

What if Geography could help solve South Africa's crime problem?

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Johannesburg,
South Africa,
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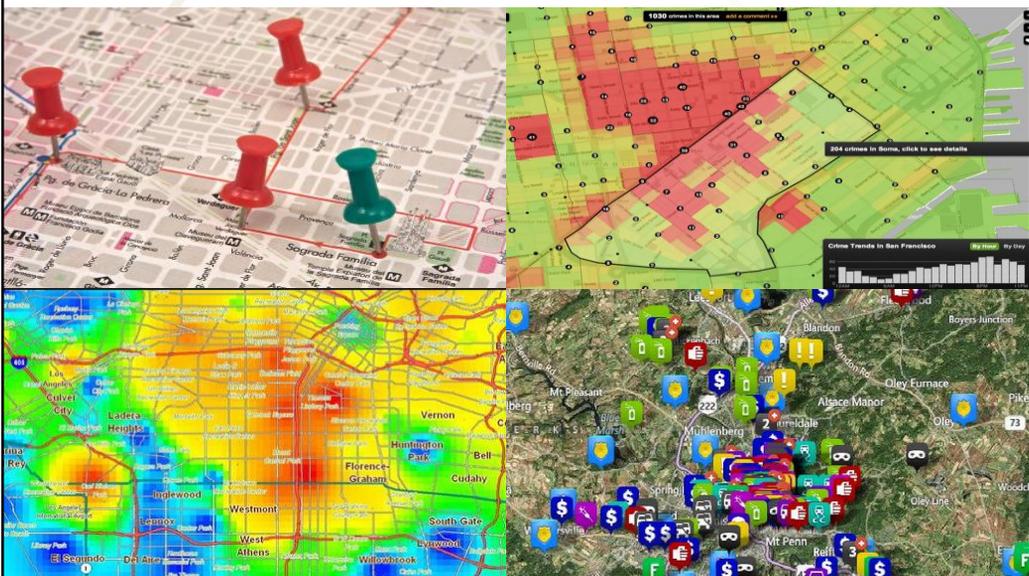


Announcement

Overview

- Background and context
- Spatial theories of crime
- Studies
 - Spatial risk factors for delinquency
 - Spatial risk factors for crime
- Implications
- What does the future hold?

Is crime a geographic phenomenon?



History of geography in crime

- 1940s: “Scientists” believe crime in US society cause by moral and intellectual inferiority of certain groups
- Belief that serious offenders were born criminals



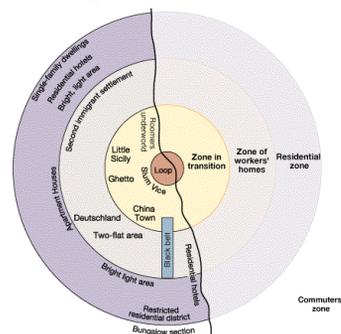
Table 2.1 Historical Growth of Chicago

Year	Total Residents	Foreign Born	
		Number	Percent
1870	298,977	144,557	48.4
1880	503,185	204,859	40.7
1890	1,099,850	450,666	41.0
1900	1,698,575	587,112	34.6
1910	2,185,283	783,428	35.9
1920	2,701,705	808,558	29.9
1930	3,376,438	859,409	25.5
1940	3,396,808	675,147	19.9

Source: Gibson and Lennon (1999).

History of geography in crime

- Social disorganisation theory (Shaw & McKay, 1942)
 - Ethnic heterogeneity
 - Residential mobility
 - Family disruption
 - Socio-economic deprivation
- Believed there was a relationship between the environment and crime
- Neighborhood conditions influence the shape and direction of crime rates
- Involvement in criminal behaviour did not depend on *who* the boy was, but *where* he lived in the city

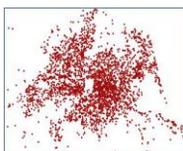


Environmental criminology

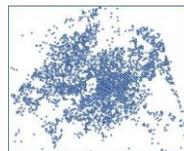
- Brantingham & Brantingham: *Environmental Criminology* (1981)
- The Law, the Offenders, the Target, the Place
- Explain the spatial distribution of offences and offenders



Burglary Theft
12am - 7am



Burglary Theft
7am - 12pm



Burglary Theft
12pm - 18pm



Burglary Theft
18pm - 12am

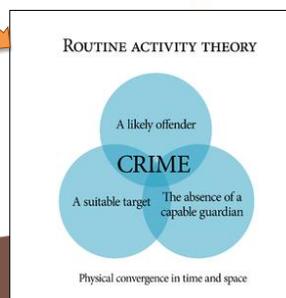
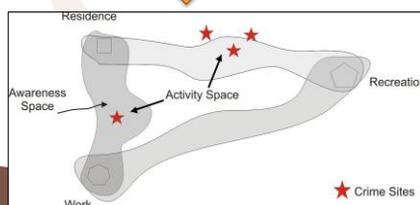
- Environmental criminology focusses on the “place” and what can be designed, or changed to augment criminal behaviour in an area

Environmental criminology

- 1) Broken windows theory
Kelling & Wilson (1982)

- 2) Routine activity theory
Cohen & Felson (1979)

- 3) Crime pattern theory
Brantingham & Brantingham (1983)



Spatial crime research in South Africa

- The 'geography of crime' tradition in South Africa has been largely influenced by the theoretical developments in the United States and Europe.
- South Africa contributed very little theoretically and/or empirically to the geographic tradition in criminology (environmental criminology)

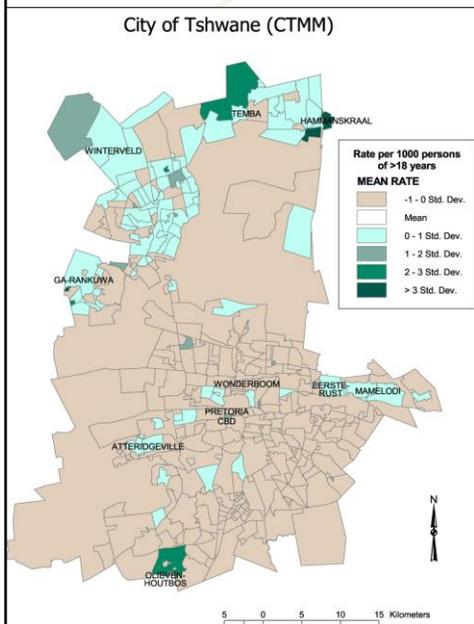
- 1) Inequality (Demombynes & Özler, 2005)
- 2) Poverty (CSV, 2007)
- 3) Unemployment (Shaw, 2002)
- 4) Illegal immigrants (Berg & Schärf, 2004)
- 5) Rapid urbanisation (Blackmore, 2003)
- 6) HIV (Naidoo, 2005)
- 7) ...many others

- My contribution: The first empirical attempt to map, visualise, analyse and explain crime and offender locations in South Africa
- Theorize crime in the country

Breetzke et al

- Location of offenders (delinquency dataset)
 - Breetzke, G. D. (2012). Understanding the nature of crime in post-apartheid South Africa. *Social Identities: Journal for the Study of Race, Nation, and Culture*, 18(3), 1-17.
 - Breetzke, G. D. & Horn, A. C. (2009). A geodemographic profiler for high offender propensity areas in the city of Tshwane, South Africa. *Environment and Planning A*, 41(1), 112-127.
 - Breetzke, G. D. (2008). Exploratory spatial data analysis (ESDA) of violent, economic and sexual offenders in the city of Tshwane, South Africa. *Acta Criminologica, Special Edition 1*, 131-149.
 - Breetzke, G. D. (2008). Spatial is special: A socio-geographic profile of offenders in the city of Tshwane, South Africa. *South African Geographical Journal*, 90(1), 32-40.
 - Breetzke, G. D. & Horn, A. C. (2006). Crossing the racial divide: a spatial-ecological perspective of offenders in the City of Tshwane Metropolitan Municipality, South Africa. *GeoJournal*, 67(3), 181-194.
- Location of crime incident locations (crime dataset)
 - Breetzke, G. D., Landman, K. & Cohn, E. G. (2014). Is it safer behind the gates? Crime and gated communities in South Africa. *Journal of Housing and the Built Environment*, 29(1), 123-129.
 - Breetzke, G. D. & Cohn, E. G. (2013). Sporting events and the spatial patterning of crime in South Africa: Local interpretations and international implications. *Canadian Journal of Criminology and Criminal Justice*, 55(3), 387-420.
 - Breetzke, G. D. & Cohn, E. G. (2013). Burglary in gated communities: An empirical analysis using routine activities theory. *International Criminal Justice Review*, 23(1), 55-73.
 - Breetzke, G. D. (2012). The effect of altitude and slope on the spatial patterning of burglary. *Applied Geography*, 34(2012), 66-75.
 - Breetzke, G. D. & Cohn, E. G. (2012). Seasonal assault and neighborhood deprivation in South Africa: Some preliminary findings. *Environment & Behavior*, 44(5), 641-667.
 - Breetzke, G. D. (2010). A socio-structural analysis of crime in the city of Tshwane, South Africa. *South African Journal of Science*, 106(11), 1-7.
 - Breetzke, G. D. (2010). Modeling violent crime rates: A test of social disorganization in the city of Tshwane, South Africa. *Journal of Criminal Justice*, 38(2010), 446-452.

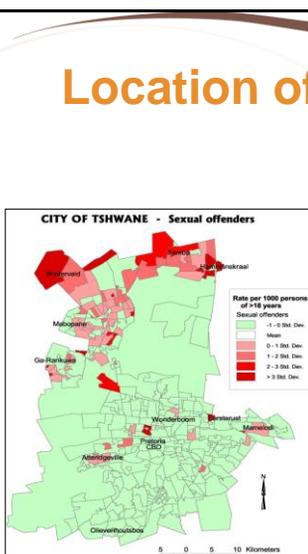
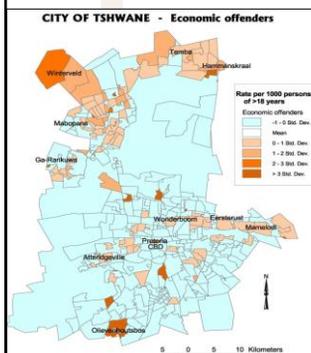
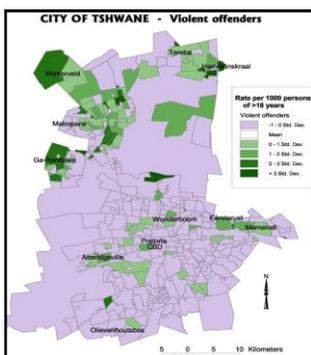
Location of offenders



Spatial incidence of four broad factors:

- 1) low social status and income
(No electricity, little or no education, lack basic services, unemployed, living in informal areas)
- 2) a large and young family
(Young children, large household, unmarried, recently moved into the area)
- 3) unskilled employment, and
(Low income earner in basic occupation, small house, lack of telecommunication)
- 4) high residential mobility
(Born and previously resided inside South Africa but outside Gauteng, paid employee)

Breetzke, G. D. & Horn, A. C. (2006). Crossing the racial divide: a spatial-ecological perspective of offenders in the City of Tshwane Metropolitan Municipality, South Africa, *GeoJournal*, 67(3), 181-194.



Location of offenders

Cause of violent offending

- Unemployment
- High residential mobility

Cause of economic offending

- Unemployment
- High residential mobility
- Deprivation

Cause of sexual offending

- Unemployment
- High residential mobility
- Informal settlements

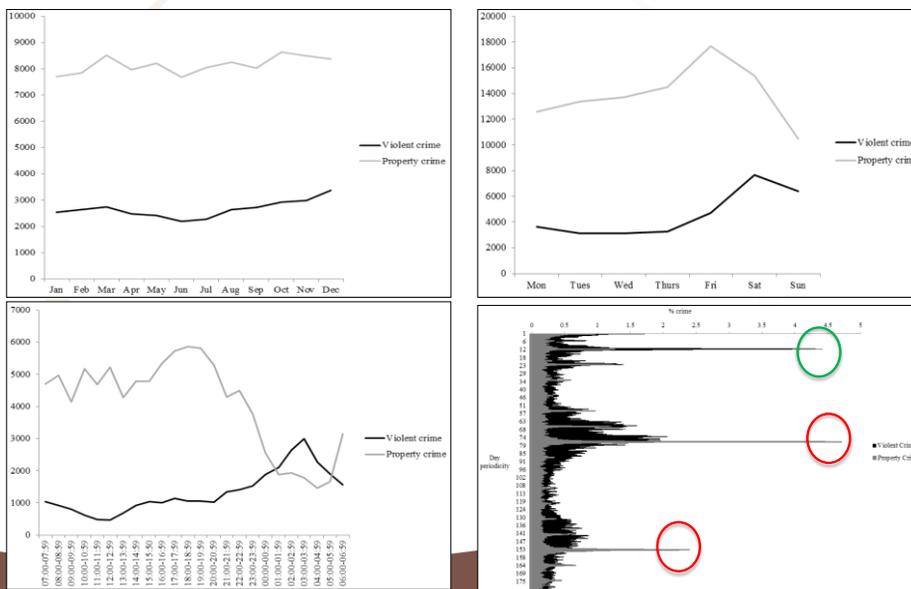
Breetzke, G. D. (2008). Exploratory spatial data analysis (ESDA) of violent, economic and sexual offenders in the city of Tshwane, South Africa, *Acta Criminologica. Special Edition* 1, 131-149.

Location of crime

- Cause of violent crime in all neighbourhoods of Tshwane (n = 371)
 - Divorced or separated, %
 - Father deceased or estranged, %
 - Young male population, %
 - African citizen (non-RSA), %
- Cause of violent crime in Black African neighbourhoods (>75%)
 - Unemployment, %
- Cause of violent crime in White neighbourhoods (>75%)
 - Father deceased or estranged, %
 - Young male population, %
- Cause of violent crime in 'Mixed' neighbourhoods
 - Father deceased or estranged, %
 - Young male population, %
 - African citizen (non-RSA), %

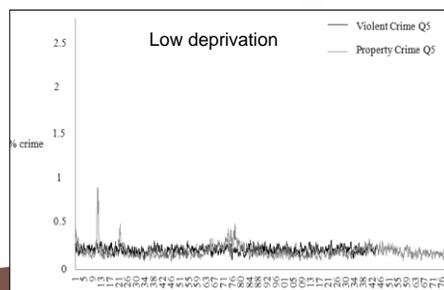
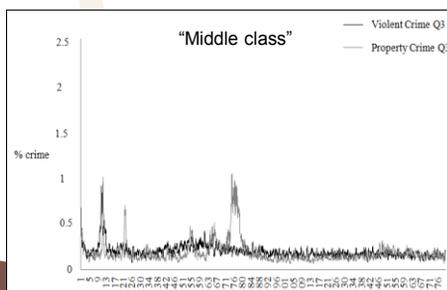
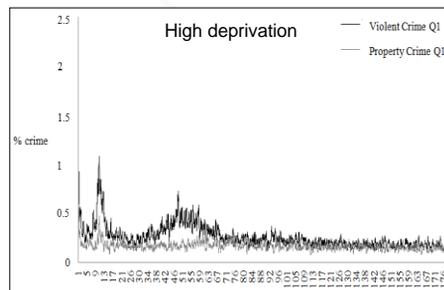
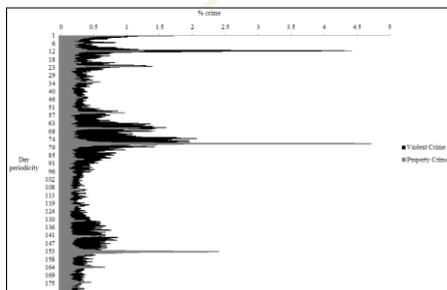
Bretzke, G. D. (2010). A socio-structural analysis of crime in the city of Tshwane, South Africa. *South African Journal of Science*, 106(11), 1-7.

Spaceand time



Bretzke, G. D. (in press). Examining the spatial periodicity of crime in South Africa using Fourier analysis. *South African Geographical Journal*

Spaceand time



Breetzke, G. D. & Cohn, E. G. (submitted). The periodicity of violent and property crime in South Africa, *South African Journal of Science*.

Implications

- Theoretical implications
- Practical implications

1. The certainty of being caught is a vastly more powerful deterrent than the punishment.
 Research shows clearly: If criminals think there's only a slim chance they will be caught, the severity of punishment — even draconian punishment — is an ineffective deterrent to crime.

2. Sending an offender to prison isn't a very effective way to deter crime.
 Prisons are good for punishing criminals and keeping them off the street, but prison sentences are unlikely to deter future crime. Prisons actually may have the opposite effect: Inmates learn more effective crime strategies from each other, and time spent in prison may desensitize many to the threat of future imprisonment.

3. Police deter crime by increasing the perception that criminals will be caught and punished.
 The police deter crime when they do things that strengthen a criminal's perception of the certainty of being caught. Strategies that use the police as "sentinels," such as hot spots policing, are particularly effective.

4. Increasing the severity of punishment does little to deter crime.
 Laws and policies designed to deter crime are ineffective partly because criminals know little about the sanctions for specific crimes. Seeing a police officer with handcuffs and a radio is more likely to influence a criminal's behaviour than passing a new law increasing penalties.

5. There is no proof that the death penalty deters criminals.
 According to the National Academy of Sciences, "Research on the deterrent effect of capital punishment is uninformative about whether capital punishment increases, decreases, or has no effect on homicide rates."

Geography

Nagin, D. S. (2013). "Deterrence in the Twenty-First Century," in *Crime and Justice in America: 1975-2025*, ed. M. Tonry, Chicago, Ill.: University of Chicago Press, 199-264.

Geographically-targeted interventions

- Reactive policing
 - The focus of current crime prevention policy should be on detecting and managing risk
 - Operationally, tactically: Aggressive, direct and sustained policing intervention in identified high risk neighbourhoods
- Proactive policing
 - Strategically: Direct much needed early intervention programmes to neighbourhoods of greatest concern
 - Name and locations of these neighbourhoods are known and intervention initiatives located there; and
 - The contents, aims and objectives of these programme would seek to address the neighbourhood-level risk factors for crime specifically identified in these neighbourhoods

SOUNDS IDEALISTIC AND DIFFICULT TO IMPLEMENT

Geographically-targeted interventions

- The *Pareto principle* applies to South African crime distributions

20% of the causes produces 80% of the effects

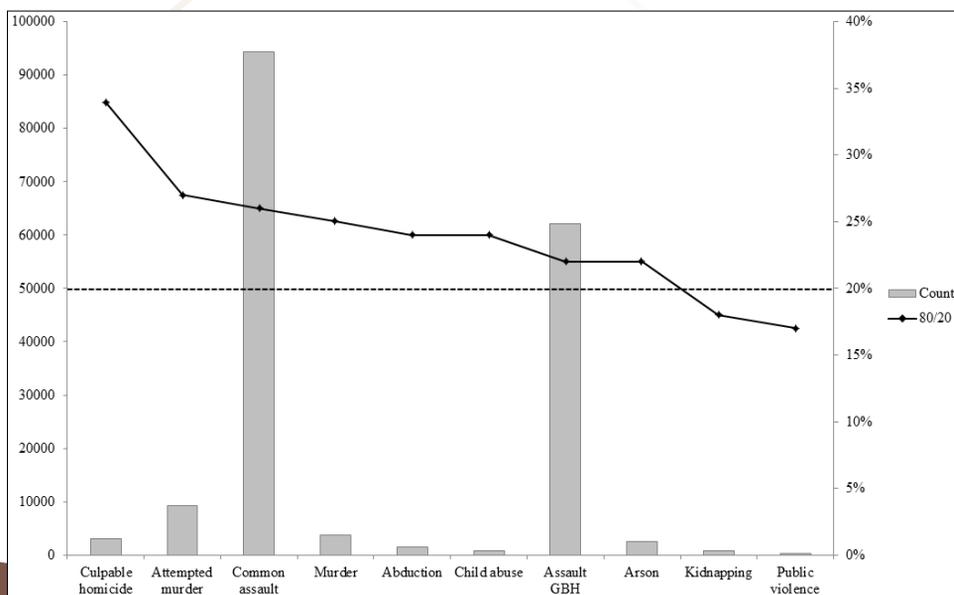
“When it comes to epidemics, though, this disproportionality becomes even more extreme: a tiny percentage of people do the majority of the work.”

Malcolm Gladwell, *The tipping point*

Location of offenders

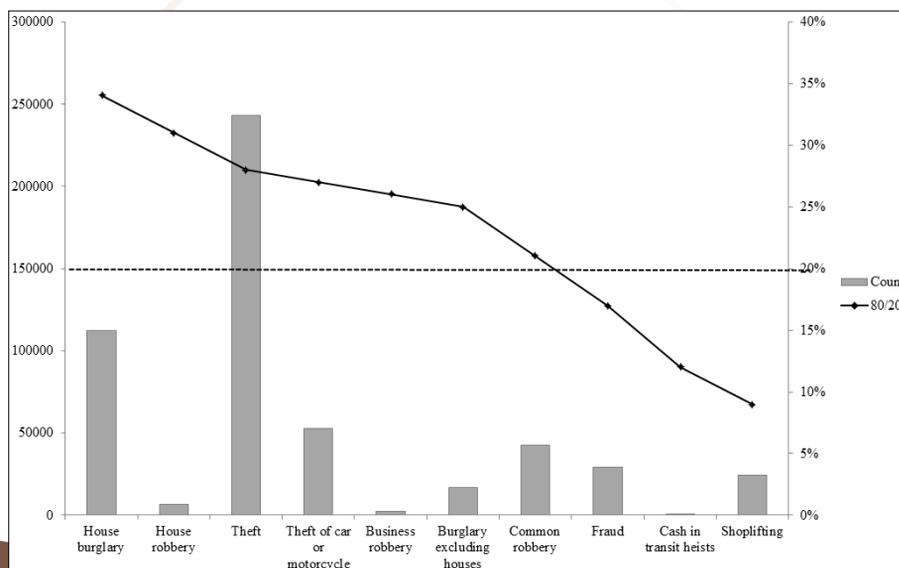
- 70 suburbs (19% of the suburbs of Tshwane) account for 82.5% of incarcerated offenders
- 12 suburbs (3% of the suburbs of Tshwane) account for 41% of incarcerated offenders

80/20 Violent crime

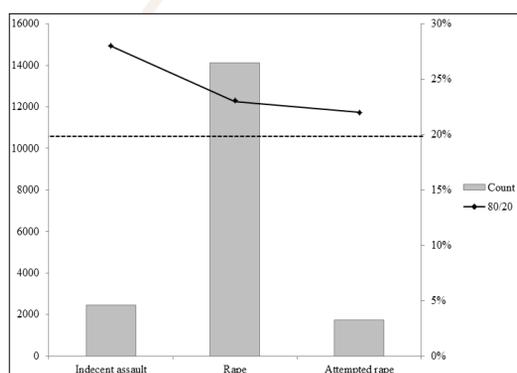


Breetzke, G. D. (submitted). Application of the Pareto principle to examine violent, property and sexual crime in Tshwane, South Africa. *Urban Forum*

80/20 Property crime



80/20 Sexual crime



- Ubiquitous and everywhere
- Prevention initiatives could be manageably and suitably implemented in a relatively low number of neighbourhoods having an exponential effect.
- The strong spatially skewed pattern of crime and delinquency in cities in South Africa could be used as an advantage in the fight against crime

France targets 'ghettos' in anti-terror fight

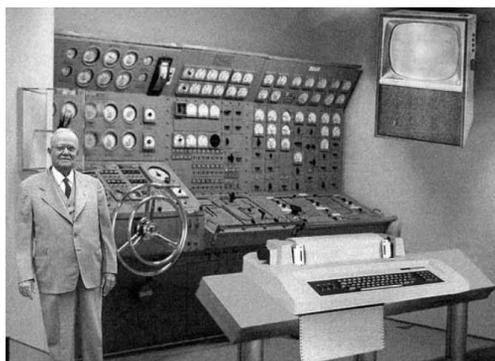
Counter-terrorism operations have been launched across France in the wake of the Charlie Hebdo attacks, with the Prime Minister declaring the country has collapsed into "apartheid".

These zones have been reinforced by extra intelligence and uniformed officers, as well as quick-reaction units which set up road blocks and random checks to look for drugs and weapons.

A total of 64 suburbs in many major cities have been identified as ghettos and Manuel Valls' admission that geographic, social and ethnic apartheid exists in France signals a seismic change in the country's approach to immigration



What is the future for geography in crime?



Scientists from the RAND Corporation have created this model to illustrate how a "home computer" could look like in the year 2004. However the needed technology will not be economically feasible for the average home. Also the scientists readily admit that the computer will require not yet invented technology to actually work, but 50 years from now scientific progress is expected to solve these problems. With teletype interface and the Fortran language, the computer will be easy to use.

Popular Mechanics (1954)

What is the future for geography in crime?

- Theoretical: Spatial data mining
 - Crime, corrections, cultural, lifestyle, retail, victimisation
- Practical: Geo-technical interventions



Conclusions

- Crime and delinquency within certain regions of the country have created a spatial context that favours their perpetuation.
- Policies and crime prevention efforts have largely neglected the spatio-historical context in which crime is occurring.
- Failure to understand crime and its causes in geographical terms in the country will result in future policy discussions taking place in an analytical and empirical vacuum.
- Geographically targeted localised 'crime' and policing strategies required based on empirical evidence

Thank you

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