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CYBER CRIME AND SECURITY

NEW PERSPECTIVES ON CYBERCRIME

TIM OWEN, WAYNE NOBLE & FAYE CHRISTABEL SPEED



Palgrave Studies in Cybercrime
and Cybersecurity

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New Perspectives on Cybercrime

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Palgrave Studies in Cybercrime and Cybersecurity
ISBN 978-3-319-53855-6 ISBN 978-3-319-53856-3 (eBook)
DOI 10.1007/978-3-319-53856-3

Library of Congress Control Number: 2017943398

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Cover illustration: ilie adrian / Alamy Stock Photo

Printed on acid-free paper

This Palgrave Macmillan imprint is published by Springer Nature
The registered company is Springer International Publishing AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Acknowledgements

The editors and contributors would like to record their great debts of gratitude towards the following people: Jane Anthony (Uclan), Professor Mike Thomas (Vice Chancellor of Uclan), Professor Robert Walsh (Uclan), Dr Alethea Melling (Uclan), Professor Michael Clarke (Director of RUSI), Professor Majid Yar, Dr Mahmood Chandia (Uclan), Elizabeth Roberts (Uclan), Professor Steve Hall (Teesside University), Julie Ann Owen, Joanne Noble, Steve and Gaynor Speed, Robert Haddock, Chris and Brian Haydock, Richard Davies and Cat.

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Introduction

Tim Owen

This collection showcases recent work by some of the members of the Uclan Cybercrime Research Unit (UCRU) at the University of Central Lancashire. It is fashionable these days to describe one's academic work as 'interdisciplinary'. The composition and work of UCRU, as the following chapters hopefully demonstrate, is genuinely interdisciplinary. Under my directorship, the UCRU was 'born' in December 2014 and has since rapidly expanded to become a well-known and well-regarded research unit in the field of cybercrime. UCRU is engaged in the production of publications, the development of continual professional development courses, knowledge transfer, income generation and consultancy. The unit serves to investigate emerging evidence of cybercrime and we are engaged in attempts to find new understandings of criminal behaviour across Internet platforms. One of our intentions is to inform social and educational policy-making, in tandem with cutting-edge research and theoretical development pertaining to online crime and deviancy. Whilst there is no collective philosophy in UCRU, members such as myself, Wayne Noble, Faye Speed and Jessica Marshall draw to some extent from my post-postmodern *Genetic-Social*, metatheoretical

analysis (Owen 2012, 2014; Owen and Owen 2015), which attempts to bridge the gap between criminological theory, behavioural genetics, evolutionary psychology and neuroscience. Since my early work dating from 2006 (Owen 2006, 2007, 2009), I have been engaged in developing the *Genetic-Social* sensitizing framework, and ‘applying’ its meta-constructs to selected areas of criminological investigation, alongside suggesting a hopefully enlightened view of how the biological and the social might interact, and ‘ways forward’ for the incorporation of biological variables into criminological theory. The editors of this collection – myself, Wayne Noble and Faye Speed – adopt a realist social ontology and are concerned here with offering both new perspectives on cybercrime in tandem with suggesting ways in which research into cybercrime might move beyond the main theoretical obstacles facing criminological theory. As I made clear in a recent book chapter in Steve Hall and Simon Winlow’s (eds.) (2012) *New Directions in Criminological Theory*, these obstacles are, ‘aspects of our intellectual life that are complicit in the stagnation of critical criminology’ (2012: 85) in addition to . . .

The nihilistic relativism of the postmodern and post-structuralist cultural turn; the oversocialised gaze and harshly environmentalist conceptions of the person; genetic fatalism or the equation of genetic predisposition with inevitability (2009) and bio-phobia (Freese et al. 2003) that appear to dominate mainstream criminology; and the sociological weaknesses of many so-called biosocial explanations of crime and criminal behaviour (see for instance, Walsh and Beaver 2009; Walsh and Ellis 2003), which, although dealing adequately with biological variables, appear to neglect or make insufficient use of meta-concepts such as agency-structure, micro-macro and time-space in their accounts of the person (Owen 2012: 83, in Hall and Winlow [eds.] 2012).

Structure of the Book

The editors would like to emphasise that this collection can only scratch the surface of the enormous task of conceptualising cybercrime, and therefore we have focused upon offering new perspectives on selected areas of research interest. To some extent, alongside offering new

perspectives on cybercrime and ‘ways forward’ beyond the impasse facing theoretical criminology, the intention here is to also provide an up-to-date, wide-angled view of the ‘state of play’ regarding the criminological theorising of cybercrime. Each chapter in its own right offers something new and unique to consider, and the interdisciplinary approach will hopefully guarantee interest from students, academics and practitioners in a wide variety of fields including criminology, sociology, law, philosophy, policing, forensic science, computing and so on. The book is divided into three parts, and in the first part four chapters are drawn together under the title ‘Law and Order in Cyberspace’. In chapter ‘Neuro-Agency, Neuro-Ethics and Cybercrime’, I examine the increasing need for criminologists to draw upon evidence from the neuroscience of free will when investigating cybercrime, and this involves adopting a new term, *Neuro-Agency* (Owen and Owen 2015), to replace the traditional term, ‘agency’ in order to acknowledge a neural influence upon free will. The chapter also explores the emerging field of neuro-ethics, which is becoming of increasing importance within the criminal justice system. Arguably, this chapter, with its new term, *Neuro-Agency*, contains some timely and essential recommendations for how we are to conceptualise ‘free will’ and ascertain culpability at a time when the subject of neuro-ethics is becoming increasingly salient. Chapter ‘Biology and Cybercrime: Towards a Genetic-Social, Predictive Model of Cyber Violence’ is offered by myself and Faye Speed in which we suggest a possible blueprint for a predictive model of cyber violence, drawing upon my unique, *Genetic-Social*, metatheoretical framework, and which views the cyber offender through the lens of *FCP* or *Flexible Causal Prediction*. Here, the offender is conceptualised as being subject to an anti-reductionist ‘cocktail’ of causal influences: genetic, neurological, psychological and socio-environmental. The mixing of ingredients of this blueprint for a predictive model are unique, and reflect our contention that criminologists need to urgently develop a degree of biological literacy, to ‘bring in’ insights from genetics and neuroscience, when conceptualising cybercrime and indeed many other forms of crime. In chapter ‘Cyber Vigilantism: How the Cyber Mob Behaves’, Wayne Noble turns his expert attention towards cyber vigilantism, examining and describing

with clarity an alarming scenario in which the democratising features of social media platforms might have taken ‘a step too far’, where calls of ‘outrage’ mutate into ‘calls for justice’ outside the law and the sentiments of the mob sweep across social media. Arguably, this timely chapter will serve to draw attention to what is a somewhat neglected feature of cybercrime: the phenomenon of mob rule in cyberspace. Chapter ‘Cyber Armies: The Growth of the Cyber Defence Industry’ sees Wayne Noble examine the rapid growth of the cyber defence industry, and he carefully and cogently assesses the effectiveness of each of the ‘divisions’ of our ‘cyber army’, thoughtfully considering the role which the social sciences, and in particular, criminology, might play in influencing the makers of social policy pertaining to cyber defence. Again, the chapter is timely, and it is contended here that it is important to review this ‘cyber army’ in the light of an increasing threats from hackers and terrorists.

The second part of the book addresses ‘Gender and Deviance in Cyberspace’, drawing together four related but yet very different papers. The first, chapter ‘Cyber Grooming: How Biological Variables Reinforce Cognitive Distortion’, is a powerful and rigorous examination of cyber grooming and the role of biological variables in cognitive distortion by Faye Speed. Drawing in part upon Owen’s (2014) *Genetic-Social* sensitising framework, Speed outlines an aetiology of cyber grooming, defining the stages of expansion from private sphere grooming to online cyber grooming, and attempts to identify the biological variables which may influence cyber groomers. There is an emphasis upon Speed’s term, *Cyber Stature* here, which refers to the power that cyber groomers may derive from the *Cyber Stature* conglomerate comprising of the various realms of the private sphere acting as a platform to provide the cybercriminal status and power via social networking sites. Arguably, the chapter’s importance lies in Speed’s willingness to investigate the genealogy of ideas pertaining to cyber grooming, and to ‘bring in’ biology in the form of Owen’s *Genetic-Social* theorising. Chapter ‘Trolling: The Ugly Face of the Social Network’ is the work of Wayne Noble, and he examines the ‘ugly face’ of the social media network: the phenomena of ‘trolling’. Noble cogently discusses the possible motivations for trolling behaviour in

relation to Nietzsche's concepts of 'resentment', 'slave morality' and 'nihilism', drawing also upon his own concept of *Causal Probability* in order to shed new light upon this nefarious activity. Noble's Nietzschean approach is unique and arguably contains some possible explanations for the 'ugliness' infecting today's social media platforms. In chapter 'Virtual Violence: Cyberspace, Misogyny and Online Abuse', Megan Todd turns an expert eye towards the important connections between online abuse and gendered violence, moving on to thoughtfully consider how language, voice and discourse serve to influence our understanding of cyberspace and what happens there. Importantly, in this timely chapter, Todd considers the issue in the light of the recent decision for Britain to leave the EU, exploring the questions which such a political move poses in relation to attempts to combat specifically male violence online against women and girls. The chapter is unique in the sense of being a timely, radical feminist 'take' on the issue. In chapter 'Silenced by Free Speech: How Cyberabuse Affects Debate and Democracy', Amy Binns applies her journalistic prowess to tackling the issue of how freedom of speech for some online can mean silence for others. Here, Binns is primarily examining the impact of online abuse upon women, and the author outlines a powerful argument for challenging the social media giants to police their areas more effectively in order to remove the 'scold's bridle' of gendered silencing. The chapter's importance arguably lies in the fact that it is a genuine and credible account of the reality of the situation through the eyes of a concerned professional journalist.

Our third part of the book addresses 'Identity and Cyberspace'. In the first chapter, 'The Problem of "Virtual Criminology"', I address the problem of recent 'virtual' and 'hybrid' forms of criminological theorising in relation to cybercrime (Brown 2013) and 'apply' some of the meta-constructs from my *Genetic-Social* framework, such as *Neuro-Agency*, *Psychobiography*, and the *Biological Variable*, in addition to Heidegger's concept of *Dasein*, and selected insights from the neuroscience of free will (Dennett et al. 2007), to the study of 'virtual criminology'. I strongly challenge Brown's (2013) notion that there has been a 'merging' between the human actor and cyber technology online to the effect that in some circumstances it is practically impossible to distinguish agency and culpability. The use of Heidegger's *Dasein*

concept in relation to ‘Virtual Criminology’ and its ‘merged’ cyber hybrids is hopefully timely and certainly unique. Perhaps the chapter’s importance lies in its call for a rethinking of our approach to distinguishing ‘agency’ and culpability online, and its rejection of ‘Virtual Criminology’ because of its reified and under-theorised conception of free will. Next, in chapter ‘Rethinking IPC – Should We Re-think Our Attitudes Towards Property and Ownership in the Wake of Internet I.P. Crime?’, Wayne Noble asks whether we should rethink our attitudes towards property and ownership in the wake of Internet intellectual property crime. Recent technical developments such as digital downloads, cloud services and online streaming suggest that we must re-examine what it means to own property. Consideration is given here to how the law should deal with copyright infringement and the theft of intangible property. The chapter also offers some important possible solutions to the problem and ways to manage the situation. In chapter ‘The Challenges Posed by Scammers to Online Support Groups and Fighting Back Through Responsibilisation: The “Deserving” and the “Undeserving” Victims of Scams’, Jessica Marshall combines an expertise in sociological theory/criminological theory and field research in her timely and cogent victim account of the challenges posed by ‘scammers’ to online support groups. Here, Marshall importantly provides some rich and unique personal insights carefully balanced against scholarly research into an area neglected in the literature on cybercrime. Importantly, Marshall examines the possibilities of ‘fighting back’ through ‘responsibilisation’ and explores issues pertaining to perceptions of the ‘deserving’ and ‘undeserving’ victims of online scamming. The final chapter in our collection, ‘Something You Wish You Had Never Seen – Videos of Death & Murder on Facebook, You Tube and Other Media Platforms’, is by Wayne Noble, and he investigates ‘Something you wish you had never seen’: the viral videos of atrocities and murder which have in recent times intruded upon social media platforms such as Facebook and YouTube. Noble asks whether this ‘theatre of cruelty’ is a modern-day equivalent of the ‘Spectacle of the scaffold’, and considers the possibility that there is an element of social engineering in the process, with some Internet users employing ‘shock tactics’ to promote causes, to indoctrinate, to offend and to disgust. Arguably, it is both

timely and refreshing that such questions are being asked at a time when depictions of vile atrocity are becoming almost commonplace on social media platforms.

To reiterate, whilst there is no collective philosophy in UCRU, the pioneering, *Genetic-Social* work of Owen has certainly been an influence upon how the research unit operates. This influence can probably best be seen in the chapters by Owen, Noble and Speed, where there is a clear desire to ‘marry’ the biological and the social in criminological analysis and to adopt a realist social ontology. There is an acceptance of the need for criminologists, or those from other disciplines who deal with criminological issues, to develop a biological literacy in the UCRU. This means, in practical terms, drawing from behavioural genetics, evolutionary psychology and neuroscience alongside the social sciences. Owen’s (2014) *Criminological Theory: A Genetic-Social Approach* is to some extent the ‘manifesto’ that underlies this approach. It is arguably not enough, in the early twenty-first century, to rely upon the ‘old’ stories and meta-narratives to be found in mainstream criminology and mainstream sociology in order to conceptualise and understand cybercrime and cyber offenders. Owen’s (2016) model of the offender as subject to a ‘cocktail’ of causal influences: genetic, psychological, neurological and socio-environmental is arguably more up-to-date and realistic than the ‘State as criminogenic’ mantras of Marxist critical criminology. It is fair to say that all contributors to this book, although of differing political persuasions and from different disciplines, are united in their belief that much can be gained from realistic, interdisciplinary collaboration. The contributors are also united in the belief that cybercrime is ever increasing in size, shape and form and that any collection such as this one can only ever be a ‘snapshot’ in space and time. Our chapters span the wide canvas of cybercrime, and we hope that they will be greeted favourably by students, academics, practitioners and policymakers. Again, the book is divided into three parts pertaining to law and order, gender and identity. Within these broad headings the reader will find some original and occasionally brave theorising. There is still, to some extent, a knee-jerk reaction against the inclusion of biological variables in analysis within UK-based social science but UCRU as a unit [forgive the reification...] are determined to combat this unfortunate tendency.

Indeed, we are of the view that it is impossible to fully understand cybercrime and cyber offenders without widening the lens to include biological variables alongside insights from criminology, sociology, philosophy, journalism, computing and so on. The general approach favoured in this collection might also be described, to some extent, as post-postmodern in that the reader will find little sympathy here for nihilistic relativism of either postmodern or post-structuralist form. Put simply, we have all endeavoured to offer something thought provoking on a subject which is becoming of increasing importance in the contemporary global landscape. A hero of mine, Brian Eno, once said that originality was an overrated virtue. I have some sympathy with Eno's view, and it is my hope that our chapters are not just merely original but also timely and insightful.

Dr Tim Owen, Summer 2016

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Part I

Law and Order in Cyberspace

Neuro-Agency, Neuro-Ethics and Cybercrime

Tim Owen

Introduction

In this chapter, we examine Owen and Owen's (2015) meta-construct of *neuro-agency* and developments in neuroscience concerning notions of free will, *embodied cognition*, *neuroplasticity* and *neuro-ethics* in relation to cybercrime. The meta-construct, *neuro-agency* is employed in *Genetic-Social* metatheoretical reasoning as an acknowledgement of the neural influence upon human free will. It is contended here that it is timely and essential to acknowledge recent developments in the neuroscience of free will and to abandon the 'old' term, 'agency'. Whilst, a neural influence upon human free will is acknowledged here, it is not argued that free will is an illusion, as has been suggested by the hard-line, determinist work of Eagleman (2011). The suggestion here is that the most convincing model of free will, and the one which has played the most significant role in the development of Owen and Owen's (ibid) notion of *neuro-agency*, is the 'soft compatibilist' model of free will offered by Dennett (1981), in which a belief in both determinism and free will is not seen as logically

inconsistent. In what follows, we firstly examine selected examples from the literature on the subject of the ‘neuroscience of free will’.

The Neuroscience of Free Will

The so-called neuroscience of free will is a development of neurophilosophy which examines the links between notions of agency and neuroscience. This largely involves focusing upon the decision-making processes, and there are obviously some implications for the conceptualisation of agency, for notions of moral responsibility and culpability and also for the role of human consciousness. Work by those such as Libet (1985) has detected activity linked to a decision to move; the activity appearing to start shortly before the human agent is actually conscious of it. A study by Soon et al. (2008) endeavoured to predict activity before the occurrence of ‘overt’ action. Haggard’s (2008) work suggests that the human brain possesses a form of ‘veto power’; in other words, the research reveals that activity in the brain’s frontal cortex is more powerful when people, ‘prepare to carry out an action and then intentionally stop themselves from doing it, than when they prepare and perform the same action’ (Costandi 2013: 61). With this ‘veto power’ in mind, perhaps a more accurate term for free will is ‘Free Won’t’ (ibid).

As Costandi (ibid: 62) suggests, the bulk of research in the area of the ‘neuroscience of free-will’ appears to show that ‘the brain prepares our actions and decisions are determined by brain mechanisms of which we are not aware’. However, this view has been contested. As Costandi (ibid) makes clear, the reliance upon participants’ perceptions of time in such studies and their subjective reporting of the timing of events is arguably problematic. Such events occur within the fraction of a second, and this makes it extremely hard to specify exactly when they occurred. Additionally, the human brain’s processing time ‘takes a fraction of a second to interpret visual information, and another fraction to produce a motor output’ (Costandi, ibid). Another problem highlighted by the latter author is that it is no longer clear what the ‘readiness’ potential is. Previously, the view that there was a ‘neural signature of the planning, preparation and initiation of voluntary movements’ (ibid), a gradual

swelling up of activity in the premotor cortex before the execution of action. However, this is no longer the consensus, and it may be the case that this ‘readiness’ potential does not represent the human brain ‘preparing to move’ (ibid).

Wegner (2003) has argued that ‘authorship’ is in fact an illusion. In other words, there may be causal factors influencing thought and action which lie in the unconscious realm, and the human actor may experience those thoughts and actions as being the product of conscious will. It is possible, the author suggests, that human beings may be over-assigning agency as a result of the evolutionary ‘advantage’ associated with images that there may be an agent ‘acting’. Wegner’s (ibid) concept of ‘retrospective construction’ appears to suggest that during action human beings may ‘feel’ that they are ‘behind’ agency, that they ‘did something’, but there also appears to be some retrospective processing after the performance of the action, after the event, which may complete the full ‘feeling’ of free will /agency. This unconscious processing of agency may, as Haggard (2008) suggests, have a significant bearing upon how human actors perceive the timing of actions and sensations. Haggard’s (2011) work posits that the conscious self may be a copy of actions/vetoed performed, with consciousness as the narrator of what is already happening in the body. Arguably, it is unclear, however, exactly how the human brain constructs consciousness. This unclear position on exactly how the brain constructs consciousness means that we cannot fully rule out the possibility of a conscious will. The term *neuro-agency* (Owen and Owen 2015) is applied here to acknowledge the evidence for a neural influence upon free will/agency, but this position does not suggest that free will is an illusion. It is clear that further research into the ‘neuroscience of free will’ must be conducted before we can abandon the compatibilist position favoured here where one can believe in both free will and determinism without being logically inconsistent. Consciousness, rather like a filmstrip, may possibly be located across the brain in what has come to be known as a multiple drafts model of consciousness. Alternatively, Cartesian materialist models of human consciousness suggest that there may be specialised areas of the brain which store consciousness (Costandi 2013). An interesting perspective is offered by

Seligman et al. (2013), who are critical of the classical, scientific approach which posits that human actors are driven by past events. Their research instead suggests that we utilise experience to evaluate looming prospects and then act accordingly. This ‘purposive action’ model also includes the evaluation of possibilities that have never occurred before. As such, free will/agency and subjective consciousness can be conceptualised in this ‘prospective’ way of viewing cognition.

Embodied Cognition

The concept of *embodied cognition* lies in the continental philosophy of Kant and the idea that whilst the mind is distinct from the body, the two are nevertheless closely related. Kant’s suggestion is that ‘bodily movements are necessary for thinking, and for recalling and connecting mental representation’ (Costandi 2013: 53). Later thinkers such as Martin Heidegger (2010) have argued that human actors experience the world by interacting with it and that ‘thinking involves putting things to use’ (Costandi, *ibid*). This notion of ‘ontic truth’, the idea that truth ‘happens’, is acknowledged within the *Genetic-Social* framework employed here and in the work of Owen (2014) and Owen and Owen (2015). As Wrathall (2005) makes clear, Heidegger views ‘ontic truth’ as the ‘uncoveredness’ of entities. For example, ‘entities are best uncovered when we can do more than merely talk about them – when we have practices and skills for dealing with them in the appropriate manner’ (Wrathall 2005: 73–74). Wrathall’s (*ibid*) interpretation of Heidegger appears convincing in the sense that ‘a chair is most clearly uncovered as a chair, for example, by the simple act of sitting on it’, because ‘the action shows the “truth” about the chair more clearly and convincingly than an endless amount of chatter about it’. Is it possible then that bodily states can significantly influence or cause mental states? As Costandi (2013: 52) suggests, the traditional model of the human brain is one in which the brain is conceived of as ‘the master controller – generating thoughts and actions by converting abstract representations of the world into commands for the body’. However, as