

Criminal Armourers and Illegal Firearm Supply in England and Wales

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Abstract

In response to the firearm legislation in the UK becoming progressively more restrictive criminals have had to be resourceful in respect to both their firearm supply and acquisition. Recent statistics indicate that over 50 percent of recorded firearms offences in England and Wales comprise of unidentified, imitation, reactivated or other firearms (ONS, 2015). This highlights a number of novel criminal opportunities which have been exploited to meet demand. Currently there is relatively little known about the individuals involved in the modification and supply of such weapons, including where they are positioned within the overall gun supply process (Hales et al., 2006). This paper will discuss the methodological approaches envisaged to undertake research with the aim to develop and explain the activities, motivations and *modus operandi* of criminal armourers and outline the emerging method of crime script analysis.

Key words: Gun crime, typology, armourer, United Kingdom, crime script analysis

Introduction

England and Wales have strict legislation relating to the legal acquisition, ownership and use of firearms by members of the public, ranking them as a high control, low tolerance society in relation to gun ownership (Squires, 2014; Warlow, 2007). These restrictions have progressively become more restrictive following trends identified in the criminal

misuse of firearms, government interventions, media coverage and public reaction following tragic events such as Hungerford¹ and Dunblane². In response individuals have had to be resourceful in respect to both their firearm supply and acquisition practices. Recent statistics indicate that over 50 percent of recorded firearms offences in England and Wales involve unidentified, imitation, reactivated or other firearms (ONS, 2015). The data exposes a number of novel criminal opportunities which have been exploited to meet demand, therefore suggesting the potential for a number of enforcement opportunities. Relatively little is currently known about the individuals who are involved in the supply of these types of weapons, including where they are positioned within the overall gun supply process.

In this paper I will provide an overview of the scale and dynamic nature of crime involving the use of firearms in England and Wales, providing details on the diverse range of illegal firearms currently in circulation. I will introduce my research area and drawing upon open source data I will attempt to provide an initial typology of criminal armourers who have previously been involved in the illegal supply of firearms. For this paper the term 'armourer' is defined as an individual who has either been convicted of a firearm supply offence or who has stored or collected weapons that could potentially be used by criminal individuals.

Trends and range of illegal firearms in England and Wales

Official statistics provided by the Home Office suggest that over the past three to four decades there has been a significant rise and then fall in the number of firearm offences recorded in England and Wales. Recorded offences reached the highest levels in 2003-04 with 24,094 recorded offences involving the use of firearms (including air weapons). This increase was then followed by a sharp decrease, accelerated by new legislation³, tougher

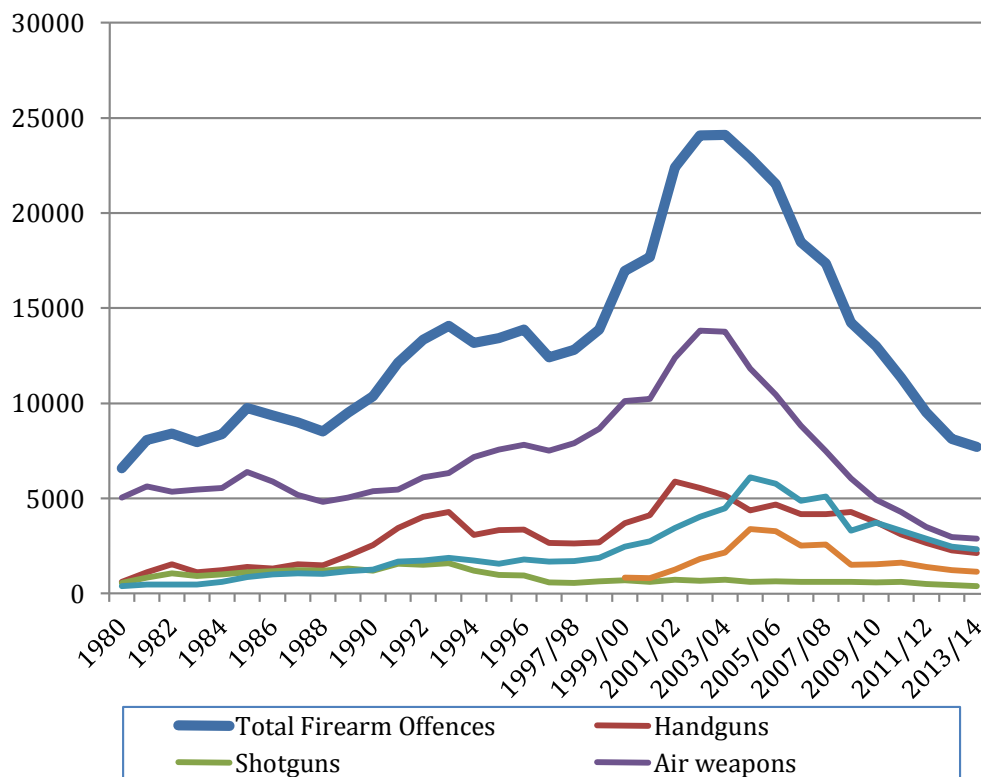
¹ On 19th August 1987 Michael Ryan, aged 27, shot and killed 16 people, including his mother, before committing suicide in the quiet town of Hungerford.

² Thomas Hamilton, aged 43, shot and killed 16 children and their teacher at Dunblane Primary School on 13th March 1996, before committing suicide.

³ Anti-Social Behaviour Act, 2003; Violence Crime Reduction Act, 2006; The Firearm (Amendment) Rules, 2007, 2010, 2013; The Firearm (Amendment) Regulations 2010; The Firearms (Electronic Communications) Order 2011; Anti-Social Behaviour, Crime and Policing Act, 2014.

sentencing⁴, policing innovations⁵ and targeted interventions⁶; a trend which is continuing, as represented in Figure 1. The most recent figures indicate 7,709 recorded firearm offences occurred during 2013-14, representing a drop of over 65% from the recorded high. Figure 1 represents not only total firearm offences but also those offences involving specific firearms such as shotguns, air weapons, handguns, imitation (data available after 1998) and other (CS gas, disguised firearms, machine guns, pepper spray, stun guns, paintball guns and weapons unable to be identified). In addition to representing the number of recorded firearm offences, Figure 1 bears witness to the steep learning curve undergone by police in England and Wales and the Home Office in terms of their understanding of the gun crime problem, especially the complex nature of illegal firearm supply.

Figure 1. Weapon types in recorded gun crime in England and Wales, 1980 - 2014



Source: Berman, 2012; ONS, 2015

⁴ The Firearms (Sentencing) (Transitory Provisions) Order 2007; Anti-Social Behaviour, Crime and Policing Act, 2014.

⁵ The National Ballistics Intelligence Service, established in 2008, provides a national (across force) database for all recovered firearms and ballistic material.

⁶ Targeted enforcement of specific groups/areas; gang-related information gathering; monitoring of previous offenders.

The significant increase in the criminal use of firearms is explained by a number of theories, centring upon risk, guardianship, opportunity and choice. Researching armed robbery in the UK, Roger Matthews identified a shift in offender *modus operandi* in post-war Britain influenced primarily by offender skills and organisation, weapon availability and the changing character of bank security (Matthews, 2002). This caught the attention of the media (ibid), raising criminal awareness of the benefit of using a firearm and, consequently, there was a notable increase in the number of armed robberies. In particular, during the 1980s Matthews noted a movement away from use of costly weapons that required care and commitment such as shotguns, to those that were cheap, easily concealed, readily accessible and disposable such as imitation or converted firearms. This change also corresponded with a shift in the types of offender, from old-style professional criminals to younger, less experienced, more spontaneous criminals (Hobbs, 1995; Matthews, 2002). Matthews argues that the most profound cause, resulting in the increase use of firearms in relation to armed robbery, is due to the gradual process of deskilling; no preparation or organisation is required by the offender(s), it is seen as sufficient to only carry a firearm as a 'frightener'.

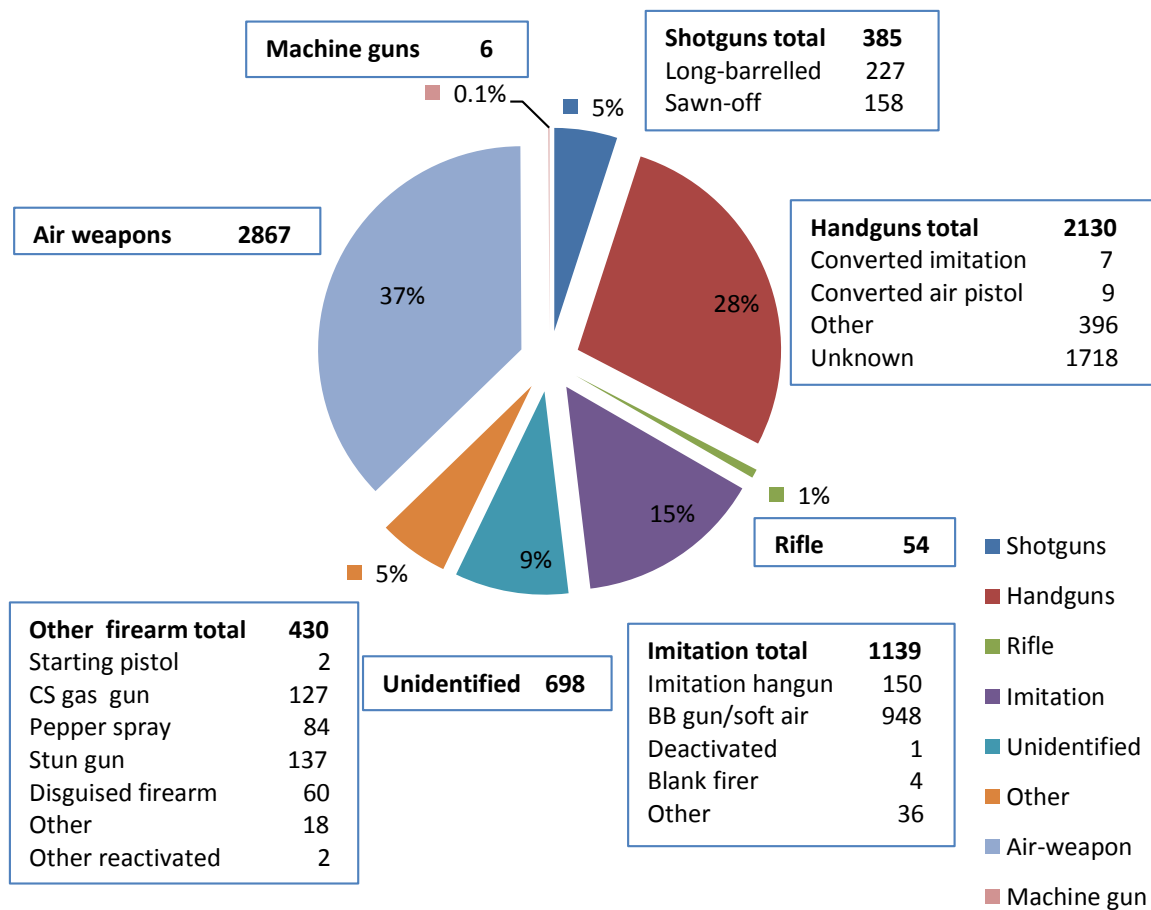
Another aspect of the significant increase was the growing use of firearms in the UK's black communities in inner city areas (McLagan, 2006). Especially problematic were the new 'Yardie' drug gangs with ties to the Jamaican drug economy (Densley and Stevens, 2015; Pitts, 2007). Although nowhere near as prevalent as in the USA, street gangs, often, involved in drug dealing, generated a demand for cheap firearms. A position in a gang and access to firearms promised marginalised young people facing racial discrimination and social exclusion access to identity, respect, excitement and otherwise unobtainable economic opportunities (Densley and Stevens, 2015). Research conducted by Hales in conjunction with the Metropolitan Police following a number of fatal shootings in the London Borough of Brent identified a strong correlation between the drug market and the possession and use of illegal firearms (Hales and Silverstone, 2005; Hales et al., 2006). In addition, findings suggested that imitation and converted imitation firearms appeared to be widely available and cheaper than purpose built firearms; consequently, it became relatively easy for some individuals to arm themselves (ibid).

One useful perspective for understanding the size, scale and trends within the illegal firearm economy involves understanding laws of criminal supply and demand. In

the wake of the 1998 (post-Dunblane) handgun ban, the Firearms Amendment Act 1997, police witnessed the surrender of over 160,000 handguns. Together with improvements in intelligence-led policing operations, such as Operation Trident in the Metropolitan Police and more effective surveillance and improved community links, the availability of 'factory-quality' handguns diminished significantly (Squires, 2014) although demand persisted (Hales et al., 2006). Using the perspective of rational choice, in which criminal behaviour changes in response to crime prevention efforts (Leong, 2014), the suppression of quality firearms forced criminals to seek out other means of sourcing firearms; these included non-lethal weapons which had been modified to fire live ammunition or those which have been fully improvised or recycled in some way (converted blank firers, engineered or reactivated firearms), amounting to a form of weapons displacement. Figure 2 visually represents the diverse mixed economy of criminal firearms based on the 7,709 recorded firearm offences in England and Wales during 2013-14 (ONS, 2015; Squires, 2014). It breaks the offences primarily into firearm type with more detailed information in each box representing the subtypes of weapons used in each category.

The information presented in Figure 2 shows that around 30 percent of the recorded firearm offences in England and Wales during 2013-14 involved firearms that were unidentified or unknown and over 20 percent involved firearms that were imitations, reactivated or other firearms. These figures support the findings of a 2006 Home Office study involving the interviewing of 80 convicted firearm offenders, which stated that for the majority supply is patchy and offenders are forced to buy whatever was on offer. This included converted imitation firearms that were considered unreliable and dangerous, as well as guns of unknown provenance that may have previously been used in serious crimes (Hales et al., 2006). Such firearms are sometimes referred to as 'junk guns' due to the fact they are often highly unreliable, underpowered, less robust, fairly inaccurate and likely to misfire (De Vries, 2011; Spapens, 2007). As stated by Squires (2014), this diverse mixed economy of illegal firearms in England and Wales represents a particularly complex, multi-layered, illegal weapon inventory, demonstrating a certain criminal inventiveness in acquiring, adapting and utilizing a variety of weapons. In addition, it also points to a requirement of a correspondingly diverse set of control, prevention and response strategies (ibid).

Figure 2. Mixed economy of illegal firearms in England and Wales, 2013 – 2014



Source: ONS, 2015

Limitations of recorded data

Interpretation of the trends in firearm offences in England and Wales must acknowledge a number of limitations in relation to police recording practices. Concerns were first raised about the use of imitation firearms in the 1980's (Squires and Kennison, 2010). At that time, they could be bought from a number of sources without any background checks and ranged from those which were incapable of firing anything to those that could fire a pellet at a high enough velocity that it could be included in the 'prohibited' category within the firearm legislation (Squires, 2014). It was not until 1998 that offences involving the use of imitation weapons were recorded separately. This leads to the possibility that prior to 1998 the substantial increase in the use of handguns could be

partially attributed to the increased use of imitation firearms (Hales et al., 2006; Squires, 2014). As a result of imitation weapons being recorded separately, a level of uncertainty remains in relation to their identification; if a firearm is only used as a 'frightener' and is neither discharged nor recovered, it sometimes is not possible to determine whether the weapon used was capable of inflicting a lethal shot or was in fact an extremely realistic imitation. Likewise, any type of weapon employed in an offence can remain unknown if it has not been discharged or recovered. Additionally, only the 'principal firearm' identified from an incident is recorded, representing intelligence gaps in relation to other weapons carried and possibly brandished left unrecorded (ibid).

Furthermore, recording standards of firearm offences have also been subject to change. Prior to 2003 guidance for police in England and Wales was to treat air weapons offences, especially those involving some kind of injury, as a firearms offence. Following the introduction of the 2003 Anti-Social Behaviour Act charges for the misuse of air weapons (unless causing serious injury) came to be recorded as anti-social behaviour offences. Likewise, offences involving possession of an imitation firearm in a public place were also recorded under the Anti-Social Behaviour Act. Furthermore, the introduction of the Violent Crimes Reduction Act 2006 made it an offence to use another person to 'look after' or 'mind' a firearm, and criminalised the possession of a firearm with the intent to injure or cause fear of violence, to use to resist arrest, to carry with criminal intent, or to carry in a public place or while trespassing in a building. The offences that fall under the Anti-Social Behaviour Act and Violent Crimes Reduction Act are not included in the overall recorded gun crime figures (ibid).

It is well known that some firearm crime goes unreported to the police, particularly within gang cultures (Squires et al., 2008). Almost all of the 80 firearm offenders interviewed by Hales et al. (2006) demonstrated the distinction between offender and victim was significantly blurred with 40 (50%) experiencing being threatened with a firearm, 29 (36%) being shot at and 8 (10%) being shot. They concluded that generally firearm crime only comes to the attention of the police in the case of fatal or serious injury, with interviewees indicating a preference for personal retribution alongside a fear of being labelled a grass. The complications of the 'no grass' culture has witnessed gunshot victims refusing to cooperate with the police while denying they have been shot only for X-ray examinations later to reveal bullets lodged in their bodies (Squires, 2014).

The limitations of the recorded firearm offence data clearly indicate an incomplete picture of the problem of gun crime in England and Wales, a concern raised by Squires (ibid).

Weapon Displacement: movement from legal to illegal

The vast majority of firearms are known to start off as legal entities, both in production and procurement, entering the illegal domain later on (Spapens, 2007). Researching the trafficking in illicit firearms for criminal purpose within the European Union, Spapens suggested that the upshot of tightening firearm legislation in the UK, alongside other European countries, is that new market opportunities are created for criminal entrepreneurs in regard to firearm supply and trafficking. He identified six leakage routes detailing how legal firearms enter the illegal domain:

1. Direct leakage from firearm factory
2. Fake exports/imports, sometimes via intermediaries
3. Conversion of non-lethal firearms (*)
4. Recycling of discarded weapons or re-use of surplus parts including deactivated) (*)
5. Theft from legal dealers or private owners of legal firearms
6. Fraud by private owners of legal firearms

These correspond with the findings of Hales et al. (2006), who identified 6 additional routes:

1. Failure to renew firearm licences
2. Legal or imitation firearms being used in an illegal manner (e.g. to intentionally injure)
3. Firearms that have a legitimate origin in the UK which have been retained following amnesties
4. Firearms that have been improvised or manufactured from scratch (*)
5. Firearms that are prohibited in the UK that have been legally imported by registered firearms dealers but which are then diverted into criminal hands

6. Military battlefield trophies

In addition, literature identifies 2 further routes:

1. Reactivation of collectible souvenirs (Squires, 2000) (*)
2. Trade traffickers (Allen, 2011)

Leakage routes identified with (*) indicate the requirement of a criminal armorer to carry out some form of modification or conversion, discussed below with examples.

Converted firearms

A converted firearm is classified as a weapon that was originally designed as an imitation, or to fire CS gas pellets, blank ammunition and/or flares, which has been re-engineered to fire live ammunition, which in some cases can be homemade (McLagan, 2006). Such weapons are legally manufactured in a number of countries, such as the Russian Baikal gas pistol and the Italian Tanfoglio alarm pistol (Spapens, 2007), and converted before or after entering the UK. Analysis of the trend in converted firearms in England and Wales using information recorded by the National Firearms Forensic Intelligence Database (NFFID) between September 2003 and September 2008 calculated that annually 21% of the firearms submitted were conversions, and identified that one of the most common types of firearm used in crime within the UK was a blank (and sometimes gas) cartridge firing handgun that had been converted to fire bulletted ammunition (Hannam, 2010). The most recent trend witnessed the increasing submission of the converted Olympic .380 BBM blank firing starter pistol during 2006-2007, (see Figure 3). With the establishment of the National Ballistics Intelligence Service (NABIS), who superseded NFFID in 2008, this trend was monitored. Following the seizure of 179 converted pistols, NABIS produced a report in 2011 detailing its operation in respect to the Olympic .380 BBM blank firer. An independent test was carried out by the Forensic Science Service which identified the Olympic .380 BBM blank firer to be 'readily converted' under the provisions of the Firearms Act 1982, consequently making it illegal to possess, supply or transfer them within the UK. A targeted amnesty across all police forces in England and Wales saw

the surrender of 1,300 firearms, thereby removing a significant number of convertible firearms from circulation. In response to the successful operation, NABIS warned that 'Criminals are entrepreneurial and will look to replace the Olympic .380 BBM with another blank firer' (Squires, 2014: 69).

Figure 3. Converted Olympic .380 BBM blank firing pistol with partial chamber and barrel obstructions removed



Source: Hannam, 2010

Improvised firearms

Open source data, predominantly newspaper reports, provided an insight into the range of firearms that have been manufactured, modified or used within criminal activities in England and Wales. Figure 4 shows a complete, improvised brass-barrel, single-shot pistol which was recovered as part of an investigation by the Metropolitan Police Service's anti-gun Trident Gang Crime Command. The pistol had been manufactured by Thomas Keatley in the garage of a rented house he shared with his mother. Alongside the improvised firearm police recovered the required 'blueprint', a USB memory stick containing 18 manuals detailing how to make handguns, machine guns and ammunition

(obtained from the internet), as well a large quantity of ammunition and the required equipment to make it.

Figure 4. A complete, improvised brass-barrel single shot pistol



Source: Webb, 2013 (original photograph Metropolitan Police)

In a very different operation, an off-chance discovery of a discarded plastic bag by a group of school-children was found to contain a firearm and ammunition. DNA evidence led police to a network of three individuals who were storing firearms believed to be intended for organised crime. Following a number of searches police recovered a large quantity of weapons; including mini torches that had been converted into working firearms (see Figure 5). The type of improvised weapon shown in Figures 4 and 5 are clearly easily concealable, unrecognisable and potentially lethal.

Figure 5. Mini torches converted into a firearm



Source: Greater Manchester Police, 2015

Antique firearms

Police are now witnessing an emerging trend in the criminal use of antique firearms. At present no licence is required to purchase and own an antique firearm, whilst what qualifies as an antique is not yet defined precisely within firearm legislation. What constitutes an antique firearm depends on a number of factors including age, if weapon calibre is obsolete, the firing mechanism, the loading and propulsion systems and the availability of ammunition (Squires, 2014). It has therefore been possible for criminals to legally purchase a fully serviceable and potentially lethal antique firearm and adapt it to fire current ammunition, or adapt ammunition to fire from it. Following the 2011 riots in England the West Midlands Police seized a number of antiques weapons including a French-made Saint-Etienne army revolver (used by the French Army in the 1870's), as well as others reaching as far back as the American Civil War and the First World War (Mackie, 2013). The killers of trooper Lee Rigby had an unloaded rusty Dutch KNIL 9.4mm revolver that was over 90 years old and which they used to threaten the police (Figure 6). Recently the same model was available online via the Gunstar website selling for £1,925; as the advert has now expired it is assumed that it has been purchased.

Figure 6. The firearm used in the attack on British soldier Lee Rigby



Source: Whitehead, 2014 (original photograph Metropolitan Police)

Recent changes to the firearm legislation, introduced in July 2014, now mean that someone who has served or received a criminal sentence can no longer possess an antique firearm. In addition, if a person receives a suspended sentence of 3 months or more they will not be able to purchase or possess a firearm or ammunition for a period of 5 years from the second day after sentence (Home Office, 2014).

Criminal Armourers: motivations and opportunities

As well as providing an insight as to the range of weapons that contribute to the diverse mixed economy of illegal firearms in England and Wales, media sources⁷ have revealed the existence of a number of criminal armourers who have been successfully apprehended and prosecuted. They have often involved themselves in elaborate arrangements to access supplies of (deactivated or convertible) firearms, then employing their knowledge, skills and contacts to adapt these weapons and sell them on. At first sight these criminal entrepreneurs appear to conform to the 'rational' choosing criminal (Cornish and Clarke, 1986) exploiting a unique market opportunity (Leclerc and Wortley, 2013) and turning their work routines to criminal purposes. Routine activity theory, for instance, emphasises how a criminal event depends upon an opportunity, a motive, and a capable offender (Clarke and Felson, 1993). Whilst these offenders can be seen to be calculating their own criminal choices, their activity also relies upon the existence of opportunities; if supplies of quality firearms were readily available their skills would be redundant, if they employed their skills in profitable legal activities they would not need to run the risk of arrest and prosecution. This particular subgroup of offenders more clearly conforms to a model of 'active decision-maker' (Cornish and Clarke, 1986), purposively pursuing criminal goals motivated by self-interest and deploying their routine skills to criminal purposes.

The information provided by newspaper articles provides some details of the individuals involved in the illegal supply of converted, modified or reactivated firearms; however, they tell us relatively little about their backgrounds, criminal histories, motivations, attitudes and working practices.

⁷ 'Lock, stock and barrel' The Guardian, 1999; 'Criminal past of jailed armourer' BBC, 2009; 'London and South East "gang armourer" Thomas Keatley jailed' BBC, 2013.

My research therefore seeks to address this gap in knowledge, working on the initial assumption that these individuals are acting as rational decision-makers, exploiting a unique market opportunity and using the theoretical framework of crime script analysis. It will be based on a series of subcultural case studies (Hobbs, 1995), to understand and explain the activities, motivations and *modus operandi* of illegal armourers in making firearms available to criminals. It will involve working alongside NABIS, obtaining statistical and operational information from their database. This information will be built on with case studies relating to successful operations and interviews with the police officers involved. Additionally, interviews will be sought with post-conviction armourers in order to explore the inner-worlds of the firearm suppliers.

The timing of this research is particularly relevant following amendments to the Firearms Act 1968 which came into effect on 14th July 2014, making it an offence to possess for sale or transfer prohibited weapons or ammunition with a maximum penalty of life imprisonment. This provision is aimed at targeting the middle market suppliers of illegal firearms, those individuals who are involved in potentially feeding new firearms into the criminal economy or most certainly circulating existing firearms.

Crime script concept

Scripts were first developed in the context of a computer simulation of the human cognitive structures and processes involved in understanding text. They form part of a hypothesised knowledge structure, or schemata, which are considered to organise our knowledge of people or events and help guide an individual in respect of others' behaviour and their own actions (Cornish, 1994). As indicated by Cornish a script is a special type of schema, known as an 'event' schema, since it organises our knowledge about how to understand and enact commonplace behavioural processes or routines. Typically, it extends over time with a causal effect, that is, early events in the sequences enable the occurrence of later events (Hancock and Laycock, 2010). Scripts therefore allow the researcher to map out and understand the sequence of any form of human behaviour and are underpinned by the process of rational choice as a decision-making tool. Mapping out of an event sequence identifies 'scenes' that make up the event and 'facets' which represent different ways the scene can be executed; in other words, events can be deconstructed into basic component actions (Brayley, 2011). One such event that

is often referred to when discussing the application of scripts is the restaurant script, put forward by Schank and Abelson (1977). It organises our knowledge on the sequence of actions that must be taken by a customer when visiting a restaurant; they must enter, wait to be seated, get the menu, order, eat, get the bill, pay and leave.

In recent years an important development of rational choice and routine activity theory has involved the application of crime script analysis, centred upon routine patterns of behaviour and decision-making points. Cornish (1994) suggested that by drawing attention to the way that events and episodes unfold, the script concept offered a useful analytic tool for looking at behavioural routines in the service of rational, purposive, goal-oriented action. Extending the rational choice event model and incorporating the concept of script, Cornish developed the application of a script-theoretic approach in order to generate, organise and systematize knowledge about the procedural aspects and procedural requirements of a particular crime commission process. In doing so he provided a framework to systematically investigate and identify all the stages of a crime-commission process of a specific crime, decisions and actions that must be taken at each stage and the resources required for successful completion. He thereby assisted criminologists in identifying a fuller range of intervention points in order to disrupt the script before its completion (Leclerc and Wortley, 2013). Put simply, a crime script represents the complete sequence of actions adopted before, during and after the commission of a specific crime, so supporting the design of situational prevention measures. Crime scripts can be built up using multiple sources of information, including material that is routinely collected by the police, interviews with offenders, investigative notes and information inferred by someone closely connected with the case. They are evolving and dynamic and can be created from partial or incomplete data which can later be added to or amended as more information becomes available (Brayley, 2011). By generating a greater understanding of the crime commission process, crime scripts can be used to identify how an offender has access to the scene, what skills and efforts are required, what tools and equipment are needed and what criminal contacts are essential. Patterns of choice and displacement can also be illuminated when certain script events are 'policed' or controlled, thus forcing offenders to make different choices or take evasive actions.

There is growing interest in the use of crime script analysis in such areas as burglary, drug manufacture and dealing, car ringing (Morselli and Roy, 2008), child sex

trafficking (Brayley, 2011), the trade in converted firearms in Holland (De Vries, 2012), and more recently the shifting *modus operandi* of Jihadist foreign fighters from the Netherlands (De Poot et al, 2015). Therefore, my research will adopt the theoretical framework of crime script analysis in order to map out the sequences of capabilities, events, opportunities and decisions that occur during the overall process of illegal firearm supply, identifying points where offenders, acting in a calculated and rational fashion, in given contexts and facing certain opportunity structures, fit themselves into the script. The overall aim of generating the crime script will be to identify a range of potential intervention points where the script can be disrupted, with the prospect of designing a diverse set of control and prevention strategies as called for by Squires (2014).

Exploring open source data

Adopting the research methodology of MacIntyre et al., (2014) when presenting a typology of British hitmen, and Yardley et al., (2014) when presenting a taxonomy of family annihilators, a number of LexisNexis searches were undertaken. LexisNexis is an electronic database which houses all major British newspapers. Searches were conducted in order to generate a list of individuals involved in the criminal activity of supplying firearms using the key terminology: 'criminal armourers', 'underworld armourers', 'dodgy dealers', 'cloned firearms', 'firearm traffickers', 'convert*' (refined to search for the term 'firearm' within results), 'reactivat*', (refined to search for the term 'firearm' within results), 'minding firearm', 'looking after firearm', 'looking after gun', 'hide his gun and you help commit the crime' (a campaign run by the Metropolitan Police to target 15-19 year old women of African and African-Caribbean heritage), 'military historian', 'historical collector' and 'antique collector'. In total 1,117 results were generated. I was able to condense the results due to repeats found in different search criteria, and a number of different articles detailing the same offender and editorials (some of which contained the names of convicted offenders). Additionally, articles were eliminated relating to religious conversions, war, and home conversions. Furthermore, the research methodology of Cameron (2013) when discussing the economics of contract killing within a UK setting, was adopted using an internet website search to identify any local newspaper articles that did not, for some reason, make it into the national press. In total

181 names were generated, including 4 unknowns due to age of offender. A further LexisNexis search was conducted on each individual in order to identify further information in regard to social and criminological background, skills and lifestyle choices including any identified drug link. Finally searches using both LexisNexis and Westlaw were conducted in order to identify any additional information available from court transcripts. Transcripts were only available for appeal cases or cases of significant interest; therefore, at this stage, I was unable to consult the court transcripts of all the 181 individuals.

Discussion

Initial interrogation of open source data has revealed the existence of a number of alternative scripts a criminal armourer may adopt in order to meet demand. Tentative groupings have been established in relation to the practices undertaken, as well as links to social and criminological backgrounds. At present there appear to be 7 potential types of armourers who have been responsible for arming criminals in England and Wales. Table 1 details the seven groups along with key characteristics and possible motivations.

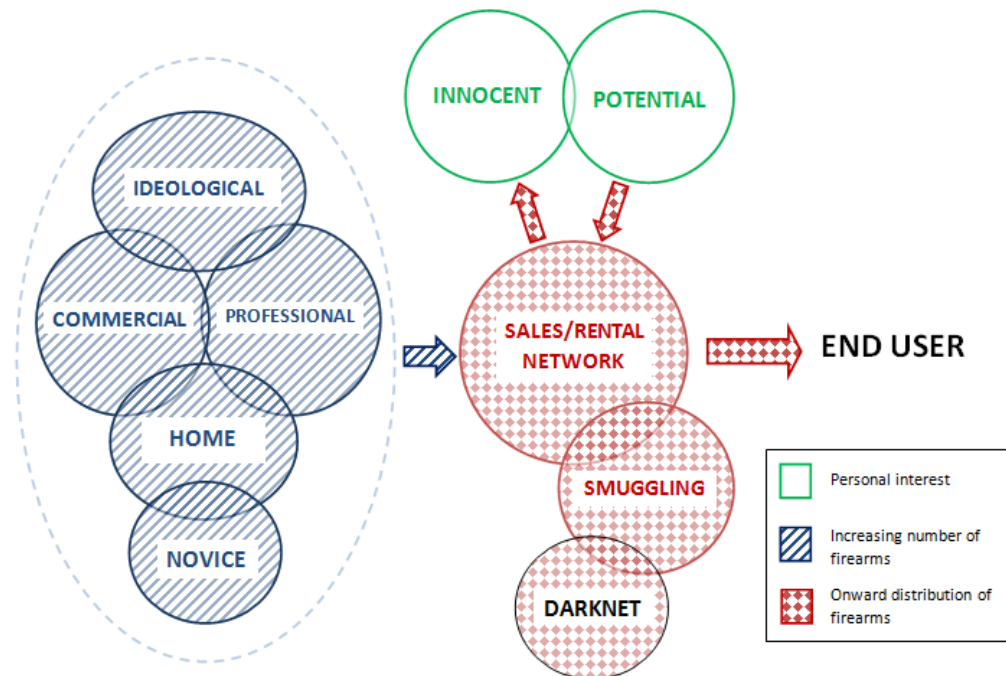
Table 1. Tentative typology of criminal armourers

	Novice	Innocent	Potential	Professional	Ideological	Commercial	Home
Description	Self-taught gunsmith with a history of criminal convictions.	Temporary weapons custodian. Looks after firearms. Vulnerable.	Firearm collector with no hidden agenda or criminal links.	Police, military or governmental background. Skilled or knowledgeable about firearms.	Alternative political or cultural beliefs.	Business owner using it as a cover to sell illegal firearms.	Skilled craftsman. Uses an area at home as a weapons factory.
Increasing number of firearms	✓	✗	✗	✓	✓	✓	✓
Previous convictions	✓	✗	✗	✗	✗	✗	✗
Firearm training/knowledge	Self-taught	✗	✗	✓	✗	✓	✗
Drug link	✓	Male ✓ Female ✗	✗	✗	✗	✗	✗
Firearm enthusiast	✗	✗	✓	✗	✗	✓	✓
Possible motivation	Financial gain	Outside exploitation, drug debt	No criminal motivation /firearm collector	Financial gain, application of skill	Personal retribution	Financial gain	Financial gain

These groupings are an attempt to categorise an initial typology of criminal armourers, using open source data only. At this early stage it is evident that individuals can fit into more than one group, indicating a complex supply side of the illegal firearm market in England and Wales. In addition, it is well known that firearms are also modified or converted outside the UK prior to being smuggled into the country via transportation links such as the Channel Tunnel (Connolly, 2007). More recently the Darknet has offered another avenue for individuals to purchase firearms anonymously, bypassing legislation, some of which arrive into the UK via courier service (Pleasance, 2015). Analysis of the open source data also identified a number of small networks responsible for the onward distribution (sales and rentals) of firearms. Positions were identified within these networks which must be occupied in order for the network to function. These include: a ‘purchaser’ who is responsible for the sourcing of firearms (potentially from a criminal armourer); a ‘facilitator’ who aids communication between the network and customer; a ‘courier’ responsible for the transportation of the weapon(s); and a ‘custodian’ who stores the firearms prior to the sale or rental (at a cost). Figure 7 is an initial attempt to

represent the overlapping nature of the supply of illegal firearms in England and Wales; the arrows represent the direction of movement of illegal firearms.

Figure 7. Role of criminal armourers in illegal firearm supply



Ideological, commercial, professional, home and novice armourers are responsible for increasing the number of illegal firearms in circulation, (see Table 1); they therefore feed into the sale/rental network in Figure 7. In contrast the potential and innocent armourers are not directly involved in increasing the number of firearms available. The potential armourer (an individual who has either legally or illegally amassed a large collection of weapons, predominantly at home) is shown as feeding into the sales/rental network due to the possibility of their collection being targeted by criminal individuals therefore increasing the number of illegal firearms in circulation. In contrast firearms are shown as moving towards the innocent armourer for two potential reasons. As a vulnerable individual, they may be coerced into either looking after a firearm(s) for a criminal individual or taking the position of a ‘courier’ in a network of individuals in order to transport firearm(s) to the end user.

Conclusion

The tentative typology outlining seven criminal armourers and the understanding of their roles within the process of illegal firearm supply presented in this paper represent initial findings from the first year of my research. Future work will continue to develop this typology by exploring the role of each criminal armourer in more detail, identifying skills, knowledge and potential contacts required, populating each with case studies. In addition, collaboration with NABIS will support access to further data currently not openly available. Interviews will also be sought with police officers involved in successful operations in relation to firearm supply and post-conviction criminal armourers in order to establish a greater understanding of the activities, motivations and *modus operandi* of illegal armourers in making firearms available to criminals. Collected data will be organised and interpreted using the theoretical framework of crime script analysis in order to establish where individuals involved in illegal firearm supply are positioned in the overall firearm supply process within England and Wales, as well as identifying potential intervention and enforcement opportunities.

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