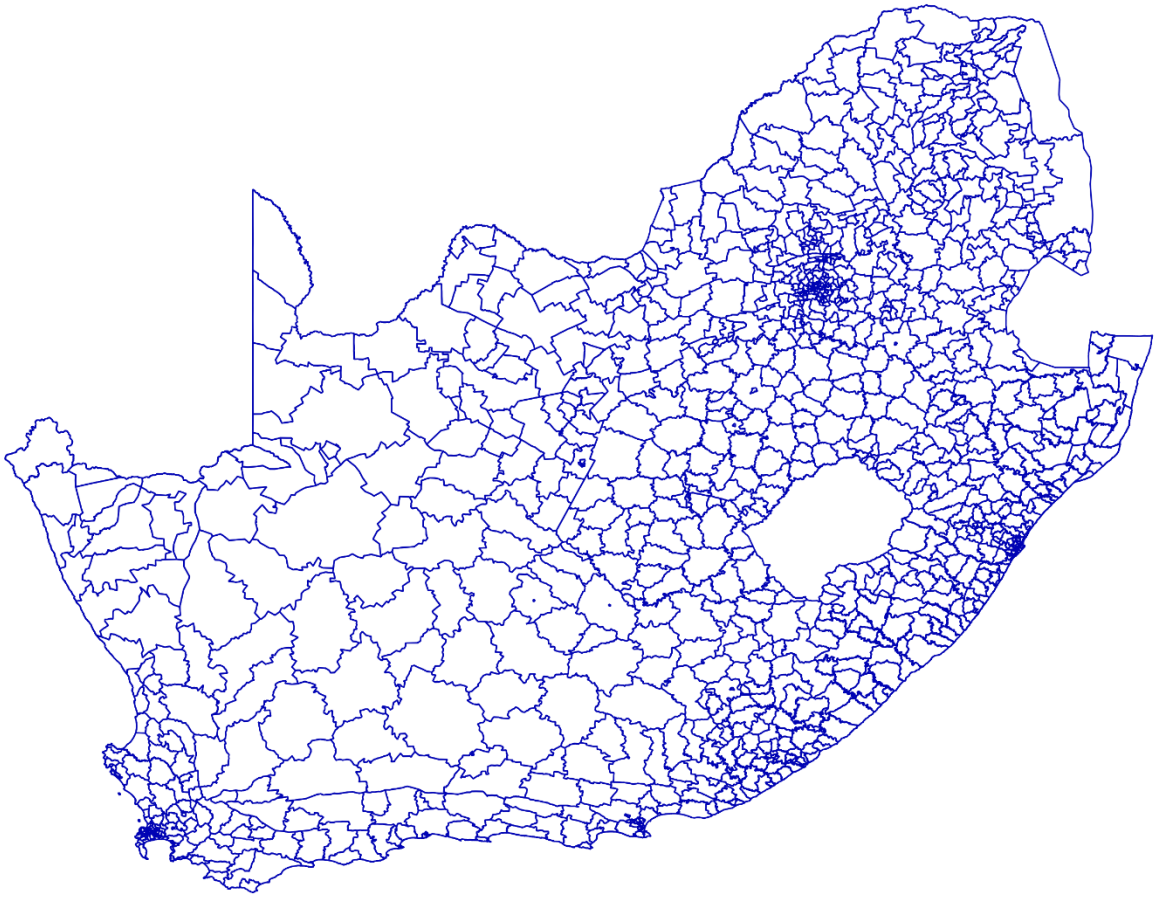
Prior to 1994, the formal South African policing institution(s) routinely released recorded crime statistics only on the national and sometimes provincial levels. Earlier station-level data were only publicised for selected stations and crimes and in response to parliamentary questions, typically from the area's relevant member of parliament. Lack of access to recorded crime statistics at this level of aggregation means that there was little or no prospect of meaningful empirical testing of explanatory theories that operate on this spatial scale. For example, there is no means of comparing recorded crime prevalence in Cape Town's District Six — both as a space and as a population of individuals — before and after forced removals. This means that the suggestion that levels of violence on the Cape Flats are the product of this disruption are, however plausible, quantitatively untestable.

Crime data aggregated to the level of each individual police station's geographic area of jurisdiction has been made available as of 1994. To the extent that station areas reflect 'neighbourhoods', research elsewhere suggests that this level of analysis is likely to be highly theoretically productive. As demonstrated in Chapter three with the example of Hillbrow station area, however, even this may not be possible. The station area boundaries are fairly arbitrary, sometimes cutting across vastly different neighbourhoods which likely experience very different crime challenges and require different policing methods. The underlying point-level data trends may well be confounded or smoothed out with each additional level of aggregation. This means that, even now, South Africa's official recorded crime statistics are of limited use in exploring neighbourhood-level causal theories. The micro-place or 'hotspot' explanatory focus, which has become increasingly popular in Northern criminology, is entirely beyond the empirical scope of any South African analysts except those rare few who have succeeded in negotiating such recent data from the SAPS. More geographically precise records of murder incidents would be invaluable.

Even at the station area level of aggregation, however, we begin to run into challenges in terms of the volume of data. Although it is by no means so large as to qualify as 'big data',

the number of station areas makes visual inspection at scale nearly impossible. See the following map, which indicates the boundaries of SAPS police station areas as made available in March 2018.[556]

Figure 15 SAPS station area boundaries 2018



These 1152 distinct units vary in size, with much smaller geographic coverage in densely population urban areas than rural areas. Their number poses no problem for quantitative analysis but make for an exceedingly dense map. At the national scale, many urban police stations disappear under busy lines.

The volume of data involved in describing murder prevalence over a considerable period of time and at the lowest possible degree of spatial aggregation contributes to the issue of analytical short-termism. Indeed, it could all too easily have been lost. In 2005, an

[556] Spatial data downloaded in Shapefile format from the South African Police Service website at https://www.saps.gov.za/services/boundary.php as updated 6 March 2018 accessed 17 October 2018.

enterprising librarian in UCT's government publications department printed out the available spreadsheets of recorded crime figures, which included those for the years from 1994/95 to 2003/04. This printing of thousands of pages of tables was considered wasteful and earned her a reprimand. Yet this is now one of only a handful of places where this data can still be found. It is impossible for most prospective South African aetiologists to gain empirical access to data on the murders recorded prior to 2004 in any area smaller than the province. The creation of this database of station-level murder statistics was feasible only through the serendipity of an individual librarian's conscientiousness (and disregard for economy).

These figures had been bound into hardcover books, with the tables for most stations split across two pages. There were a handful of printing errors. In 11 stations (Brits, Cyferskuil, De Wildt, Kwamhlanga, Machadadorp, Marble Hall, Siyabuswa, Vaalbank, Kat-Kop, Ndevana, and Ntabamhlope) the last column (representing recorded crime figures for the 2003/04 year) was cut off. The combined number of murders recorded in these stations in the preceding three years were 156, 155, and 165 respectively. As such, the result of this printing error is likely to result in an undercount of between 150 and 170 murders in the 2003/04 year. From a total of over 19 000, this represents an undercount of 0.8 per cent, which is unlikely to have a significant bearing on any results. Still, the effect is that around 160 incidents of murder (more than are recorded annually in total in numerous smaller states) have disappeared from this database simply due to an error in the configuration of printer settings.

A total of just under 2 500 pages were scanned on a flat-bed scanner and digitised. Various Optical Character Recognition (OCR) software packages proved unreliable, which meant that each individual numeral had to be manually entered into a spreadsheet. This was done for each of 1104 stations, for 33 crime types, for 10 years — for a total of 364 320 numbers. Although every effort was made to maintain accuracy, and countless spot checks were made for purposes of quality control, there remains the very real risk that errors were made in the transcription process.

The outcome of these months of work was an electronic database of all the annual recorded murder figures for police station area for the period 1994/95 to 2003/04. Next, these had to be combined with the subsequent figures to date. Four other datasets of SAPS crime statistics releases were used for this purpose: one for the period 2000/01 to 2001/02, one for 2004/05 to 2013/14, one for 2005/06 to 2015/16, and one for 2005/06 to 2016/17.

This doubling or even tripling up of time coverage was necessary to be able to track station establishments and changes and see how these have been treated in the statistics, an issue to which we will return below. It also made it possible to check whether any changes were made between statistics released in different years, for example if the 2015 release said that X murders were recorded in a station in 2015, but the 2017 release said that the number was Y. There was no real evidence of this, although there was the occasional one digit in either direction, which can be reasonably explained by such factors as an assault victim taking some time to succumb to their wounds or an incident initially deemed to be murder turning out upon investigation to have been a suicide.

The five datasets could not be merged automatically. The process had to be manual, involving copying and pasting and checking and investigating each of over 1100 stations' statistics in each dataset. There are various reasons for this. Many researchers might be inclined to simply note and dismiss these challenges as examples of the inevitable messiness of data. This is a reasonable position in those instances where manual checking was made necessary because of inconsistency the use of hyphens, apostrophes, and duplicate station names (for example, there are two Balfours, two Richmonds, and two Heidelbergs). But in other cases, there is a richness to be found in paying attention to the nature of that messiness and of the necessary mitigating methodologies.

First, many stations have outright changed their names over the period, with the result that there were stations listed in the dataset for 1994/95 to 2003/04 but which were called something else by 2005/06. For example, Nhlanhleni station used to be called and in some places is still called Pomeroy station; Amangwe used to be Loskop; Morebeng station previously and sometimes still goes by Soekmekaar. In each case where there was an indication of such a mismatch, closer scrutiny was required through maps, and media and other records.

For example, upon discovery that there was a station by the name Soekmekaar in earlier records, but none more recently, a search was made on Google maps for 'Soekmekaar police station'. This returned a station (near what is still listed as the Soekmekaar post office, Soekmekaar train station, and Soekmekaar NG Church) in the town of Morebeng, which led to a Wikipedia page indicating that Soekmekaar and Morebeng were one and the same. Next, the recorded murder figures for Soekmekaar station were compared to those for Morebeng station and it was confirmed that Soekmekaar station had recorded 4 murders in 2001/01 and another 4 in 2001/02, exactly matching the figures for those years at Morebeng station. The

figures for Soekmekaar station and Morebeng station were thus merged into a single continuous time series under the name Soekmekaar/Morebeng.

This offers an interesting reflection on the implications of the post-transition national project of renaming. Soekmekaar and Morebeng police stations are coterminous in spatial jurisdiction. The location of the lines on the faded map that likely hung on the wall in Soekmekaar station are the same as those on the map that likely hangs now on the wall of Morebeng station. It may still be the same map. Yet the name change suggests that these may be quite different places, with quite different policing mandates and priorities. Both the similarities and the differences between Soekmekaar and Morebeng could be important variables in the development and testing of explanatory theory. At the very least, prospective crime statistics analysts should be forced to reflect on the extent to which it is even meaningful to compare the two.

A related reason why it was necessary to merge the datasets manually is that several stations (about 25) have names that have not changed outright but have seen shifts and inconsistencies in their spelling. For example, what was once Mafikeng is now Mahikeng; Umtata is now Mthatha; Ngqamakhwe has at other times been spelled Nqamakwe or Nwamakwe; Kei Road used to be Keiweg. Again, acknowledging these shifts raises the question of what this may mean for crime causation and prevention in those station areas.

One common difference between the police crime data released at different times is inconsistency in the use of an ‘h’, especially in Xhosa names. For example, what are now called Bhisho, Bholo, and Bholothwa stations respectively used to be recorded as Bisho, Bolo, and Bolotwa. This has long been a matter of contention, as seen in this extract from a community meeting in 1886.

> Mr Shadrach Mama introduced much heat into a debate on Xhosa spelling. He said that he would personally be uncertain how to write in an *h* were inserted between *b* and *a* in such words as bhekile, ukubhala and so on. This orthographic porridge causes children to fail examinations set by inspectors and teachers because it makes a porridge of understanding how the language is spelt… Mr Gqoba said the matter was very important. It draws attention to the fact that the transcription of Xhosa emanated from the English people.[557]

[557] William Wellington Gqoba *Isizwe Esinembali: Xhosa Histories and Poetry (1873-1888)* Jeff Opland, Wandile Kuse & Pamela Maseko (eds) (2015) at 499–503.

The presence or absence of an ‘h’ in the names of police stations is not arbitrary. It isn’t just a question of messy data. It reflects underlying politics around race, power, and language. In acknowledging this, one is forced to confront such questions as what the implications are of the alignment between the project of formal policing and that of colonialism and white supremacy. This would seem to be an important insight for causal theory.

A third insight that arose from having to grapple with the messiness of the police-recorded crime data is that ‘problem’ of the expansion of police service delivery. In analysis over the long term, such factors as population movement and growth create challenges for interpretation. Almost 100 stations (including satellite stations) have been established since 1994. This makes for inconsistencies in geographical and statistical coverage. Numerous such station boundary changes necessitated determining the timing, locations and data implications of each of these changes.

Each time a new police station is opened, its area of jurisdiction is ceded from one or more existing stations. This is inconvenient for any longitudinal analysis. A recent example demonstrates why. The station area of Nyanga in Cape Town has been called the murder capital of the country. In the year to 31 March 2018, it recorded 308 murders, considerably more than any other station. In the year to 31 March 2019, Nyanga still ranked first and worst in the country, but saw a decrease to 289 murders. Residents were said to have received news of this 6.2 per cent decline in raw figures with ‘cautious optimism’.[558] However, the geographic areas referred to in the two years were not the same. November 2018 had seen the establishment of a new police station by the name Samora Machel, ‘as a relief effort to the overburdened Nyanga station’.[559] With the 30 murders recorded at Samora Machel in just four months, this made for a total of 309 murders or a 3.6 per cent increase.

There has also been inconsistency in the treatment of satellite stations, which are smaller outposts (often mobile or in temporary structures) of permanent stations. In some years satellite stations’ crime figures are recorded separately under their own names, whereas

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[558] Tshego Lepule ‘Hope Rises in ‘murder Capital’ Nyanga’ *Weekend Argus* 15 September 2019 https://www.iol.co.za/weekend-argus/hope-rises-in-murder-capital-nyanga-33002347.

[559] Ibid.

in other years their figures have simply been added to those of their parent station. These distinctions seem to have been made on a station-by-station basis, rather than in response to changes in recording policy across the board. For example, the crime figures for Beaufort West's two satellite stations of Nieuveld and Nelspoort were reported individually in the 1994/95 to 2003/04 release, but later combined with those of their parent station. To complicate matters further, certain satellite stations (such as Olievenhoutbosch) have eventually been upgraded to full stations. In each case, it was necessary to find a consistent way of sorting the data in order to create a continuous time series over more than 25 years.

For each of the stations established since 1994, it was necessary to determine when and how this affected the geography of surrounding station areas. This issue disproportionately affects informal settlements and urban fringes, where rapid population growth led to pressure for new stations. These are precisely those areas which are causes of most concern and require the closest monitoring and strategic focus. Wealthier areas with more established and stable population sizes have not seen nearly such large changes.

It is in the process of doing careful, laborious visual inspection and reconciliation of the various datasets that it again becomes apparent that our causal analyses must account for both continuity and change in policing at every level. Residents' successful demands for services complicate longitudinal accounting, especially at smaller spatial scales. It makes it almost impossible to track crime prevalence at the neighbourhood level over the long term, contributing to the short-termism that places any causal claim beyond dispute. For example, it means that major area-based crime prevention initiatives like Cape Town's Violence Prevention through Urban Upgrading (VPUU) programme find it very difficult to do monitoring and evaluation.[560]

The instability in station area names and boundaries poses a problem for crime prevalence comparisons within a single neighbourhood over a significant period, or between neighbourhoods. These challenges are compounded with each additional dataset. They also draw attention to the statistical bias known as the modifiable aerial unit problem (MAUP), as described below.

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[560] Violence Prevention through Urban Upgrading *Violence Prevention through Urban Upgrading: Nyanga-Gugulethu Baseline Survey* (2012).

Station area population figures and the MAUP

Just as in the national murder rate calculations, it was necessary to determine the appropriate population estimates to use as denominators in the calculation of station area murder rates per capita. This required considerable technical skill, because of the poor correspondence between different administrative data sources. The level and nature of spatial aggregation poses a challenge, as they can have a huge bearing on results. This is known as the modifiable aerial unit problem (MAUP) and it is known most famously in gerrymandering.[561] Boundaries should arise from some theoretically informed feature of the data, not be imposed arbitrarily from above.

To minimise the possible effects of the MAUP, analytical units should be as disaggregated (small) and consistent as possible.[562] Inconsistency in scale and location of spatial boundaries over time and between different official datasets makes quantitative criminology in South Africa extremely difficult. Recall again the example of Hillbrow station area. To fold together the crimes recorded in Houghton with those in Braamfontein is to strip those figures of any possible value for their understanding and explanation. Just as management hierarchies determine the type and level of available police crime data, so they do for all those other sources of data that we may well wish to overlay for purposes of causal inquiry. Variation in temporal and spatial scale introduces an additional set of challenges and uncertainties with each dataset.

First, the appropriate census data had to be identified, accessed, and processed into spreadsheets. Due to the volume of data involved, these are stored in separate files, in varying formats. Upon request, the University of Cape Town's Datafirst lab granted access to the Statistics South Africa databases — and the specialised computer programs to use them — of demographic data from the three post-apartheid national censuses. These programs were used to extract area headcounts for:

- Each of the ~12 800 geographic units at the 'Place Name' level for Census 1996
- Each of the ~21 000 geographic units at the 'Sub Place' level for Census 2001
- Each of the ~21 000 geographic units at the 'Sub Place' level for Census 2011

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[561] Matt Vogel 'The Modifiable Areal Unit Problem in Person-Context Research' (2016) 53 *Journal of Research in Crime and Delinquency* 1 at 113.

[562] Weir-Smith op cit note 365 at 1.

These levels of geography are the closest match that could be made between the different censuses. Smaller levels of aggregation are available for Census 1996 (which also provided data at the very smallest Enumerator Area level — there were about 100 000 of these) and 2011 (which provided data at the Small Area Layer level, of which there are about 85 000), but not for 2001. The post-Apartheid national censuses have relied on different degrees of spatial precision, such that the population estimates used in this analysis are derived from different unit sizes.

For each of the three censuses and for each of the nine provinces, the spreadsheets of spatial data, of the numerical codes assigned to each small piece of the surface area of the country, and of their associated population counts, had to be joined into a single file using a GIS program. To reduce processing time, the join had to be made permanent and stable, which required exporting to a new file format. The completeness of the joins was assessed, and each of the anomalies scrutinised. Whereas the 2001 and 2011 Censuses were straightforward, the 1996 was not. Of the 12 400 spatial units, 400 or three per cent of these failed to join properly. This was a problem of dirty data, with some codes showing too few digits. This means that the 1996 Census data has some small slivers of missing space. There are other issues with comparing the data from the different censuses. The 1996 spatial data had to be reprojected to a more modern co-ordinate system. It still suffers from a slight offset, of about 20m, as compared to the boundaries used in 2001 and 2011. There is nothing to be done about this. The division of an entire country into tens of thousands of geographic units is fraught with methodological error and dispute.

Matching the census headcounts with the appropriate geographic boundaries for each census year resulted in three large digital maps. On the advice of and with the help of UCT's GIS lab, each of these maps was converted into a grid (known as a raster) of dimensions 10m x 10m, representing the population density in each such square for each census year. This simplifies the map of thousands of unique shapes into a set of small squares of $100m^2$. This should make little difference to calculation, but allows for much quicker and easier geoprocessing, such that the computer could be left to run uninterrupted for a few hours, rather than days.

The result was three grids of population density, representing population counts for Census 1996, 2001, and 2011. Next, the police station boundaries (as made available on the SAPS website in March 2018) were converted into a grid of the same scale and then overlaid with the census grids. The mapping software was then used to calculate zonal statistics — to

sum the little squares indicating population density for each police station area. This produced a set of three tables with estimates of the number of people resident in each police station area (as at 2018 boundaries) in 1996, 2001, and 2011. These were rounded to the nearest whole number (i.e. person). The MAUP means that these estimates remain far from perfect.

The most extreme example of this problem in the dataset is that of the OR Tambo International Airport police station area. In the census of 1996, the spatial boundaries used were such that most of the police station area fell within the boundaries of Kempton Park, which is large and populous. But in 2001, the census geography was redefined. The OR Tambo International Airport police station area was now delineated and enumerated as a separate spatial unit, rather than a piece of Kempton Park. As a result, the population estimate for this station area falls almost a hundredfold in five years. This limitation is chronic to longitudinal analysis using South African census data.[563]

OR Tambo station is an extreme case, but there are a handful of other station areas in the dataset where such differences in census geography make for impossible fluctuations in population estimates. These changes are not due to real changes in population size. Rather, they are artefacts of shifting census methodologies and technologies and the problems that arise when combining data from different sources and at different levels of aggregation. Police hierarchies of evaluation and jurisdiction are not coterminous with their counterparts in the fields of health or electoral politics.

Again, such methodological choices as spatial and temporal scale should derive from theory. The goals of this chapter did not, however, include the assessment of any specific causal theory. There was thus no constraint on level or unit of analysis. In the interests of visual parsimony and to avoid some of the above distortions and uncertainties, the data was aggregated to the local municipal level.

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[563] Ibid.

Municipal murder rates from 1994 to date

To generate municipal murder rates per capita, the spatial data for police stations (at 2018 locations)[564] were overlaid with the local municipal boundaries as used for Census 2011, making it possible to categorise each police station by their municipal location. The recorded murder figures for each municipality could then be summed for each year. To compensate for random fluctuations, which may well distort patterns, especially in the smaller municipalities that record small murder figures, a three-year moving average was used rather than just the figure for the number of murders recorded in the relevant year. In other words, instead of using the number of murders recorded in each municipality in 1996 alone, an average was found for the three years 1994/95, 1995/96, and 1996/97.

Next, the 1996, 2001, and 2011 population estimates for the stations which fell within its boundaries were summed for each municipality. The former was then divided by the latter for each census period. So each municipality's annual recorded murder figures for the period 1994/95 to 1997/97 were divided by three and then divided by the appropriate population estimate from the 1996 Census; the recorded murder figures for 1999/2000 to 2001/02 divided by three and then by the appropriate population estimate for the 2001 Census; and the recorded murder figures for 2009/10 to 2011/12 divided by three and by the appropriate population estimate from the 2011 Census. The result is a set of murder rates per capita for each of those three periods for each municipality nationally. All the above calculations were joined back onto the 2018 spatial, thus creating maps to provide a visual representation.

This aggregation to the level of the local municipality has some disadvantages. Most importantly, it has the effect of smoothing out and obscuring crime prevalence variation within the municipal limits. When assembled together into figures for the entire City of Cape Town, for example, there is no way to distinguish between those murder rate patterns and trends in Rondebosch and those in Khayelitsha. Municipal murder rates can be of no use in the testing of neighbourhood-based explanatory theories. There also remain some issues around stations that straddle municipal limits, albeit far fewer and to a lesser extent. The Ivory Park police station area, for example, falls within the municipal boundaries of the City of Johannesburg, but almost half of its geographical area falls within with municipal boundaries of the neighbouring municipality of Ekurhuleni. But this is fairly marginal

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[564] Spatial data downloaded in Shapefile format from the South African Police Service website at https://www.saps.gov.za/services/boundary.php as updated 6 March 2018 accessed 17 October 2018.

problem — most station areas do fall relatively neatly into the same municipality as that in which the station falls.

However, description at the municipal level also has numerous advantages. It is a good compromise for analysis, comparison and tracking over the longer-term and on the national scale. It is similar in scale to US counties, which have been the focus of most comparative murder rate research. It aggregates and effectively smooths out the problems that result from the creation of new stations. Changes in the demarcation of municipal boundaries have been far rarer and more minor than those in station area boundaries. This makes for a more consistent unit of comparison over longer periods. It offers a major improvement over description at the provincial level, which is as low as most other longitudinal analysis has been able to go. Description at the municipal level is more manageable than the station level in terms of mapping and visual identification of patterns of possible significance. Working with data and maps for 234 local municipalities is easier than doing so with 1150 stations.

But the single greatest benefit of the municipal level of analysis is that it corresponds with other hierarchies of existing administrative data. Analysis at the station level would require every variable of proposed aetiological interest to be extrapolated from smaller enumeration units in the same laborious way as was demonstrated above with the census headcounts. On the other hand, there is a wealth of socioeconomic data readily accessible at the municipal level. The poor state of quantitative empirical work in South African criminology suggests that there remains value even in exploratory research. Municipal murder rate analysis would be inappropriate for many theories, but there are various plausible causal variables that offer relatively easy operationalisation at this level.

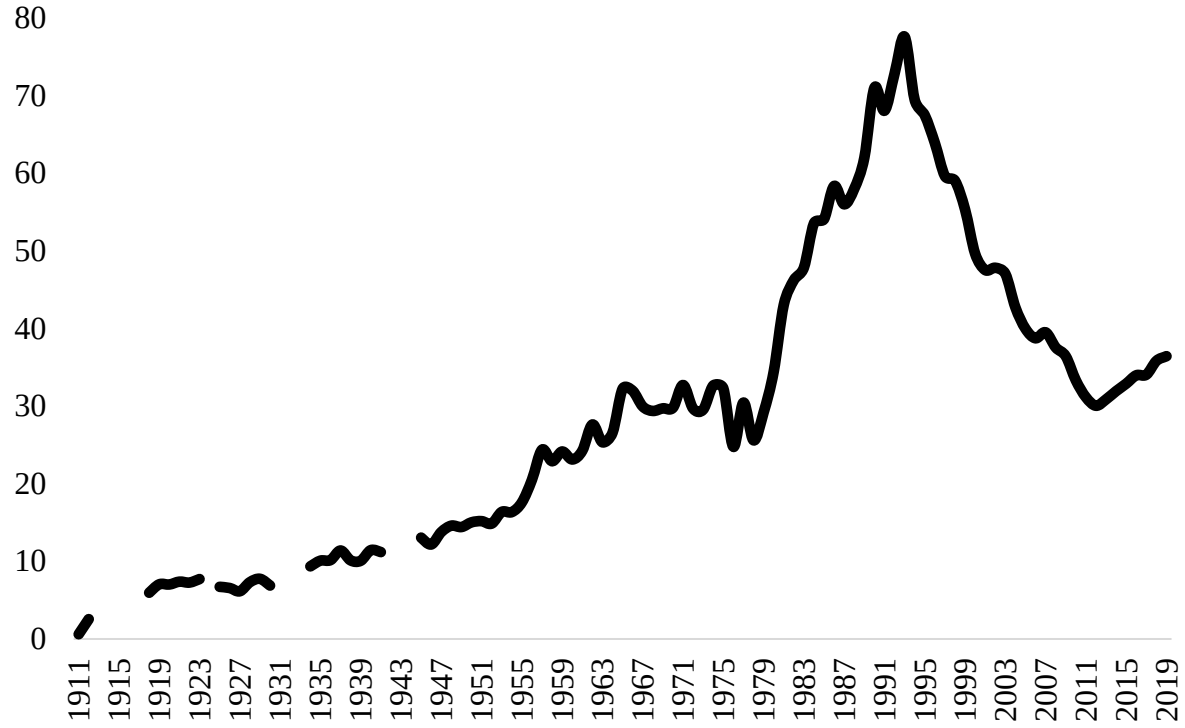
The above is only one half of what would be required to render any given causal theory testable. Yet this could serve as guidance in the operationalisation of the independent variable in various macro-aetiological propositions. The data may be put to various such tests in subsequent publications by this author and/or any others who may not share the appetite for the methodological minutiae here documented. By contrast, crime data in more federalised police systems (notably in the United Kingdom) are so easy to link to various hierarchies of other data that any layperson can download the statistics and within minutes begin comparing trends in crime rates with trends in possible causal factors.

Resulting observation

This aim of this chapter was to collect, collate, and combine quantitative data from the South African Police with that from Statistics South Africa in such a way as to be able to give an account of crime prevalence which offers the greatest-possible historical breadth, geographic depth, and epistemic confidence. This new dataset makes it possible to give an extraordinarily extensive, thorough, and defensible description of patterns and trends in the extent of murder in South Africa. Should the arguments and methods detailed in this chapter prove persuasive, what follows is a brief description of a single result about the trend in South African murder prevalence over time and space. This is an empirical observation with which South African aetiological theory should prove consistent. It is a yardstick alongside which explanatory theory should be assessed on the bases of precision and logical consistency, parsimony and scope, practical implications, empirical validity, and testability.

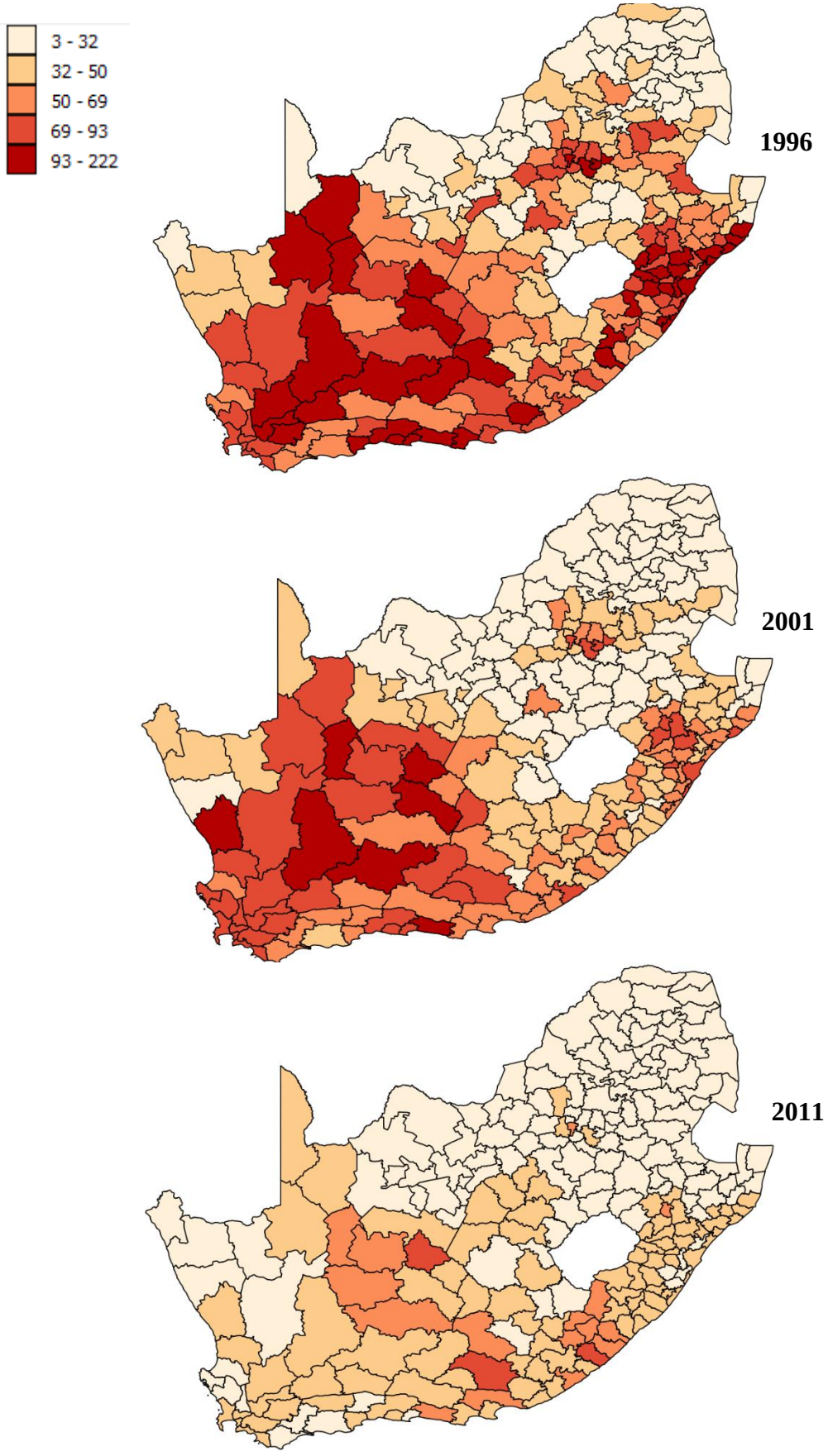
See below the graph which indicates the recorded South African murder rate per capita over the longest-possible time frame.

Figure 16 National murder rate per 100 000: 1911-2019



See also the following three map images indicating municipal murder rates per 100 000 as using the population estimates of the three national censuses. The municipalities have been colour-coded into quintiles as at 1996.

Figure 17 Maps of municipal annual murder rates per 100 000 residents



The data collected and presented here suggests that South African recorded annual rate of murder saw an unprecedented and widespread decline between 1994 and 2011. This is extraordinary. There is a widespread perception that 1994 marked the beginning of a rapid escalation in 'crime' in South Africa.[565] It is common to read such statements as, 'South Africa has been besieged by high crime levels since the late 1990s',[566] or, 'since the introduction of a new socio-political dispensation in 1994, South Africa has been caught up in an escalating and unprecedented spiral of violence, and violent crime in particular.'[567] This appears to be at best an oversimplification, at worst a complete misrepresentation of what is suggested by the best available data on crime prevalence trends.

That popular perceptions of social issues can differ from more systematic, empirical understandings is hardly surprising. Since at least the 1990s, as reporting and concern about political conflict declined, reporting and concern about 'ordinary' crime grew to fill the space on the evening news.[568] There appeared to be a rapid crime wave, although retrospect suggests that this may have been partly the result of an increase in victims' inclination to report to the police.[569] A sense of crisis became pervasive, contributing to a rise in fear and popular punitiveness.[570] Somehow there grew a nostalgia, astonishingly even among some black South Africans, about how much better things were under Apartheid.[571] Popular crime talk is so heavily politicised that any suggestion of improvement tends to be met with popular anger.[572] It has almost become taboo. Interestingly, the public health field has also been slow

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[565] Louw op cit note 256 at 138.

[566] Zenobia Ismail 'Is Crime Dividing the Rainbow Nation? Fear of Crime in South Africa' (2010) *Afrobarometer Briefing Paper 96*.

[567] Pelser & de Kock op cit note 354 at 80.

[568] Louw op cit note 256 at 138.

[569] Anine Kriegler & Mark Shaw *A Citizen's Guide to Crime Trends in South Africa* (2016).

[570] Diana Gordon *Transformation and Trouble: Crime Justice and Participation in Democratic South Africa* (2009).

[571] Gary Kynoch 'Apartheid Nostalgia: Personal Security Concerns in South African Townships' (2003) 5 *South African Crime Quarterly*.

[572] Comaroff & Comaroff op cit note 318 at 154.

to note the decline in fatal violence, perhaps because it was so overwhelmed by the crisis of HIV/AIDS.[573]

What is perplexing is that no post-Apartheid criminological work has made this observation, can help explain it, or has even properly taken up the question of long-term crime trends in South Africa. Such an observation, of course if true, calls into doubt a great deal of the existing analysis on the causes of crime. How can it be that the discipline has shown so little interest in the macro-level prevalence of its semantic cornerstone? Many have been content to show (or in fact assume) that the situation is dire, with the result that much theory has sought to explain simply why the crime situation should be so dire (which, to be sure, it certainly still is). This level of generality is all very well but does not lend itself to productive empirical enquiry or theoretical development. In contrast, there is an entire special issue of Homicide Studies dedicated to a slight increase in US homicide rates over two years.[574]

Chapter conclusion

The methodology described in this chapter makes it possible to describe prevalence patterns and trends in murder in South Africa in a far more complete (combining breadth of time and detail in space) and defensible way than in any existing publication. It is the first attempt at longitudinal description of South African crime rates — that is, not raw figures — on a geographic level smaller than the province. This is an enormous empirical contribution in its own right.

The observation it produces is that of a large, unprecedented, and widespread decline in South African murder rates between 1994 and 2011. This result, however, is incidental to the core argument of the chapter, which is that simply making a relatively defensible statement about long-term South African crime prevalence patterns or trends is conceptually fraught and practically difficult. Attempts to give the questions of scale in time and space their due reveal the remaining scope for error and ambiguity. This chapter laid bare the necessary methodological minutiae and the myriad assumptions, decisions, and compromises

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[573] Sulaiman Bah 'Unnoticed Decline in the Number of Unnatural Deaths in South Africa' (2004) 94 *South African Medical Journal* 6.

[574] Richard Rosenfeld 'The 2014-2016 Homicide Rise: Introduction to the Special Issue' (2019) 23 *Homicide Studies* 3.

involved in such a way as to invite contestation, replication, improvement, and refutation. What was revealed was quite the scale of the challenges posed by quantitative aetiological work in South Africa. This should serve as reminder of the need for epistemic humility among all who would draw conclusions from this and similar data. There is no escaping the degree of caveat, compromise, and discretion. Even the most rigorous possible attempt to quantify patterns and trends in South African crime prevalence leaves much to be desired.

Despite their formal and regular official parliamentary release, collecting the older historical data was difficult. Many explanatory theories in South African criminology consist of proposed independent and dependent variables that operate over the very long term. Such factors as inequality, a culture of violence, or modernisation should only gain significance over long time periods. Yet accessing data over sufficiently long periods proved challenging. This surely contributes to the proliferation and survival of causal theories that may not be in any way consistent with actual trends in crime. There is nothing the least bit trivial to the quantification of South African crime prevalence.

Chapter seven: Discussion and conclusion

The starting point of this dissertation was a sense of déjà vu. It seemed that what was being written now in the popular press about the causes of crime in South Africa was, barring some semantic shifts probably so subtle as to be inappreciable to the lay reader, indistinguishable from what had been written on the subject 40-odd years ago, if not more. It seems to have become a reflex to explain any and all crime in South Africa as resulting from drunken interpersonal arguments and opportunistic predation on the few with incomes, the availability of firearms, income and wealth inequality, and Apartheid-related alienation from the institutions of the state and the law. In more scholarly contexts, for example those reports of the CSVR, the list of proposed causal factors was longer. 'Case closed,' the undergraduate or policymaker may likely have been led to believe. Yet this closed case did not seem to have yielded useful policy or any aetiological progress. The project of explaining *why* crime happens, in the ways and times and places as it does, had stagnated.

A useful starting point to understanding that problem was the recognition that, among the many questions that South African criminologists might reasonably seek to address, that of crime causation was formative of the discipline — and justifiably described as *primary* criminology. This designation is not simply a means of bringing positivism in by the back door. There is nothing inherently naïve, individualist, or conservative about seeking to understand why crime happens. Theories of crime causation can just as powerfully disturb the status quo as reinforce it. The criminological 'moment of discovery' in no sense inherently conflicts with the 'institutional-critical moment', and the 'normative moment'.[575] Some local scholars relish casting themselves in the role of counterhegemonic, intellectual liberators. They ignore the extent to which explicitly structural and radical causal theories feature even in 'orthodox', Anglo-American criminology textbooks.

This growing impression of endless, circular repetition of the same truisms about crime in South Africa was bewildering. Even more bewildering was the realisation that other scholars hadn't seemed to have noticed. Bill Dixon's critique of the discipline was an exception and seemed apposite. It was Dixon who had argued that South African criminologists had shied from the task of the explanation of crime itself, just as British criminologists had done when the increasingly prosperous post-War period failed to reduce

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[575] Loader & Sparks *Public Criminology?* op cit note 22 at 125.

levels of crime, as would have been predicted by pre-existing theory around the criminogenic influence of deprivation. Yet Dixon's characterisation of the nature and reasons for the crisis in South African causal, structural criminology seemed incomplete. His prescription (doubtless to a horror no greater than his own) amounted to placing structural analysis in the background of individual narratives about criminality. Such a position might conceivably pass logical muster in other socio-cultural contexts, but the South African context makes it absurd. Unfortunately, Dixon's single critic inspired even less confidence with her apparently unselfconscious reinvention of the radical criminology wheel.

Based, perhaps, on an unwarranted optimism about human nature, the question raised in Chapter two was this: What if the failure of progress in the explanation of crime in South Africa was a result less of conspiracy than cock-up? Rather than frame the constraint on primary South African criminology as principally normative, it seemed that there might be more to learn in working from the assumption that it was principally a practical, empirical one. This required taking a meta-theoretical step backwards, to consider what it is that a structural criminological theory should do. Although structural explanations rely on assumptions about processes at the individual level, and vice versa, the question of why certain individuals become involved with crime is different to that of why certain groups or areas see the aggregate levels of crime that they do. The Coleman diagram is a useful heuristic tool to help untangle and lay bare the macro-micro-macro relations of a proposed structural explanation.

Chapter three argued that the effect of this meta-theoretical reframing within primary South African criminology is to draw attention to that upon which causal claims in criminology are made. Within a broadly empiricist paradigm, an aetiological theory is a statement about a relationship between two or more observable phenomena. The philosophy of (social) science suggests that causal theories differ and should reasonably be adjudicated on the bases of certain domains, both of internal and external status: precision and logical consistency, parsimony of explanans and scope of explanandum, potential to inform policy, demonstrable coherence with empirical observation, and testability. Testability underpins the value of any causal theory within a naturalistic/empiricist frame of reference. Macro-level aetiology in criminology relies on a means of describing crime in the aggregate. It requires that a defensible account can conceivably be given of levels, patterns, or trends in the prevalence of the crime phenomenon being explained.

Official, police-recorded crime figures are the standard quantitative operationalisation of the dependent variable in causal, structural criminology. Only crime statistics make it possible to move beyond sloppy generalisation and impressionistic accounts of crime prevalence, which may well be wrong. They make it possible to divide crime in the aggregate into potentially useful parts and render it analytically accessible. They are by far the best tool of empirical access to the explanandum or dependent variable in primary criminology.

Unfortunately, they fall shockingly short of an objective, simple, reliable measure of how much crime is happening. Crime as a concept embodies numerous and large ambiguities around both its ontology (or 'thingness') and epistemology (or 'knowability'). These are reflected in the methodological minutiae around the challenges with the interpretation of recorded crime statistics. Together, the necessity and impossibility of gaining defensible empirical access to crime prevalence form a dilemma for structural criminology. This dilemma is not unique to the discipline of criminology; the challenge of quantifying the extent of the recent novel coronavirus pandemic offers a visceral example. The empirical dilemma must, however, be understood as fundamental to the discipline. It is subject to no conceivable resolution. There is no methodology that can eliminate it. But it is only in bringing rigour to bear on the nature of its data that the discipline can make progress towards knowledge.

The ontology and epistemology of 'crime' offer serious challenges for aetiology even in the best of circumstances. As recounted in Chapter four, South Africa offers perhaps the worst imaginable circumstances. Here, the general meta-theoretical dilemma of criminological testability has been crippling. Would-be structural aetiologists in South Africa have had to contend with massive practical and normative challenges.

They have never had access to even minimally reliable, defensible criminological statistics. The legacy of Apartheid policing has meant that interpreting the official crime prevalence data requires substantial commitment and skill. Unfortunately, that same legacy has resulted in various forms of reluctance to do so. There have been various scholarly approaches to dealing with the problem of what to make of crime statistics in South Africa. As a slight simplification of Van Zyl Smit's typography of South African intellectual traditions, these can be divided into three categories. Each was demonstrated to have formed its own habits of treating crime statistics as trivial.

First was the Afrikaner nationalist tradition or, as its proponents would prefer to frame it, the positivist tradition. Under Apartheid, these scholars made gleeful use of the official police-recorded crime statistics, but they had no interest in using them as tools of genuine inquiry. Their goal was so closely aligned with that of the state that their effect was inevitably to support the status quo. They had no interest in the ambiguities of crime and no reason to scrutinise the extent to which crime statistics offer a reliable indicator of 'real' crime prevalence levels. The question of crime prevalence quantification was trivially simple. The result was that, for most of the period in which criminology as a discipline developed, the quantitative work being produced was both normatively and empirically indefensible.

Then there were the critical scholars, who were more inclined to probe questions about the enforcers rather than the violators of criminal law. The depth of their mistrust of the formal enforcers of law was such that to them there could be no question of using official police-recorded crime statistics in the adjudication of questions about the determinants of crime. This led to the development of a second reflex in thinking about South African crime statistics: that they were unworthy of any serious attention.

The third intellectual tradition in South African criminological history is that which comprises what Van Zyl Smit described as legal reformism as well as what Dixon later termed democratic administrative criminology. These have tended to use criminological statistics as instruments for criminal justice system reform. Their take on crime statistics has developed into a third reflex: a sincere (if, by now, boilerplate) acknowledgement of their imperfection as a measure of 'real' crime prevalence, followed by precisely the kind of analysis that would have been done if those caveats had not been raised.

The problem of crime prevalence measurement, as quantified in official crime statistics, can be understood as both formulated by and formative of the development of the South African discipline of criminology. Unfortunately, it has given scholars license to do one of two things: either dismiss the prospect of rigorous structural observation or proceed as if the empirical problems do not exist. The theoretical depth and methodological rigour of which South African criminologists are demonstrably capable have never meaningfully been directed at the task of the explanation and understanding of crime itself. The discipline has been unwilling and/or unable to give coherent account of what is to be done with or about crime statistics. This is because South Africa presents an extreme case of the tension between the practical demands of a broadly realist epistemology and an inescapably critical and

constructivist understanding of crime. The history and legacy of its policing have made radical critique too easy and more orthodox quantitative methodological development too difficult. But it is in the process of grappling with the ambiguities around conceptualising and observing our object(s) of inquiry that primary criminological knowledge can grow.

Once the problem with South African aetiology was framed as deriving from a failure to make productive use of the inherent meta-theoretical dilemma of crime prevalence measurement, it became possible to review the ways in which this dilemma has undermined the development of South African crime scholarship. The resulting stagnation has been both severe and inevitable.

Chapter five combined the heuristic tools developed in the second and third chapters with the contextual and historical knowledge in the fourth to categorise and evaluate the post-Apartheid academic literature on macro-level crime causation in South Africa that takes an implicitly positivist approach (that is, that assumes that criminal behaviour can to a meaningful extent be explained by observable phenomena external to the individual). It made two key arguments. The first was that a serious problem of empirical testability has indeed hamstrung the discipline. The second was that the explanatory strategies that have aimed to give inclusive account, in other words those which have pursued explananda of broad scope, have offered the least prospect of testability. They have amounted to lists of plausible variables. Only those explanations which pursue parsimonious accounts of narrowly defined crime phenomena can conceivably be operationalised, tested, contradicted, and refined.

There is no meaningful way to make empirical purchase on ‘crime’ as a general phenomenon, as well as on all its potential structural determinants. The more inclusive and general a proposed explanation, the likelier it is to end in a cul-de-sac of vague speculation. The instinct to attempt a full explanation of everything about crime in South Africa has contributed to the fact that quite so little can be said about the patterns, trends, nature or causes of ‘crime’ in South Africa now that couldn’t be and hasn’t been said a quarter or even a half century ago. There has been no mechanism of observation sufficiently defensible to allow causal analysis to be subjected to adjudication. Any superficially plausible explanation has thus been treated as equivalent to any and every other. Causal theory has been insulated from meaningful challenge or refutation. The discipline’s dilemma of empirical testability was demonstrated in chapter five to be chronic, severe, and previously uncharted in scale. There is an urgent need to ground the vibrant existing body of normative disputes in the empirical.

Chapter six took up the next logical question: might official police-recorded crime statistics yet be used to make defensible, testable, particular claims about long-term South African crime prevalence trends in a way that could prove theoretically productive? The chapter attempted to establish, as defensibly as possible, just one observation about long-term South African crime prevalence trends that would seem to deserve and require explanatory effort. What followed was an empirical demonstration of quite how far from trivial is the problem of crime prevalence measurement. A means was proposed by which the general phenomenon of 'crime' can be rendered more particular and testable: restricting the dependent variable to recorded rates of murder. This is in keeping with the overwhelming majority of comparative criminological research globally. Murder rates offer a uniquely robust quantitative tool to make relatively defensible statements about how much crime is happening where and when.

Even so, Chapter six demonstrated how painstaking are the methods and how inevitably unsatisfactory are the compromises involved in gathering the raw figures of official police-recorded murders and combining them with the population data necessary to produce the rates per capita that make them minimally comparable. In this chapter, a nearly continuous time series of annual, national-level, police-recorded murder rates from 1911 to 2019 was set out. This alone more than tripled the temporal scale of any published academic analyses. Geographic Information System technology was then used to digitally overlay recorded murder figures from each of the country's police stations with population data from the national Censuses of 1996, 2001, and 2011. This is a dataset far more extensive and more defensible an operationalisation of aggregate levels of crime in South Africa than any other in existence. This methodology yielded a single observation that would seem to require explanation, namely that there was a large, unprecedented, and widespread decrease in murder rates from 1994 to 2011. This is arguably the single most defensible statement that can be made about South African long-term crime prevalence trends.

Briefly reflecting on those aetiological theories so slandered in Chapter five, one quickly notices how few of them offer any prospect of explaining this observation. The South African discipline's failure to make reliable and specific claims about relative crime prevalence over time and/or space is such that it has been unable even to identify that which is relatively unequivocal and cries out for explanation. Another problem is the poor distinction between criminology as a fundamental science and as an applied science. The subject matter of criminology makes it very difficult to refrain from value judgments.

Criminologists, especially in South Africa, are inclined to feel that they are pursued by acute, urgent social problems.[576] This makes for sloppy theory and methodology.

By framing the aetiological crisis in post-Apartheid South African criminology as arising from a fundamental dilemma of empirical testability, that crisis is revealed as far more severe and interesting than previously identified. There is a hollow at what should be the empirical heart of South African criminology. The causal case could hardly be less closed. Systematic empirical observation in the context of profound and acute ambiguity about the meaning and measure of crime is extremely difficult. Producing defensible statements about crime causation is extremely difficult. Yet empirical description of the timing, magnitude and nature of crime prevalence trends is an indispensable foundation of scientific explanation.[577] Qualitative, impressionistic accounts have run their circular course.

Unlike its Anglo-American prototype, South Africa's aetiological crisis is not the result of well-established theoretical frameworks being shown unequal to the task of explaining unexpected new macro-outcomes. Instead, it is the result of a failure to extricate itself from vagueness, to even identify with any precision what it is about crime that requires explanation (besides that there is more of it than we would like). It is the result of ontological squeamishness and epistemological sloppiness, resulting in a dislocation from the empirical, particularly at the structural level and particularly using quantitative methods. South African criminologists can no longer be allowed to get away with a glib acknowledgement of the challenges of crime prevalence measurement. They can no longer be allowed to keep repeating the same empty explanatory truisms.

This complacency is in contrast to the work of Anglo-American theorists, some of whom took up the challenge of their aetiological crisis by rigorously exploring such questions as which are the most appropriate levels or units of analysis on which to apply certain theories,[578] which forms of crime data can provide what kinds of insights,[579] how increasingly complex statistical methods might help one account for the multicollinearity of the usual

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[576] Dessaur op cit note 152 at 5.

[577] Richard Rosenfeld & James Alan Fox 'Anatomy of the Homicide Rise' (2019) 23 *Homicide Studies* 3.

[578] Teymoori et al. op cit note 403.

[579] Lynn A Addington 'Introduction to the Special Issue on Measurement Issues in Homicide Research' (2015) 19 *Homicide Studies* 1.

explanatory variables,[580] or the fact that crime rates in one place may have direct and indirect effects on crime rates nearby.[581] The last half century has seen extraordinary methodological and theoretical development in terms of structural explanations of crime, but very little of this seems to have made it to South Africa. The discipline can and must do better in challenging popular wisdom and bringing nuance to the generic, by means of its capacity for theoretical depth and methodological rigour.

Finally, to return to that parallel with fictional crime narratives, we must recall that the appeal of the murder mystery is not in the closing of the case. It is in the minute documentation of the development and application of an idiosyncratic, imperfect empirical methodology. It is in paying attention to the process of obtaining and interpreting data in such a way as to attract and weather dispute, and thereby producing that most wondrous thing — new knowledge.

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[580] Kenneth C Land Patricia L McCall & Lawrence E Cohen 'Structural Covariates of Homicide Rates: Are There Any Invariances across Time and Social Space' (1990) 95 *American Journal of Sociology* 4.

[581] Steven F Messner et al. 'The Spatial Patterning of County Homicide Rates: An Application of Exploratory Spatial Data Analysis' (1999) 15 *Journal of Quantitative Criminology* 4.

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Appendix

Municipality	Province	1996	2001	2011	Pop 1996	Pop 2001	Pop 2011	Rate 1996	Rate 2001	Rate 2011
!Kheis	NC	22	17	11	13249	17046	15521	84	96	42
//Khara Hais	NC	99	51	40	83694	79079	94456	96	67	48
Abaqulusi	KZN	118	92	62	179077	229523	248980	61	51	20
Aganang	LP	20	14	10	175018	161459	146722	51	68	33
Albert Luthuli	MP	81	29	22	179215	185081	184320	68	69	17
Amahlathi	EC	108	68	58	139406	137862	124890	94	89	37
Ba-Phalaborwa	LP	18	18	12	114866	139754	158212	69	78	29
Baviaans	EC	12	10	8	17173	16796	17482	79	85	38
Beaufort West	WC	63	39	20	38996	41343	47087	110	81	43
Bela-Bela	LP	16	14	6	42708	49771	64786	87	77	33
Bergrivier	WC	22	23	12	36122	45483	60303	94	51	17
Bitou	WC	27	27	13	18517	28696	48548	83	63	35
Blouberg	LP	17	24	13	186828	171487	167459	83	82	37
Blue Crane Route	EC	32	24	31	33394	33556	34389	99	54	17
Breede Valley	WC	145	122	72	132269	149952	166907	95	65	43
Buffalo City	EC	543	535	408	665186	700713	749062	43	37	33
Bushbuckridge	MP	99	84	79	533376	497948	539247	144	65	37
Camdeboo	EC	38	38	17	47093	46210	51799	154	96	36
Cape Agulhas	WC	24	15	6	24197	27870	34427	86	55	33
Cederberg	WC	31	27	24	32319	40364	50206	146	94	27
City of Cape Town	WC	1940	2292	1604	2555708	2893523	3734007	112	68	35
City of Johannesburg	GT	2615	2147	1150	2747579	3228585	4423023	105	62	38
City of Matlosana	NW	306	131	143	333539	358563	398365	51	71	38
City of Tshwane	GT	778	769	613	1860835	2228329	3012484	162	94	42
Dannhauser	KZN	30	21	17	96428	88676	86888	76	79	43
Dihlabeng	FS	61	48	24	111445	129759	127929	82	76	54
Dikgatlong	NC	17	14	5	40162	39147	46929	81	82	33
Dipaleseng	MP	20	10	18	37797	37119	41987	96	72	90

Ditsobotla	NW	39	32	31	132705	152977	172147	48	51	29
Dr JS Moroka	MP	52	42	23	255248	243829	249831	104	54	45
Drakenstein	WC	118	139	67	170686	177776	232668	66	60	43
eDumbe	KZN	26	20	12	59348	74655	74153	77	73	60
Ekurhuleni	GT	1537	1469	918	1959440	2432189	3113097	70	60	46
Elias Motsoaledi	LP	102	61	60	240827	244140	275184	114	65	40
Elundini	EC	55	49	66	121474	129388	129283	112	101	49
Emadlangeni	KZN	8	6	2	22799	30706	32666	69	33	44
Emakhazeni	MP	35	11	7	32968	38632	44883	68	67	72
Emalahleni	EC	65	39	45	141509	116135	114214	37	33	62
Emalahleni	MP	115	106	81	234575	276204	397466	77	49	46
Emfuleni	GT	444	292	171	495405	654225	705755	54	57	35
Emnambithi/ Ladysmith	KZN	178	149	122	175789	253700	265407	73	50	40
Emthanjeni	NC	45	43	21	39566	35780	42319	42	19	36
Endumeni	KZN	40	29	18	44802	51744	64344	76	70	61
Engcobo	EC	77	69	111	156764	153379	146042	39	42	40
Ephraim Mogale	LP	16	12	7	92462	116258	117210	46	25	27
eThekwini	KZN	2720	2228	1384	2642697	3144243	3486510	73	50	42
Ezingoleni	KZN	195	35	32	61513	70652	71929	45	50	66
Fetakgomo	LP	8	6	6	55803	63830	63307	46	34	39
Gamagara	NC	20	5	9	23107	25290	43779	49	45	76
Gariep	EC	22	17	18	29408	31162	33648	49	53	52
Ga-Segonyana	NC	26	24	17	90681	94516	114506	45	38	51
George	WC	187	143	70	121219	149592	194997	53	41	31
Govan Mbeki	MP	116	94	78	212795	225404	297330	54	45	26
Great Kei	EC	15	14	23	40491	42363	36847	75	55	53
Greater Giyani	LP	23	18	20	202871	228060	229670	47	41	46
Greater Kokstad	KZN	47	33	18	35017	60097	69991	81	41	44
Greater Letaba	LP	47	33	32	240227	255235	250314	52	45	36
Greater Taung	NW	26	17	24	170471	168987	164565	130	54	39

Greater Tubatse	LP	35	31	30	195677	242655	304271	112	57	56
Greater Tzaneen	LP	98	73	74	343121	384292	400973	54	43	42
Hantam	NC	16	13	7	19932	20379	22155	71	35	51
Hessequa	WC	16	16	17	37453	43415	51843	46	37	43
Hibiscus Coast	KZN	306	130	149	186035	253534	289197	32	20	55
Hlabisa	KZN	25	13	17	47606	52660	55361	82	71	45
Ikwezi	EC	6	6	4	12427	11749	13707	5	9	9
Imbabazane	KZN	112	67	32	87208	94759	89084	29	25	15
Impendle	KZN	58	12	13	36708	40857	34475	87	20	21
Indaka	KZN	45	50	30	58677	53062	47025	18	58	17
Ingwe	KZN	156	30	33	81247	102982	98626	35	41	15
Inkwanca	EC	9	5	6	19439	20290	21993	34	37	20
Intsika Yethu	EC	74	80	99	166037	160978	150760	80	64	32
Inxuba Yethemba	EC	44	42	40	57758	60275	65475	131	173	40
Joe Morolong	NC	4	7	6	85750	74784	69009	0	65	31
Jozini	KZN	96	56	40	167830	209645	211154	123	63	55
Kagisano/ Molopo	NW	14	11	9	96379	100571	105780	83	80	35
Kai !Garib	NC	65	43	26	33487	56761	61154	114	120	50
Kamiesberg	NC	4	4	2	11636	10914	10245	39	120	25
Kannaland	WC	21	16	11	22126	24784	25568	64	66	55
Kareeberg	NC	5	12	3	12697	10031	12208	119	110	63
Karoo Hoogland	NC	16	18	5	12218	10406	12364	95	75	40
Kgatelopele	NC	7	3	5	18518	14872	18770	49	72	44
Kgetlengrivier	NW	6	14	11	40207	37456	54034	10	59	11
Khâi-Ma	NC	0	8	5	11226	12309	16233	194	76	43
King Sabata Dalindyebo	EC	475	255	274	423582	448315	485778	118	64	42
Knysna	WC	47	35	24	42096	51216	68185	166	100	71
Kopanong	FS	30	18	19	48449	56459	49561	33	39	28
Kouga	EC	72	47	40	63105	72078	100615	38	20	27
Kou-Kamma	EC	31	34	19	27583	33569	38778	96	41	30

Kwa Sani	KZN	24	5	1	17939	13785	14811	42	36	11
KwaDukuza	KZN	133	81	104	115121	169605	229016	58	52	34
Laingsburg	WC	6	4	3	5690	6435	7997	43	31	21
Langeberg	WC	56	63	32	64649	81291	97498	80	68	42
Lekwa	MP	40	31	21	86533	98781	112374	62	32	38
Lekwa-Teemane	NW	18	11	9	14626	43504	53984	37	17	45
Lepele-Nkumpi	LP	40	37	32	252247	252531	255084	50	22	24
Lephalale	LP	10	10	16	103746	109357	132729	42	17	37
Lesedi	GT	76	57	26	61796	63952	87784	38	43	56
Letsemeng	FS	28	29	16	35150	42762	38518	30	19	34
Lukanji	EC	119	92	82	163906	185077	194063	94	48	48
Madibeng	NW	104	108	83	299057	331941	455256	22	18	43
Mafikeng	NW	60	52	40	226111	250228	283333	29	20	18
Mafube	FS	13	10	11	53754	58723	58974	55	37	19
Magareng	NC	13	11	8	22425	21015	23815	15	15	14
Makana	EC	81	41	36	77945	75505	80622	40	25	29
Makhado	LP	66	44	49	507633	573889	599313	27	13	21
Makhuduthamaga	LP	28	48	43	290125	303002	318047	29	24	18
Maletswai	EC	16	16	11	29558	35395	42237	58	32	33
Maluti a Phofung	FS	142	90	97	355733	365529	338689	34	24	25
Mamusa	NW	8	10	16	43597	48930	60658	28	25	25
Mandeni	KZN	207	87	56	102478	135371	145674	24	17	19
Mangaung	FS	412	328	315	604695	645798	746516	68	51	42
Mantsopa	FS	14	13	9	47593	53135	50403	107	49	23
Maphumulo	KZN	64	26	23	73368	69022	57291	71	26	38
Maquassi Hills	NW	22	23	22	63280	69266	78087	317	50	44
Maruleng	LP	5	7	7	22373	35896	32216	164	51	52
Masilonyana	FS	28	12	25	67109	71443	67330	101	59	46
Matatiele	EC	101	76	80	186920	177741	189706	46	35	21
Matjhabeng	FS	376	191	195	401859	401284	403179	35	20	6

Matzikama	WC	37	52	28	44203	54153	67430	31	24	20
Mbhashe	EC	169	83	104	245820	251103	238872	66	40	25
Mbizana	EC	91	77	103	195750	206802	238244	164	88	48
Mbombela	MP	202	212	106	431095	481607	591802	73	59	22
Merafong City	GT	240	115	84	211110	210554	197532	87	38	40
Metsimaholo	FS	30	29	37	108346	116626	149953	63	75	32
Mfolozi	KZN	81	37	30	64071	82193	89306	106	80	41
Mhlontlo	EC	290	119	80	223028	218395	202648	98	47	48
Midvaal	GT	86	92	73	86177	85044	136272	91	63	38
Mier	NC	3	5	1	29989	8453	9047	80	70	50
Mkhambathini	KZN	59	17	8	56286	44723	42672	158	29	38
Mkhondo	MP	70	58	40	100882	146044	174452	82	72	46
Mnquma	EC	182	181	173	269236	269154	239374	105	38	19
Modimolle	LP	11	9	9	39787	64499	67848	83	72	34
Mogalakwena	LP	82	58	38	283180	286027	296060	77	94	64
Mogale City	GT	208	116	103	234506	326994	421015	196	74	56
Mohokare	FS	13	6	15	34837	34898	33621	57	53	34
Molemole	LP	14	12	20	94967	100726	100310	128	71	36
Mookgopong	LP	6	10	7	11778	31991	35395	89	56	28
Moqhaka	FS	95	53	52	164689	165335	157648	76	46	22
Moretele	NW	27	20	12	104387	103836	100667	89	70	35
Moses Kotane	NW	52	42	35	234485	243167	249950	147	84	40
Mossel Bay	WC	86	48	33	59669	73460	89565	44	27	16
Mpofana	KZN	17	22	16	21233	31254	31968	29	29	32
Msinga	KZN	154	135	71	172102	192557	201078	63	37	14
Msukaligwa	MP	68	34	38	107474	124916	149111	58	45	23
Mthonjaneni	KZN	48	28	29	67028	95469	82483	32	21	14
Mtubatuba	KZN	119	79	73	95324	132522	159417	57	27	19
Musina	LP	9	9	14	30775	36869	65341	18	22	16
Mutale	LP	15	9	6	103809	96558	105157	53	25	31

Nala	FS	18	18	35	82328	97752	81103	125	60	46
Naledi	FS	13	6	6	26062	27784	25109	126	45	34
Naledi	NW	20	11	20	52995	56589	66465	68	26	50
Nama Khoi	NC	15	18	7	43455	44326	46577	98	67	46
Ndlambe	EC	31	34	27	47230	56297	62405	72	29	35
Ndwedwe	KZN	106	75	36	160006	161172	160572	202	64	38
Nelson Mandela Bay	EC	793	711	517	966619	1004745	1151439	116	48	45
Newcastle	KZN	134	121	80	288966	349362	381915	66	47	22
Ngqushwa	EC	45	43	23	84069	75632	65367	192	29	33
Ngquza Hill	EC	171	155	187	362492	374263	408598	134	36	7
Ngwathe	FS	42	29	31	122898	120006	122398	134	55	26
Nkandla	KZN	96	82	27	132063	139061	120061	102	44	25
Nketoana	FS	9	9	8	59918	59193	59137	62	34	33
Nkomazi	MP	54	47	47	282297	330428	389808	103	71	40
Nkonkobe	EC	106	65	51	144566	130469	127998	26	19	12
Nongoma	KZN	116	75	27	185168	202772	199080	35	33	18
Nqutu	KZN	79	55	26	104345	119036	117961	53	57	34
Ntabankulu	EC	38	26	66	118897	128490	120036	15	37	20
Ntambanana	KZN	21	10	18	30769	38016	36296	22	17	14
Nxuba	EC	11	5	9	26038	26399	25168	11	9	7
Nyandeni	EC	133	123	103	257483	270965	286159	18	16	20
Okhahlamba	KZN	64	71	44	113011	134579	129196	27	21	14
Oudtshoorn	WC	68	46	31	78708	83826	95020	29	21	18
Overstrand	WC	30	44	29	36225	53761	77862	15	18	11
Phokwane	NC	30	23	16	69719	73784	75026	38	19	30
Phumelela	FS	13	7	10	48065	52407	47635	18	20	26
Pixley Ka Seme	MP	26	22	19	72128	81912	83097	15	10	15
Polokwane	LP	145	127	105	339099	479298	595736	123	25	17
Port St Johns	EC	55	29	32	68077	70047	73477	15	11	9
Prince Albert	WC	6	9	6	11704	12744	15989	110	18	19

Ramotshere Moiloa	NW	19	25	16	128998	137456	150732	131	46	23
Randfontein	GT	100	56	40	101506	128576	149276	92	37	36
Ratlou	NW	12	9	7	105317	104283	106322	35	33	28
Renosterberg	NC	6	6	6	9435	9097	10971	90	45	24
Richmond	KZN	39	42	22	46851	58343	65137	100	108	54
Richtersveld	NC	2	6	2	11165	10277	12031	123	89	30
Rustenburg	NW	168	225	192	315172	394472	564290	89	35	24
Sakhisizwe	EC	30	36	34	61684	67976	65013	99	44	27
Saldanha Bay	WC	29	48	33	56931	70377	99093	107	82	61
Senqu	EC	69	56	41	131044	135826	134146	114	55	43
Setsoto	FS	31	24	20	105832	120754	111676	78	60	29
Siyancuma	NC	19	28	16	38602	38780	36315	95	66	26
Siyathemba	NC	20	14	9	21067	18673	22310	42	35	20
Sol Plaatjie	NC	195	84	73	203224	202685	247364	45	16	12
Stellenbosch	WC	88	106	62	112092	124112	162776	63	27	25
Steve Tshwete	MP	89	65	39	137508	150137	233591	69	40	23
Sundays River Valley	EC	35	31	30	45290	42236	49919	36	27	23
Swartland	WC	48	52	20	70083	75703	118387	46	31	19
Swellendam	WC	24	14	6	25532	27355	34668	53	27	43
Thaba Chweu	MP	12	28	16	61533	78211	97158	55	42	26
Thabazimbi	LP	19	17	14	56922	64567	84378	53	33	20
The Big 5 False Bay	KZN	9	13	10	51054	60022	64454	49	38	20
The Msunduzi	KZN	420	397	284	513919	547823	615492	65	43	17
Theewaterskloof	WC	64	61	40	76705	96382	113340	106	28	16
Thembelihle	NC	16	15	10	13489	13645	15811	33	36	19
Thembisile	MP	80	93	59	243992	256575	310314	20	17	9
Thulamela	LP	54	67	33	452712	503450	540299	20	36	16
Tlokwe City Council	NW	159	59	37	121444	127669	162003	47	44	18
Tokologo	FS	11	15	17	29215	35018	30286	39	24	14
Tsantsabane	NC	7	9	9	21537	23365	32307	19	14	12

Tsolwana	EC	17	18	16	43673	42460	40493	19	17	15
Tswaing	NW	16	19	25	87788	117514	126813	11	8	9
Tswelopele	FS	15	10	16	49799	52367	47032	20	13	13
Ubuhlebezwe	KZN	79	50	27	77666	113785	109443	29	19	18
Ubuntu	NC	23	10	10	18755	15922	18152	16	13	8
Ulundi	KZN	95	91	46	163133	202597	200318	22	20	22
Umdoni	KZN	51	46	30	48108	57324	73000	14	9	6
Umhlabuyalingana	KZN	40	25	20	123654	120671	139992	12	13	6
uMhlathuze	KZN	299	253	162	182536	287478	337338	29	24	21
Umjindi	MP	20	14	10	50906	59022	70858	13	8	8
uMlalazi	KZN	228	163	112	232381	243848	243764	9	14	8
uMngeni	KZN	41	44	33	44990	69876	87397	11	9	7
uMshwathi	KZN	92	52	53	93968	110314	110044	15	12	20
Umsobomvu	NC	21	19	10	25388	23613	28383	43	26	18
Umtshezi	KZN	130	67	62	66342	90256	110311	16	15	13
UMuziwabantu	KZN	52	24	36	72749	91663	94553	33	26	17
Umvoti	KZN	167	116	56	113591	138683	140163	10	9	12
Umzimkhulu	KZN	99	58	59	159899	171135	176436	51	31	20
Umzimvubu	EC	147	78	107	206249	220156	208500	28	14	13
Umzumbe	KZN	106	59	21	99163	119921	90251	37	28	9
UPhongolo	KZN	27	33	38	94511	112119	117748	29	20	13
Ventersdorp	NW	38	8	11	34564	44821	57960	17	10	6
Victor Khanye	MP	26	17	14	48986	51951	71185	42	25	22
Vulamehlo	KZN	42	49	19	66240	64963	59959	10	16	14
Westonaria	GT	96	90	68	89922	109149	111317	14	9	9
Witzenberg	WC	71	80	45	75158	89692	121818	18	13	10