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I. PERSPECTIVES ON TERRORISM

Progettazione strutturale e funzione sociale dello spazio (quale) vulnerabilità e soluzione al terrorismo urbano

Perché serve e come è possibile proteggere l'edificio dall'uomo (oltre che dal terremoto)

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Abstract

This article presents the knowledge gaps and the methodological steps inherent the process of standardization of the terrorist threat in urban environments within the structural design and rehabilitation of buildings for civil use. The necessity for a revision of the current technical codes for building constructions which shall include also the terrorist threat, appears as cogent in light of the progression, in number and harshness, of the terrorist attacks recently involving soft targets inserted in highly urbanized environments of European cities, with the aim of provoking the highest number of civilian victims within their everyday life. The normative integration of the terrorist threat in the design process of civil constructions implies the performing of a number of delicate steps. In fact, the physical-mechanical nature of impact waves referred to explosions or hyper-velocity impacts is different from the one associated to dynamic loadings already known and properly treated within the design codes for civil buildings, such as earthquakes (or more rarely wind). The diversity of the treat is reflected in the different behaviour which the different types of dynamic loadings provoke on the same structure, requiring an update not simply to the validations currently employed within the structural design, but also including the approach itself of the anti-seismic philosophy of design when dealing with terror-

ism. However, the unique phenomenology of the terrorist treat with reference to the involved target, primarily lies in the social function of the spatial distributions and relative interactions of the urban fabric of the city in which the target is inserted, that the terrorist attack is primarily aimed to disaggregate. This unique feature requires the comprehension and subsequent quali-quantitative assessment also of the social function of the target and of the social dimension of the attacker (the carrier of the terrorist threat), within the standardization process of the terrorist input. However, this source of vulnerability to man-made threat, intrinsic to most of the buildings and constructions in Europe, can potentially rise as strategical promoter of the recovery of an urban harmony often neglected within the Architecture of the modern city, toward a philosophy of design of the single building which includes the humanist function of the architectural and urbanistic elements in which it is inserted.

Abstract

L'articolo presenta i gap conoscitivi e gli step metodologici inerenti il processo di normazione delle azioni terroristiche in suolo urbano nell'ambito della progettazione strutturale di edifici ad uso civile. La necessità di una revisione dei codici di progettazione che includa la minaccia terroristica appare cogente alla luce della progressione, in numero e durezza, di attentati terroristici condotti nei confronti di soft target inseriti in contesti altamente urbanizzati di città europee, con la finalità di causare il maggior numero di vittime civili durante lo svolgimento di attività quotidiane. L'integrazione normativa della minaccia terroristica nella progettazione di opere ad uso civile richiede l'assolvimento di alcuni passaggi delicati. Infatti, la componente meccanica che caratterizza onde d'urto riconducibili ad esplosioni o impatti ad alta velocità è diversa rispetto a quella associata a carichi dinamici già noti e ormai consolidati nella progettazione di edifici civili quali il terremoto (e più raramente il vento). La diversità della minaccia si ripercuote nella diversità della reazione che i differenti carichi dinamici provocano sull'opera, rendendo necessario un ripensamento delle verifiche attualmente richieste nell'ambito della progettazione strutturale ma anche dello stesso approccio alla progettazione antisismica rispetto all'attacco terroristico. Ma soprattutto l'unicità fenomenologica della minaccia terroristica rispetto al target da progettare risiede primariamente nella funzione sociale della distribuzione ed interazione spaziale del tessuto urbano in cui esso è inserito, che l'attentato terroristico si propone specificatamente di disaggregare. Tale peculiarità rende necessaria la comprensione e successiva valutazione quali-quantitativa della funzione sociale del target e della dimensione sociale dell'attentatore nell'ambito della normazione della minaccia terroristica. D'altra parte, tale fonte di vulnerabilità intrinseca della maggior parte degli edifici in Europa può però assurgere alla funzione strategica di recuperare un'armonia urbanistica spesso dimenticata nell'Architettura della città moderna, affinché la progettazione del singolo edificio si compenetri nel valore umanista degli elementi urbanistici architettonici dove è inserito.

Keywords

Terrorism, city, urban, explosion, impact, earthquake, space of influence, attacker, target, input, space, social, humanism.

1. Introduzione: verso nuove normative anti-sismiche e anti-terroristiche

Negli ultimi anni, l'Europa ha assistito suo malgrado ad un processo di adattamento della minaccia terroristica, che prevede la progressione di attentati terroristici compiuti all'interno o nell'intorno di edifici ad uso civile inseriti nel tessuto urbano della città. Se questo processo richiede un urgente, perentorio rafforzamento dei servizi di intelligence quale misura preventiva alla minaccia terroristica, la dinamica ed il displicamento degli effetti osservati nei recenti attentati perpetrati anche nelle maggiori capitali europee, richiamano la necessità di ripensare l'approccio ed aggiornare gli strumenti di cui la società contemporanea si dota per proteggersi dal fenomeno del terrorismo urbano (Figura 1). A partire da nuove normative tecniche nel campo della progettazione strutturale civile e di pianificazione urbana.



*Figura 1: Attentato al Parlamento, Londra, Regno Unito, 22 Marzo 2017
(Fonte: CNBC)*

Dopo decenni di relativa quiescenza, la ricerca sul comportamento dei materiali da costruzione sottoposti a onde d'urto¹ (derivanti ad esempio da esplosioni ed impatti balistici) ha ripreso recentemente vigore in molti Paesi europei [1]. Attualmente solo le opere militari e strategiche sono progettate per resistere gli effetti di impatti od esplosioni, in conformità ad una pletora di norme tecniche già ben consolidate sparse per il mondo (US in testa [2]). Tuttavia, l'inerente filosofia di progettazione, che prevede ad esempio il principio di 'allontanamento del target', mediante l'inserimento di elementi strutturali di difesa posti all'esterno del perimetro di edifici già di per sé fortemente rinforzati, non è direttamente trasferibile nel contesto di edifici ad uso civile inseriti nel tessuto urbano, in quanto incompatibile con criteri economici, vincoli urbanistici, standard estetici ma soprattutto principi umanistici di li-

¹ Una onda d'urto è una perturbazione viaggiante caratterizzata da una improvvisa e significativa variazione del campo di pressione, densità e temperatura della materia.

bero accesso, democrazia ed integrazione sociale di cui la città del Vecchio Continente è originariamente riflesso spaziale (Figura 2).



Figura 2: Ambasciata USA in Londra, Grosvenor Square (Fonte: [3])

D'altra parte, i codici per la progettazione di edifici ad uso civile in Italia ed Europa non prescrivono attualmente verifiche rispetto agli effetti di esplosioni od impatti derivanti da attentati, mentre il vento ed il sisma sono i carichi dinamici comunemente considerati ai fini della progettazione (Figura 3).



Figura 3: Terremoto di Messina, Italia, 1908 (sx) ed attacco terroristico alle Torri Gemelle, New York, USA, 2001 (dx) (Fonte: Google)

Il progresso degli ultimi decenni della ricerca nel campo dell'ingegneria sismica, di cui l'Italia è alfiere nel mondo [4], ha certamente promosso la cultura della sicurezza e favorito lo sviluppo di strumenti normativi che convergono potenzialmente alla significativa riduzione delle perdite umane nell'eventualità di un evento sismico. Il grado di sofisticazione raggiunto è tale che le Norme Tecniche per le Costruzioni italiane prevedano la possibilità di progettare il comportamento dinamico di una struttura a partire dalla simulazione di un suo modello numerico tridimensionale integrante a sua volta modelli costitutivi (non lineari) dei materiali utilizzati e sottoposto ad accelerogrammi naturali registrati durante eventi sismici realmente accaduti nel passato [5].

2. Terremoto e terrorismo: azioni diverse, reazioni diverse

Tuttavia, le verifiche di design attualmente richieste non sono sufficienti a garantire gli auspicati livelli di sicurezza per l'edificio ed il suo abitante nell'eventualità di un attentato terroristico. Questo è conseguenza del fatto che un terremoto ed una esplosione sono eventi sostanzialmente diversi e costituiscono differenti tipologie di carichi dinamici per l'edificio, che li avverte e 'resiste' diversamente. Brevemente, una esplosione è un evento che rilascia una ingente quantità di energia (dell'ordine di Gpa) in una brevissima durata di tempo (dell'ordine di millisecondi). Proprio l'elevata velocità di deformazione imposta dall'evento rispetto al periodo naturale² della struttura e dei suoi elementi fa sì che la pressione generata venga avvertita 'localmente' prima che l'opera risponda 'globalmente', come invece accade quando sollecitata da un sisma (Figura 4). Ed infine l'estensione di uno dei capisaldi della moderna filosofia di progettazione antisismica, che consente che l'opera possa danneggiarsi a seguito del carico dinamico, mantenendo sicurezza e operatività dell'edificio, si deve compenetrare nella necessità di proteggere l'essere umano da deiezioni di materiale, detriti e soprattutto frammenti di vetro, che possono prodursi in conseguenza ad un attentato terroristico.

Le verifiche già esistenti sulla risposta dinamica dell'edificio (valutazione globale) dovrebbero essere dunque accompagnate in fase di progettazione antiterroristica dalla valutazione della risposta del singolo elemento strutturale (ad esempio trave, colonna) suscettibile di venire coinvolto dall'onda d'urto (valutazione locale).

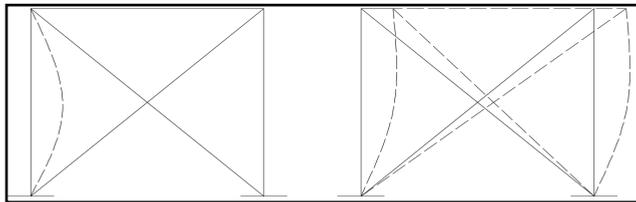


Figura 4: Modo di risposta localizzato della singola colonna (sx) durante un evento esplosivo esterno all'edificio (lato sinistro) e oscillazione globale dell'intera struttura durante la fase di vibrazioni libere dopo l'evento esplosivo, o durante un evento sismico (dx), per un esempio didattico di telaio monopiano [6]

La quale a sua volta richiede la conoscenza approfondita delle proprietà dinamiche dei materiali da costruzione. In questo ambito, una complessità aggiuntiva emerge dacché i materiali da costruzione comunemente utilizzati per la maggior parte degli edifici moderni (ad esempio il cemento) esibiscono

² Il periodo proprio di una struttura è il tempo impiegato dalla struttura per compiere un'intera oscillazione causata da una perturbazione iniziale.

un comportamento fisico-meccanico che dipende dalla velocità di deformazione imposta, che può variare significativamente a seconda della tipologia di minaccia (Figura 5). Utilizzare le proprietà `statiche` del materiale come prassi negli attuali codici di progettazione costituisce una seria approssimazione quando si analizzano gli effetti sull'opera di carichi a (relativa) bassa frequenza (sisma), ma può condurre a stime significativamente diverse nel caso di analisi locali rispetto ad impatti e detonazioni. I maggiori centri di ricerca mondiale di meccanica strutturale si stanno progressivamente concentrando sull'analisi sperimentale e numerica del comportamento dinamico dei materiali da costruzione, dal mattone al cemento, e significativi progressi in materia sono stati raggiunti nel corso degli ultimi anni [1].

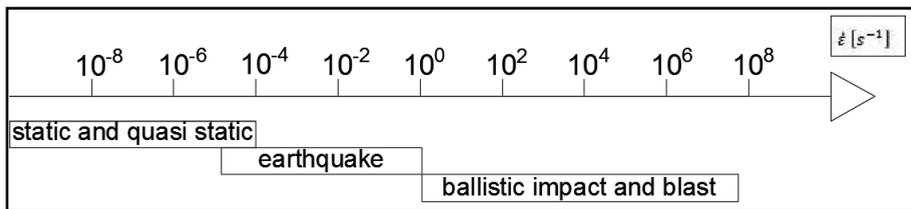


Figura 5: Velocità di deformazione imposta ai materiali per vari tipi di minaccia

3. Lo spazio di influenza: la funzione sociale dell'edificio e la dimensione sociale dell'attentatore

Tuttavia, neanche questi passi, per quanto ambiziosi e sfidanti, concludono il cammino intrapreso verso un'aggiornata concezione di sicurezza urbana. Una recente ricerca dell'autore presso un istituto italiano di studi strategici avanzati ha provato che l'adeguamento della conoscenza rispetto alla componente meccanica della minaccia ed a quella strutturale del target non sia sufficiente ad assicurare resilienza agli elementi urbani coinvolti in un attentato terroristico [7]. Infatti, contrariamente al sisma ed al vento, l'attentato non è riducibile esclusivamente al suo input meccanico (as esempio, l'equivalente in TNT³) e invece principia con il suo 'portatore' (l'attentatore), una entità fisica, un'unità psicologica e un atomo sociale capace di riflettere, comprendere ed adattarsi secondo gli schemi di comportamento dell'essere umano, già a partire dal tragitto compiuto per esplicitare gli effetti dell'attentato. Aldilà di una valutazione puramente tecnico-ingegneristica, questa è la vera, sfidante, origine della unicità fenomenologica della minac-

³ L'equivalente TNT è un metodo di misura dell'energia rilasciata in una esplosione. Si misura in 'tonTNT'.

una componente intrinseca dell'edificio che conferma la natura primordiale dell'organizzazione urbana quale funzione sociale dell'agire umano, che deve essere dunque necessariamente considerata in virtù della finalità anti-sociale di un attentato terroristico.

Operativamente ne consegue che l'edificio debba essere progettato e verificato sia come singola entità strutturale rispetto all'input meccanico, sia valutato come "blocco" di elementi urbani di cui è parte, rispetto agli effetti non solo meccanici dell'input e del suo portatore. L'analisi strutturale di blocchi di edifici sottoposti ad azioni meccaniche altamente dinamiche è già oggetto di ricerca [8]. Invece la difesa dell'edificio nella sua estensione che si protende in strade o piazze prima che l'effetto meccanico dell'attentato venga esplicitato, è ancora in fase embrionale.

4. Prospettive future

Differenti approcci e strategie di mitigazione verranno vagliate e proposte nei prossimi anni e decenni e tutte includeranno, in diverse forme e proporzioni, barriere e deterrenti fisici con dispositivi di sorveglianza progressivamente meno 'visibili' (si guardi allo sviluppo della tecnologia WSN⁵).

Ad ogni modo, l'efficacia delle soluzioni che verranno applicate sarà determinata primariamente dalla capacità di comprendere che il comportamento umano può essere più 'prevedibile' di un sisma, laddove target da proteggere ed input da minizzare si fondono e principiano da una comune psicologia sociale alla base della identità stessa della società. In generale, la prevenzione e mitigazione dagli effetti di forme di minacce sempre più complesse che coinvolgono e caratterizzano la società moderna richiederanno a loro volta agli operatori preposti alla sicurezza del cittadino un approccio ed una capacità sempre più sofisticate, che convergono nel campo della progettazione civile verso il ritorno ad una concezione integrata della città e dei suoi elementi spaziali, che promuoverà ed anzi recupererà una armonia urbanistica non sempre contemplata nell'Architettura della città moderna, ma profondamente radicata nella storia dell'Uomo, quale Architetto di (L.B.) Albertiana memoria [8].

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⁵ WSN, o wireless network system definisce una architettura distribuita di sensori autonomi che collaborano, si scambiano informazioni e si adattano.

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Jihadists' use of cryptocurrencies: undetectable ways to finance terrorism

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Daniele Maria Barone è laureato in Marketing e Comunicazione presso l'Università IULM di Milano, ha conseguito un master in International Relations presso ASERI Graduate School of Economics and International Relations – Università Cattolica del Sacro Cuore e ha approfondito i suoi studi nel campo della statistica e del marketing con un certificato in Business Analytics alla HBX | Harvard Business School. Si è specializzato in sicurezza nazionale e anti-terrorismo conseguendo l'Executive Certificate in Counter-Terrorism Studies presso l'International Institute for Counter-Terrorism (ICT) di Herzliya, Israele.

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Abstract

International Islamic terrorist organizations have become fully recognized actors of globalization, with no borders to group their activities, except through their ideology, rooted in their interpretation of Islam. Their financial resources branch out in the management of physical territories, a global illegal network, organized or small crimes, extortions, donations and they are more and more shifting in the online realm. Indeed, modern financial tools and, in particular, cryptocurrencies, are covering an emerging role in terrorism financing and money laundering. Starting from documented cases of jihadists' use of cryptocurrencies and the most recent developments either in global Islamic terrorism or in modern finance, this paper is aimed at analysing where institutions should intervene in this field and which aspects should be accurately monitored in order to prevent terrorists' illegal use of such an innovative financial resource as cryptocurrencies.

Keywords

Terrorism, jihad, Financing, Cryptocurrency, bitcoin

1. Introduction

In the last year, Daesh lost 98% of its self-proclaimed territories. The majority of its fighters living in its strongholds died during the attacks (70,000 of the estimated 100,000) or became scattered all over the world (approximately 10,000 foreign fighters are thought to have returned to their countries of origin, others have fled into Turkey or have joined affiliates in Egypt, Libya, South-East Asia, Iraq, and Syria). Furthermore, over 130 leaders had been eliminated and millions of people had been liberated.

Even though, as Daesh, the largest part of global and local Islamic terrorism, is facing a decentralized phase, Islamic terrorist groups are still very far from being less cohesive and definitively crushed. Their flexibility and ability to regrow have proven that Islamic terrorist groups are able to use modern technologies at their own advantage to find new ways to spread their ideology, increase the cohesion among their members, weaken and terrorize their enemies, and raise money.

Islamic terrorist organizations have become fully recognized actors of globalization, with no borders to group their activities, except through their ideology rooted in their interpretation of Islam. Their financial resources work mostly in the same way of their propaganda, branching out in the management of physical territories, a global illegal network, organized or petty crimes, extortions, donations and, more and more, in the exploitation of online modern financial tools: decentralized, up to date, and flexible.

An emerging role in terrorism financing in the online realm is covered by the misuse of cryptocurrencies. Due to a lack of a broadly shared international legal framework to regulate and detect the identity of the people involved in the transactions, cryptocurrencies are becoming progressively broadly used in financial operations related to money laundering, online scams and donation campaigns aimed at financing terrorist groups. Indeed, sporadic evidence of terrorists' use of digital currency has been found since 2012 prevalently among activists at various levels including Daesh or Al-Qaeda, support groups or propaganda, and individuals¹.

Despite the current attention from institutions at both national and international level aimed at countering terrorist groups from exploiting the online realm to raise funds, sometimes the lack of reliable data (due, in a large part, to the anonymity of the users involved in these money transfers) still represents this issue as a grey area that only recently has been discussed as a real threat.

¹ E. Azani, N. Liv (January 30, 2018) *Jihadists' Use of Virtual Currency*. IDC Herzliya – ICT International Institute for Counter-Terrorism. Available at <https://www.ict.org.il/images/Jihadists%20Use%20of%20Virtual%20Currency.pdf>

Hence it is relevant to understand either the reasons why virtual currencies can be used as an untraceable tool for illegal purposes in general or how terrorists (global Islamic extremist groups in particular) have and will be able to spread their use among their members to get economic support.

This analysis aims at understanding where institutions should intervene and which aspects should be monitored in order to prevent terrorism illegal use of such an innovative financial resource as cryptocurrencies.

2. Modern ways to finance terrorism

Before deepening the analysis on the use of virtual currencies for terrorist purposes, it is useful to give an insight about how, in general, cryptocurrencies work, in order identify which are the weak points that make them such a valuable economic resource for Islamic terrorist organizations.

2.1 How do cryptocurrencies work and how the illegal network evolves around them

Bitcoin is the largest and best-known cryptocurrency. Made up by an anonymous developer who based its functioning on the idea of a virtual currency, not subject to any government or any type of control, spread by the computer engineer Wei Dai in 1998². Other versions of cryptocurrency had been launched but never fully developed when bitcoin became available to the public in 2009. Nowadays different type of cryptocurrency are also available (e.g. Ethereum or Zcash or Litecoin) and all of them, so far, have as a common denominator the possibility to store or process them in a cyber-space characterized by a lack of traceability or control³.

Cryptocurrencies work in a different way compared to other traditional e-payment networks, as Visa or Paypal, indeed, they are not run by a single company or person⁴. The system develops itself through a network where there is no government, financial institution or any other authority able to have control over it, thus it is completely decentralized. Furthermore, anyone who owns cryptocurrency operates in anonymity: there are no account

²W. Dai (1998) *B-Money*. Available at <http://www.weidai.com/bmoney.txt>

³M. Jain (December 14, 2017) *How to use everyday accounting tools to understand cryptocurrency*. HBX Business Blog – Harvard Business School. Available at https://hbx.hbs.edu/blog/post/how-to-apply-everyday-accounting-tools-to-understand-cryptocurrency?utm_source=linkedin&utm_medium=social&utm_campaign=FA

⁴N. Popper (October 1, 2017) *What is Bitcoin and How Does It Work?* The New York Times. Available at <https://www.google.it/amp/s/mobile.nytimes.com/2017/10/01/technology/what-is-bitcoin-price.amp.html>

numbers, names or any other identifying features that connect the e-value to their owners⁵.

E-values overcome the principle of trust on which payment in cash (and world economy) rely upon, by ensuring a system based on an encrypted network of users which establish the reliability of the transactions through a chain of digital signatures⁶.

Being a system which runs through a network, there's the necessity to announce all transactions publicly; the public can see that someone is sending an amount of money to someone else, but without information linking the transaction to anyone, same as the level of information released by stock exchanges, where the time and size of individual trades are made public but without telling who the parties are.

The peer-to-peer authentication process is encrypted as senders and receivers are identified only by digital public-key cryptography (i.e. pseudonyms) and every message is signed by its sender and encrypted to its receiver (i.e. private-key cryptography)⁷.

It is very easy to open an e-wallet for crypto-values which allows to earn cryptocurrencies by exchanging real money with crypto-values⁸, by accepting them as a mean of payment or by "mining" them by solving extremely challenging mathematical problem⁹ or use them to purchase goods or ser-

⁵ B. Marr (January 17, 2018) *A Complete Guide to Bitcoin in 2018*. Forbes. Available at <https://www.forbes.com/sites/bernardmarr/2018/01/17/a-complete-beginners-guide-to-bitcoin-in-2018/#3484762b4418>

⁶ "Blockchain acts as a public ledger showing all transactions, though the identities of participants are obscured. Each block has a cryptographic link to the previous one. Every addition of a new, linked block to the chain makes it harder for a rogue miner to steal bitcoin by rewriting the sequence of transactions." O. Kharif, M. Leising (January 29, 2018) *Bitcoin and Blockchain*. Bloomberg. Available at <https://www.bloomberg.com/quicktake/bitcoins>

⁷ G.F. (January 27, 2014) *Cryptographic Currency – Washing virtual money*. The Economist. Available at <https://www.economist.com/2014/01/27/washing-virtual-money>

⁸ "Exchanges such as Coinbase, founded in 2011, offer the easiest way for the general public to buy and sell mainstream cryptocurrencies like bitcoin, Litecoin, and Ethereum. But users have to register with their real identities and prove their cryptocurrency was acquired legally. That makes them less appealing for criminals. Cashing out small amounts of bitcoin is still possible, but it's becoming more difficult to do so without attracting law enforcement attention." D. Gilbert (March 19, 2018) *Criminals are racing to cash out their bitcoin – Here's How They're Doing It*. Vice. Available at https://news.vice.com/en_ca/article/7xdzqa/criminals-are-racing-to-cash-out-their-bitcoin-heres-how-theyre-doing-it

⁹ A. Rosic (December 21, 2016) *What is Bitcoin Mining? A Step-by-Step Guide*. Huffington Post. Available at https://www.huffingtonpost.com/ameer-rosic/-what-is-bitcoin-mining-a_b_13764842.html

vices, allowing transactions of large amount of money within an hour at most¹⁰.

All of these features, adept at providing either anonymity or security to e-value storage or transactions, represent also a risk in order to detect who, where or how much is using cryptocurrency to finance illegal activities. Indeed, even though cryptocurrency represents the next stage of finance, the freedom allowed by the whole system doesn't let enough control over it in order to effectively prosecute organized crime and terrorism financing or detect and prevent it.

Unfortunately, the old rule of "following the money" when trying to track down those who commit crimes in the dark web hasn't proven to be useful so far.

An estimation about how much cryptocurrency is quite entirely shaping around illegal purposes alleges that 44% of all bitcoin transactions are associated with illegal activities (representing around \$72 billion per year) such as hacks, money laundering and the trading of drugs and illegal pornography¹¹. bitcoin (as other types of cryptocurrency) and illegal activities seem to be so deeply linked to each other that if criminals would stop using it, its value could consequently fall¹², due to the discharging of the most majority of the people who build the network at the base of the cryptocurrency functioning and, therefore, at the base of its increasing value¹³.

Since the revolution in the drug selling brought up by the deep web website Silk Road in 2011, which allowed users to buy drugs from an e-commerce directly online, many times shut down but always somehow replaced¹⁴ and still available with detailed instructions about how to reach it from the sur-

¹⁰ Satoshi Nakamoto (pseudonym used by the anonymous bitcoin developer) *Bitcoin: A Peer-to-Peer Electronic Cash System*. Available at <https://bitcoin.org/bitcoin.pdf>

¹¹ S. Foley, J.R. Karlsen, T.J. Putniņš (January 2018) *Sex, drugs, and bitcoin: How much illegal activity is financed through cryptocurrencies?* University of Sydney – University of Technology Sydney – Stockholm School of Economics in Riga. Available at <https://bit.ly/2GtHg5r>

¹² A. Sulleyman (January 24, 2018) *Bitcoin price is so high because criminals are using it for illegal trades, research suggests*. The Independent. Available at <https://www.independent.co.uk/life-style/gadgets-and-tech/news/bitcoin-price-fall-criminals-blockchain-anonymous-cryptocurrency-zcash-monero-dash-a8174716.html>

¹³ M. Del Castillo (December 21, 2017) *Think Tank Links Rising Bitcoin Price to Terrorist Use*. Coindesk. Available at <https://www.coindesk.com/u-s-think-tank-finds-rising-bitcoin-price-linked-terrorist-interest/>

¹⁴ (July 21, 2017) *Two of the biggest dark-web markets have been shut down – History suggests that other sites will soon fill the void*. The Economist. Available at <https://www.economist.com/graphic-detail/2017/07/21/two-of-the-biggest-dark-web-markets-have-been-shut-down>

face web¹⁵, many have been the exploitation of the online realm to directly finance illegal activities. As the website AlphaBay, allegedly created in 2014 by Alexandre Cazes, a 26-year-old Canadian living in Thailand, which had almost 250.000 users (among buyers and sellers) with about 369.000 listings for drugs, guns, fake IDs, malware and other illegal goods¹⁶.

This two cases, as many other still present in the dark web, represent a sort of Amazon-like open black markets websites with no regulations, which allow the match of demand and supply in the illegal items field.

Also existing and consolidated transnational crime or terrorist groups are exploiting the cybercrime market and are therefore buying access to technical skills. Indeed, organized crime groups are using centralized virtual currencies like WebMoney and Perfect Money or decentralized cryptocurrencies like bitcoin to better cover their financial footprints.

Latin America and the Caribbean was home to the first major international virtual currency laundering scandal in 2013, with the laundering of \$6 billion of illicit transactions tied to drug trafficking, investment fraud, credit card fraud and data theft.

Nowadays drug cartels are employing the so-called “money-mule” networks, which structure virtual and conventional transactions into smaller and more innocuous-looking sums, providing a commission between 3% or 5% per transaction¹⁷.

Some of these online money laundering, developed around transactions of small amount of money, can take place inside the most unsuspecting web platform as, for instance (without the knowledge of their developer) Massive Online Role Playing Games (MMORPG), as Second Life or World of Warcraft, which provide to criminal organizations an undetectable method to launder big amounts of money in the form of cryptocurrencies. The entire process usually works in the following way: open an account on a MMORPG; purchase its virtual currency (usually with a stolen credit card or with cash by purchasing a prepaid card); sell back the virtual currency through the black market community, or to virtual money exchange platform¹⁸.

¹⁵ *Guide On How To Access The Silk Road 3.0 (3.1)*. Available at <https://silkroaddrugs.org/guide-on-how-to-access-the-silk-road-3-0/>

¹⁶ B. Van Voris, C. Strohm (July 20, 2017) *Criminals' Online Market Targeted by U.S. After Founder Dies*. Bloomberg. Available at <https://www.bloomberg.com/news/articles/2017-07-20/u-s-looks-to-seize-assets-tied-to-dark-web-site-alphabay>

¹⁷ T.L. Quintero (September 13, 2017) *The Connected Black Market: How the Dark Web Has Empowered LatAm Organized Crime*. InSight Crime. Available at <https://www.insightcrime.org/news/analysis/connected-black-market-how-dark-web-empowered-latam-organized-crime/>

¹⁸ J.L. Richet (2013) *Laundering Money Online: a review of cybercriminals' methods*. Tools and Resources for Anti-Corruption Knowledge, United Nations Office on Drugs and Crime

The whole process allows the criminal organization to clean its money and to make very hard to track down every step in order to understand which actors have taken part in the mechanism.

All these examples related to the uses of cryptocurrency in order to finance small criminality or transnational criminal organization are directly linked to Islamic terrorism¹⁹. As previously explained, terrorism is strictly bond with criminal organizations, which allow terrorist groups to organize terrorist attacks or enlarge their recruitment network (as Daesh did in Trinidad and Tobago or in Latin America²⁰) also in territories where they don't have a strong physical presence and, concerning the fundraising purposes, they provide a financial resource linked to their criminal activities (e.g. drug trafficking, kidnapping, smuggling).

Dark Web and cryptocurrencies represent of course an innovative instrument for either finance or freedom of speech but is also evolving and consolidating as a neutral territory, with no regulation, which surely has the characteristics of a profitable arena for terrorist groups. In fact, the most modern types of cryptocurrencies, as Zcash, are developing in order to allow secure transactions using a different method that may become able to allow offline transactions that don't rely on the physical transfer of an e-wallet²¹. This will make the use of these currencies viable in parts of the world without reliable internet access and increase the undetectable feature of e-values.

The interest of global Islamic terrorist groups as Daesh in the cryptocurrencies field is not at its early stages; they began to analyze and encourage their use since the first introduction of this modern financial tool in the market. Hence, even though the use of crypto-values still doesn't represent their primary financial resource, they have proven of being able to exploit them in the best possible way in terms of use of their lack of traceability. Understand now how they're using this still unknown field, could be crucial to prevent an important source of strength they could be able to consolidate in the near future. Moreover, the lesson learned by lone wolves attacks has taught us that hybrid terrorism is a low-cost invest, thus the most urgent issue

(UNODC). Available at <http://arxiv.org/ftp/arxiv/papers/1310/1310.2368.pdf>

¹⁹ M. Bihter (2011) *Money Laundering And Terrorism As A Global Threat And A Comparison Between United States And Turkey*. Ankara Bar Review. Available at <http://www.ankarabarusu.org.tr/siteiler/AnkaraBarReview/tekmakale/2011-2/6.pdf>

²⁰ T.L. Quintero (September 13, 2017) *The Connected Black Market: How the Dark Web Has Empowered LatAm Organized Crime*. InSight Crime. Available at <https://www.insightcrime.org/news/analysis/connected-black-market-how-dark-web-empowered-latam-organized-crime/>

²¹ D. Manheim, P.B. Johnston, J. Baron, C. Dion-Schwarz (April 21, 2017) *Are Terrorists Using Cryptocurrencies?*. RAND Corporation. Available at <https://www.rand.org/blog/2017/04/are-terrorists-using-cryptocurrencies.html>

is related to stopping terrorist groups from establishing a transnational network able to transfer from the largest to the smallest amount of money.

2.2 Daesh and cryptocurrencies: cases from early stages till the most recent uses

The analysis of this paragraph will focus on the main cases which prove the increasing interest of Islamic terrorist organizations towards the use of digital currencies, in a chronological order. This will highlight the growing amount of money and the more and more imaginative methods that Islamic terrorist groups are using in order to be less detectable and bring more followers who actively provide economic strength to their cause.

- **Hawala**: prior to the invention of cryptocurrencies, for the past couple of decades, foreign donations to terrorist organizations have been delivered by another method used to transfer money anonymously, which is still active today: the *hawala*²² network²³. The *hawala* system, a sort of extremely fast (1 or 2 days at most) and very cheap (5% at transaction is the only cost required) remittance system network, generally used by migrant workers who frequently send money to relatives and friends in their countries of origin, is able to provide anonymity for cash transfers and donations²⁴. *Hawala* is a decentralized network which allows individuals or groups, who want to donate money to a terrorist organization, to pass money through an *hawaladar* in their country, to another *hawaladar* in the destination country who delivers the money to the addressee, allowing terrorist groups to transfer their own funds or resources from one location to another. The whole system created many layers of intermediaries so that donors and ultimate recipients may not be known to one other.

Cryptocurrencies, bitcoin as first, made anonymous transactions faster and more secure, overlapping the need of basing the whole operation on people's trust.

- **“Fund the Islamic Struggle Without Leaving a Trace”**: the first known case of exploitation of cryptocurrency for Islamic terrorism purposes was

²² “*Transfer or Remittance*” in Arabic. “A system of money transfer based on promises and honor, practiced in the Middle East and parts of Asia and Africa”. Collins English Dictionary – Complete and Unabridged, 12th Edition 2014 © HarperCollins Publishers.

²³ M. Zencho (August 17, 2017) *Bitcoin for Bombs*. Council on Foreign Relations. Available at <https://www.cfr.org/blog/bitcoin-bombs>

²⁴ P.M. Jost, H.S. Sandhu (January 2000) *The hawala alternative remittance system and its role in money laundering*. United States Department of the Treasury Financial Crimes Enforcement Network (FinCEN) in cooperation with INTERPOL/FOPAC. Available at <https://www.treasury.gov/resource-center/terrorist-illicit-finance/Documents/FinCEN-Hawala-rpt.pdf>

allegedly registered in 2012, when an anonymous website was uploaded in the deep web for the purpose of raising money anonymously through *sadaqah*²⁵ to support the Islamic fight against the United States, by using bitcoins. Even if it is not sure that the website presented by the explanatory title “Fund the Islamic Struggle Without Leaving a Trace²⁶” was made by a terrorist group’s affiliated or was only a scam, it has been registered that it had received an amount of 5 bitcoins when the bitcoin exchange rate was more or less \$10²⁷.

- **Ghost Security Group investigations:** not verified reports made by the hacker group “Ghost Security Group” following IS terrorist attack at Bataclan in November 2015 showed that, since 2012, other bitcoins addresses in the dark web where found being connected to Daesh²⁸. In one of these accounts one where found having the equivalent of almost \$3 million which, according to the hacker group, were earned mostly by donations²⁹.
- **Golden coins from occupied territories:** digital currencies have not being used only for donations to the terrorist organization through the dark web, but also to sell items. A topic example is related to the deep web website, also advertised on Dabiq, which appeared for the first time in 2014, to sell the golden, silver, and copper coins used in the areas under IS control in Iraq and Syria as means of payment³⁰. The coins minted by the Islamic State apparently became superfluous when Daesh was driven out of the self-proclaimed caliphate territories. Thus, now that these coins are no longer in use, the group is attempting to sell them as souvenirs³¹.

²⁵ An Islamic term for “voluntary charity”. Collins Dictionary.

²⁶ Krypt3ia (October 14, 2013) *Darknet Jihad*. Available at <https://krypt3ia.wordpress.com/2013/10/14/darknet-jihad/>

²⁷ ICT Cyber-Desk Periodic Review (October-November 2013) *Cyber-Terrorism Activities Report No. 6*. IDC Herzliya – International Institute for Counter-Terrorism (ICT). Available at <https://www.ict.org.il/UserFiles/Cyber%20Report%206.pdf>

²⁸ E. Azani, N. Liv (January 30, 2018) *Jihadists’ Use of Virtual Currency*. IDC Herzliya – International Institute for Counter-Terrorism (ICT). Available at <https://www.ict.org.il/images/Jihadists%20Use%20of%20Virtual%20Currency.pdf>

²⁹ J. Sagar (November 14, 2015) *Bitcoin 3 Million Dollars*. News BTC. Available at <https://www.newsbtc.com/2015/11/14/isil-militants-linked-to-france-terrorist-attacks-had-a-bitcoin-address-with-3-million-dollars/>

³⁰ E. Azani, N. Liv (January 30, 2018) *Jihadists’ Use of Virtual Currency*. IDC Herzliya – International Institute for Counter-Terrorism (ICT). Available at <https://www.ict.org.il/images/Jihadists%20Use%20of%20Virtual%20Currency.pdf>

³¹ The Meir Amit Intelligence and Terrorism Information Center (2018) *In view of its financial problems, ISIS is selling coins that it minted at the time of the Islamic State. Payment for the coins is made via an international clearing system*. Available at http://www.terrorism-info.org.il/app/uploads/2018/01/E_003_18.pdf

- ***Bitcoin wa Sadaqat al-Jihad***: in the summer of 2014, an article titled *Bitcoin wa Sadaqat al-Jihad* (“Bitcoin and the Charity of Jihad”) was published in an online blog. The article explained the various strategic and religious reasons for jihadists to use bitcoin. It promoted the use of bitcoin virtual currency as a means of limiting economic support for infidels and circumventing the Western banking system. It also recommended to use bitcoin for ideological-religious reasons as well as for its technological characteristics, and insisted on the advantages of the system that enables the issuing of this currency.” It also stressed that the advantages of using bitcoin include: “prevention of counterfeiting; it is anonymous and untraceable; it is not subject to legislation; and it has global distribution³².”
- ***Jahezona***: the first reliable case of fundraising by using crypto-values, directly connected to a terrorist organization, began in July 2015 when the *Ibn Taymiyya Media Center* (ITMC), the media wing of the Mujahideen Shura Council in the Environs of Jerusalem (MSC), a collection of Salafijihadist groups in Gaza, run a social media fundraising campaign: *Jahezona*³³. The fundraising campaign was arguing that such donations fulfilled a religious obligation to fight for Islam. The campaign regularly posted graphics showing the group’s desired weapons and ammunition and their respective costs. In late June 2016, the campaign added the option to pay in bitcoin, posting infographics on Twitter with QR codes linking to a bitcoin address. The campaign received two transactions which raised a total amount of 0.929 BTC (approximately \$540) and on August 20, the funds were transferred to other addresses whose ownership is unknown. Then it is possible that the campaign’s organizers made these transactions by themselves in order to test the bitcoin address.

It results interesting that one chain of transactions tracked from the *Jahezona* address also deposited bitcoin funds into addresses owned by other bitcoin sites, like “matbea.com” or “cloudbet.com” or “localbitcoins.com”, mostly used to sell bitcoins in person and popular resources for people seeking anonymity to cash out bitcoins as a sort of exchange withdrawal service³⁴.

The *Jahezona* campaign is still active. In 2018 on the *Jahezona* Telegram group has been identified a new bitcoin address, which revealed a series of 15 transactions from July 1, 2016 to January 12, 2018, many of

³² *Bitcoin wa Sadaqat al-Jihad*. Available at <https://krypt3ia.files.wordpress.com/2014/07/btcedit-21.pdf>

³³ “Equipe us” in Arabic.

³⁴ Y. Fanusie (August 24, 2016) *The New Frontier in Terror Fundraising: Bitcoin*. The Cipher Brief. Available at <https://www.thecipherbrief.com/column/private-sector/the-new-frontier-in-terror-fundraising-bitcoin>

which are valued at tens or hundreds of dollars, with a few transactions amounting to thousands of dollars, reaching picks of large sums equivalent to \$289,273.87 and \$123,020.68³⁵.

- The case of a computer intruder with ties to *Islamic State Hacking Division*, one of Daesh's cyber unit, **Ardit Ferizi**: an ethnic Albanian who was raised in Kosovo, also known by the username "**Albanian hacker**", who in August 2015 demanded payment of two bitcoins (approximately \$500 at the time) from an Illinois Internet retailer, in exchange for removing bugs from its computers³⁶. Using the data extracted from the retailer's server, the Albanian hacker put together a "kill list" for IS with identities of 1.351 US government and military personnel³⁷.
- **Akhbar al-Musulimin fundraising campaign**: in November 2017, one month after the fall of Raqqa, a banner for donations of bitcoins was launched on the IS-affiliated website which publishes news from the Islamic State, *Akhbar al-Musulimin*. The website has posted a link for bitcoin donations claiming "Click here to donate bitcoins to the (*Akhbar al-Musulimin*) website – do not donate from *zakāt*³⁸ funds"(as shown in the orange banner of the image below). The donations are presented as a support for the website, but may probably have been used by Daesh to restore its propaganda machine or fund terrorist attacks abroad³⁹. Further assessments have detected that the link no longer directs to CoinGate, showing how quickly Daesh's online branches adapt to avoid being tracked⁴⁰.
- **Bahrūn Naim**: the alleged planner of the 2016 attacks in Jakarta that killed eight people including four militants, who in 2017 was reported to

³⁵ E. Azani, N. Liv (January 30, 2018) *Jihadists' Use of Virtual Currency*. IDC Herzliya – International Institute for Counter-Terrorism (ICT). Available at <https://www.ict.org.il/images/Jihadists%20Use%20of%20Virtual%20Currency.pdf>

³⁶ T. Johnson (July 20, 2016) *Computer hack helped feed an Islamic State death list*. Mc Clatchy DC Bureau. Available at <http://www.mcclatchydc.com/news/nation-world/national/article90782637.html>

³⁷ Z.K. Goldman, E. Maruyama, E. Rosenberg, E. Saravalle, J. Solomon-Strauss (May 2017) *Terrorist use of virtual currencies: containing the potential threat*. Center for a New American Security (CNAS). Available at <https://s3.amazonaws.com/files.cnas.org/documents/CNASReport-TerroristFinancing-Final.pdf>

³⁸ An Arabic word referring to a payment made annually under Islamic law on certain kinds of property and used for charitable and religious purposes, one of the Five Pillars of Islam. The word *zakāt* origins comes from Persian and Kurdu languages, meaning "almsgiving".

³⁹ The Meir Amit Intelligence and Terrorism Information Center (December 06, 2017) *Drive for bitcoin donations on an ISIS-affiliated website*. Available at <http://www.terrorism-info.org.il/en/drive-bitcoin-donations-isis-affiliated-website/>

⁴⁰ Y.J. Bob (January 28, 2018) *ISIS, other jihadists increase bitcoin use after fall of Caliphate*. The Jerusalem Post. Available at <https://www.jpost.com/Middle-East/ISIS-Threat/ISIS-other-jihadists-increase-bitcoin-use-after-fall-of-Caliphate-540079>

have used bitcoin to transfer money to the **wife of Arif Hidayatullah** (a militant who was arrested by Indonesian counter-terrorism police unit) and to send money to militants and fund terrorist activities⁴¹.

- **Al Sadaqah donation campaign:** in November 2017 the *Al-Sadaqah* organization, presenting itself as a charity organization, began a still ongoing fundraising campaign on Telegram and other social media such as Twitter (see the image below⁴²) to raise money, in bitcoin⁴³, from Western supporters, to finance the *mujahideen* fighting against the Assad regime in northeastern Syria. The campaign has been circulated on channels identified as close to *Hay'at Tahrir Al-Sham* (HTS), Al-Qaeda, and the global jihad in general⁴⁴. The fundraising campaign opens with a quote by 12th-century Islamic scholar *Ibn Taymiyyah*: “Whoever is unable to take part in jihad physically but is able to take part in jihad by means of his wealth is obliged to take part in jihad by means of his wealth. So those who are well off must spend for the sake of Allah.”

Since then, *Al Sadaqah* has broadened its appeal, starting to solicit funds through additional cryptocurrencies, as Zcash, that offer even more privacy than bitcoin⁴⁵.

- **Zoobia Shahnaz:** a 27-year-old lab technician, US citizen born in Pakistan, arrested in December 2017 while trying to fly from the United States to Istanbul and from Turkey to Syria⁴⁶. After allegedly being radicalized online since 2015 and have been in contact with IS members while volunteering for the *Syrian American Medical Society in Jordan* in the *Zataari* refugee camp, in the city of Amman in 2016, she came back in the US and provided fake information to obtain bank loans and over a dozen credit cards in order to transfer the money into bitcoin and other cryp-

⁴¹ I.L. Tisnadibrata (September 01, 2017) *Indonesia Tracks Online Funding of Terror Groups*. Benar News. Available at <https://www.benarnews.org/english/news/indonesian/online-payments-01092017155456.html>

⁴² Al Sadaqah Twitter page. Available at <https://twitter.com/alsadaqah1>

⁴³ M. Del Castillo (December 21, 2017) *Think Tank Links Rising Bitcoin Price to Terrorist Use*. Coindesk. Available at <https://www.coindesk.com/u-s-think-tank-finds-rising-bitcoin-price-linked-terrorist-interest/>

⁴⁴ MEMRI Cyber & Jihad Lab (November 13, 2017) *Online Campaign In English Raising Funds For The Jihad In Syria In Bitcoin*. MEMRI. Available at <http://cjlalab.memri.org/latest-reports/online-campaign-in-english-raising-funds-for-the-jihad-in-syria-in-bitcoin/>

⁴⁵ B. Forrest, J. Scheck (February 20, 2018) *Jihadists See a Funding Boon in Bitcoin*. The Wall Street Journal. Available at <https://www.wsj.com/articles/jihadists-see-a-funding-boon-in-bitcoin-1519131601>

⁴⁶ The Meir Amit Intelligence and Terrorism Information Center (December 14-20, 2017) *Spotlight on global jihad*. Available at <http://www.terrorism-info.org.il/en/spotlight-global-jihad-december-14-20-2017/>

tocurrencies to IS⁴⁷. As prosecutors alleged, between March and August 2017 she scammed various financial institutions out of roughly \$85,000, then purchased approximately \$62,000 worth of bitcoin and other cryptocurrencies subsequently transferred to shell entities in Pakistan, China, and Turkey to benefit the terrorist group while “concealing the identity, source, and destination of the illicitly obtained monies⁴⁸”.

- **Telegram Open Network (TON)**: pointing out the lack of a mass-market cryptocurrency which can be used for daily transactions, the lack of consumer activity and the need for technical know-how when interacting with existing digital currencies⁴⁹, the team of Telegram announced in December 2017, that within 2018 will develop and make available a faster, with more advanced capabilities and user-friendly new type of crypto-value called Gram⁵⁰. Since 2015, when it was used in the planning of the Paris attacks, Telegram has emerged as jihadis’ preferred app for encrypted communications, including planning or to claim responsibility for its attacks⁵¹. Indeed, Telegram founder and CEO, Mr Durov, in 2016, has been officially asked by the Congress of the United States, after noting that hundreds of channels affiliated with Daesh and other terrorist organizations still find refuge in Telegram’s encrypted service, to do all in his power to prevent terrorists from exploiting Telegram to advance their lethal cause⁵². Even though the right path to follow in the policies filed shouldn’t accept

⁴⁷ H. Alexander (December 14, 2017) *New York woman charged with sending \$85,000 in bitcoin to support Isil*. The Telegraph. Available at <https://www.telegraph.co.uk/news/2017/12/14/new-york-woman-charged-sending-85000-bitcoin-support-isil/>

⁴⁸ Department of Justice – U.S. Attorney’s Office – Eastern District of New York (December 14, 2017) *Long Island Woman Indicted for Bank Fraud and Money Laundering to Support Terrorists. Defendant Stole and Laundered Over \$85,000 Using Bitcoin and Other Cryptocurrencies*. Available at <https://www.justice.gov/usao-edny/pr/long-island-woman-indicted-bank-fraud-and-money-laundering-support-terrorists>

⁴⁹ H. Nasser (January 09, 2018) *Exclusive: Telegram ICO (TON) Leaked Whitepaper Reveals Ambitious Plans*. CryptoVest. Available at <https://cryptovest.com/news/exclusive-telegram-ico-ton-leaked-whitepaper-reveals-ambitious-plans/>

⁵⁰ DeCenter YouTube Channel (December 22, 2017) *Telegram Open Network – TON (Promo Final Version)*. Available at <https://www.youtube.com/watch?v=3O-jnS72gY4>

⁵¹ J. Warrick (December 23, 2016) *The ‘app of choice’ for jihadis: ISIS seizes on Internet tool to promote terror*. The Washington Post. Available at https://www.washingtonpost.com/world/national-security/the-app-of-choice-for-jihadis-isis-seizes-on-internet-tool-to-promote-terror/2016/12/23/a8c348c0-c861-11e6-85b5-76616a33048d_story.html?utm_term=.0a8b5bf40b52

⁵² S. Stalinsky (March 30, 2018) *The Imminent Release Of Telegram’s Cryptocurrency, ISIS’s Encryption App Of Choice – An International Security Catastrophe In The Making*. MEMRI. Available at <https://www.memri.org/reports/imminent-release-telegrams-cryptocurrency-isis-encryption-app-choice-%E2%80%93-international>

to stop progress in order to avoid terrorist undetectable activities, given the previous analysis about the exploitation of the encrypted chat services and the technical skills that jihadists have proven to have in using dark web and cryptocurrencies at their own advantage, it comes quite clear that such a user-friendly blockchain technology, as the one proposed by Gram, would put another potentially very powerful tool in the terrorists' hands. If it will still not be clear which are going to be the precise measures to avoid terrorist exploitation provided by TON blockchain, then it will be impossible to foresight how many and how dangerous will be terrorism methods to exploit this new encrypted tool.

- **Bitcoin to fund jihadi training camps:** an IS terrorist, known only as Mohammed G, plundered the bank accounts of murdered holiday-makers Rod Saunders, 74, and his wife Rachel, 63. The couple was abducted by four terrorist group's affiliated in the Ngoye Forest Reserve, just 80 miles north of Durban, South Africa, on February 10, 2018. Mohammed G had contact with one of the kidnappers and was ordered to loot and launder their assets. He used their stolen credit card details to buy bitcoin online, which he then spent on Kalashnikov rifles, crossbows and swords. He also worked as an "IS travel agent" who would arrange trips for himself and other people to join Daesh forces in Iraq and Syria. He was arrested in March 2018 when anti-terror cops raided his house in the Southern Dutch city of Maastricht⁵³.

These cases show that the exploitation of cryptocurrencies by terrorist supporters present some aspects as a **common denominator**:

1. **A global and decentralized network:** Islamic terrorist organizations have become fully recognized actors of globalization, making hard to draw borders to group their activities, except through their ideology rooted in the Islamic extremism. The same happens with their financial resources, which branch out in a global network through the disuse of modern means of communication, cooperation with criminal organizations, and donations or, even more nowadays with Daesh's fragmentation after being forced out of its strongholds and the subsequent reinforcement of the Virtual Caliphate, in the online realm⁵⁴.

⁵³ J. Dirnhuber (August 29, 2018) *Funding Hate ISIS fanatics plundered bank accounts of Brit couple murdered by jihadis in South Africa and used money to buy bitcoin and fund jihadi training camp*. The Sun. Available at <https://www.thesun.co.uk/news/7122832/rod-saunders-rachel-isis-bank-accounts-terror-south-africa/>

⁵⁴ E. Azani (March 06, 2018) *Global Jihad – The Shift from Hierarchal Terrorist Organizations to Decentralized Systems*. International Counter Terrorism Institute – Herzliya. Available at https://www.ict.org.il/Article/2210/Global_Jihad_Shift_from_Hierarchal_Terrorist_Organizations#gsc.tab=0

2. **The threat behind an improved online radicalization process:** usually requests for donations to terrorist groups are explained to their supporters by the principles of *zakāt*⁵⁵ or *sadaqah*⁵⁶ in order to justify their actions by exploiting the *Sharia* law. This aspect highlights that in the most majority of the cases sympathizers or followers of Islamic extremist ideologies are usually brought closer and closer to finance terrorist organizations by passing through a well-structured radicalization process. Furthermore, nowadays radicalization is a process that can also take place entirely online⁵⁷, suggesting that the group will push more and more efforts in order to optimize effective methods to get economic support from small or wealthy donors or to launder money raised from illegal activities, by exploiting the spread of their extremist religious ideologies through the web-space⁵⁸.
3. **Modern terrorism is a low-cost investment:** in a 2007 video, Mustafa Abu al-Yazid, Al Qaeda's finance chief, claimed: "there are hundreds wishing to carry out martyrdom-seeking operations, but they can't find the funds to equip themselves."⁵⁹. Since a few years ago terrorist attacks don't cost anymore a prohibitive amount of money as used to be for Al-Qaeda in the 2000s given that they don't require anymore the use of complex operative or tactical planning. In fact, the lesson learned by lone wolves attacks has taught that a terrorist attack in the hybrid warfare is a low-cost investment: they can be carried out by one individual with rudimental tactical knowledge and no operative skills, using extremely cheap weapons as knives or amateur bombs. Thus the most urgent issue is related to stopping terrorist groups from establishing a transnational network able to transfer from the larger to the smallest amount of money. This approach would either cut decisively terrorists' financial resources or prevent them from easily planning a large number of terrorist attacks around the globe.

⁵⁵ An Arabic word referring to a payment made annually under Islamic law on certain kinds of property and used for charitable and religious purposes, one of the Five Pillars of Islam. The word *zakāt* origins comes from Persian and Kurdu languages, meaning "almsgiving".

⁵⁶ An Islamic term for "voluntary charity".

⁵⁷ I. von Behr, A. Reding, C. Edwards, L. Gribbon (2013) *Radicalisation in the digital era. The use of the internet in 15 cases of terrorism and extremism*. RAND Europe. Available at https://www.rand.org/content/dam/rand/pubs/research_reports/RR400/RR453/RAND_RR453.pdf

⁵⁸ Il Sole 24 Ore (May 10, 2018) *Money transfer illegal per finanziare la Jihad: arrestati 14 fiancheggiatori*. Available at <http://www.ilssole24ore.com/art/notizie/2018-05-10/terrorismo-arrestati-14-fiancheggiatori-formazioni-jihadiste-081156.shtml?uuid=AEGPd11E>

⁵⁹ E. Serravalle, E. Rosenberg (January 09, 2018) *Bitcoin can help terrorists secretly fund their deadly attacks*. FoxNews. Available at <http://www.foxnews.com/opinion/2018/01/09/bitcoin-can-help-terrorists-secretly-fund-their-deadly-attacks.html>

3. Anti-money laundering and counter-terrorism financing: current governmental and religious approaches to tackle the issue

As pointed out during the International Conference on terrorism financing “**No Money for Terror**” held in Paris the 25-26th of April 2018, which has gathered Ministers from 80 countries and nearly 500 experts, a growing number of States is criminalizing terrorism financing as a standalone offense but the number of terrorism-financing cases being successfully prosecuted by UN Member States’ judicial systems is still limited, due to the difficulty of proving the intent that the funds would be used for terrorism purposes⁶⁰.

Undoubtedly, the most undetectable types of terrorism funding are related to the illegal use of crypto-values, which allow the perpetration of untraceable donations or money laundering to finance terrorist organizations.

As virtual currencies become more widely accepted and play an expanding role in trading, governments have increasingly come to recognize that they are a potentially enduring reality, which still needs to be properly regulated in order to prevent its illegal use.

The following decisions or regulations at either governmental or religious level, highlight the most recent developments regarding counter-terrorism financing by cryptocurrencies:

- **United States – Financial Technology Task Force:** in January 2018 US lawmakers introduced a bill aimed to form a new task force. Its purpose would be to provide rewards for information leading to convictions related to the terrorist use of digital currencies and to encourage the development of tools and programs to combat terrorism and illicit use of digital currencies⁶¹. The task force would primarily focus on researching ways that terrorism can be financed through cryptocurrencies and subsequently propose regulations to counter these illegal activities⁶².
- **Australia – Anti-Money Laundering And Counter Terrorism Financing Act (AML/CTF):** in April 2018 AUSTRAC (Australia’s financial

⁶⁰ Security Council Counter-Terrorism Committee (April, 30 2018) *CTED Executive Director participates in international conference on terrorism financing*. Available at <https://www.un.org/sc/ctc/news/2018/04/30/cted-executive-director-participates-international-conference-terrorism-financing/>

⁶¹ Financial Technology Innovation and Defense Act 115th Congress – 2d Session (January 10, 2018) Available at <https://www.congress.gov/bill/115th-congress/house-bill/4752/text?q=%7B%22search%22%3A%5B%22congressId%3A115+AND+billStatus%3A%5C%22Introduce%5C%22%22%5D%7D&r=66>

⁶² W. Zhao (January 17, 2018) *Proposed US Task Force Would Tackle Crypto Use in Terrorism Financing*. CoinDesk. Available at <https://www.coindesk.com/proposed-us-task-force-would-tackle-crypto-use-in-terrorism-financing/>

intelligence agency) implemented new AML/CTF laws to cover, for the first time, regulation of service providers of cryptocurrencies, including bitcoin. The new laws will strengthen the agency's compliance and intelligence capabilities to help implement systems and controls aimed at minimizing the risk of money laundering, terrorism financing, and cyber-crime⁶³.

- **South Korea and Korea Financial Intelligence Unit (KFIU)**⁶⁴: the new South Korean cryptocurrency account system has entered into force nationwide on January 29, 2018, ending the practice that allowed anonymous trading of cryptocurrencies, by converting existing virtual cryptocurrency accounts to real-name accounts⁶⁵. Moreover, during the Policy Advisory Council meeting held on June 8, the head of KFIU, Kim Geun-ik, spoke about existing money laundering and terrorist financing prevention regulations and proposed to regulate crypto exchanges in the same way the government does with banks. The KFIU, following leading economies such as the US or Japan, will implement stricter rules for independent financial service providers to prevent money laundering and terrorist financing with rigorous verification processes for large transactions and monitoring of users⁶⁶.
- **Estonia**: as other small and fast-moving European countries (e.g. Malta) that in recent times are attracting cryptocurrencies businesses, the Estonian government has recently allowed CoinMetro⁶⁷ (a company operating in virtual currencies market) to secure two licenses for cryptocurrency trading activities: “Wallet license” to store cryptocurrencies and “Exchange license” to trade cryptocurrencies for other assets or other types of digital currencies⁶⁸. This initiative has the purpose to create a virtual safe space for businesses with cryptocurrencies that will help to provide a framework

⁶³ Australian Government – AUSTRAC (April 11, 2018) *New Australian laws to regulate cryptocurrency providers*. Available at <http://www.austrac.gov.au/media/media-releases/new-australian-laws-regulate-cryptocurrency-providers>

⁶⁴ Available at <http://www.kofiu.go.kr/eng/sub1/1.jsp>

⁶⁵ K. Helms (January 30, 2018) *South Korea Ends Anonymous Cryptocurrency Trading Today*. bitcoin.com. Available at <https://news.bitcoin.com/south-korea-ends-anonymous-cryptocurrency-trading/>

⁶⁶ (June 12, 2018) *South Korea to Impose Stricter Regulation of Cryptocurrency Exchanges*. Sputnik. Available at <https://sputniknews.com/science/201806121065344133-south-korea-regulation-crypto-exchanges/>

⁶⁷ Available at <https://coinmetro.com/about>

⁶⁸ A. Mizrahi (June 07, 2018) *Estonia Grants Licenses for Wallet and Exchange Services to Coinmetro*. bitcoin.com. Available at <https://news.bitcoin.com/estonia-grants-licenses-for-wallet-and-exchange-services-to-coin-metro/>

for establishing robust checks for anti-money laundering, counter-terrorism financing, and more detailed customer information.

- **Financial Crime Task Force (FATF):** the FATF is an intergovernmental organization based in Paris, which currently comprises 35 member States and two regional organizations, has the duty to develop policies to combat financial crimes. The organization published non-binding guidelines in June 2015 to promote a risk-based approach to cryptocurrencies, giving advice about exchanges to be registered or licensed, to verify customers' identities to prevent money laundering, and for suspicious trading to be reported⁶⁹. At the FATF meeting in Paris, held between February 18-23 2018, member countries asked to improve the understanding of money laundering risks relating to cryptocurrencies. Furthermore, even though it is not yet officially confirmed, following the member countries requests, within June 2018 the FATF will start a discussion aimed at introducing binding rules to govern cryptocurrency exchanges. In particular, the next step will take into account whether the 2015 rules are still appropriate and how to work with countries that have moved to ban cryptocurrency trading.
- **Muslim communities on the illegal use of cryptocurrency: a counter-narrative to terrorism propaganda:** while there are attempts to make cryptocurrencies more *Shariah* compliant, it is still not widely clear whether they are permissible in accordance to the *Shariah* law. The clearer answer to this debate came from the *Mufti* Shauqui Alam, the most influential religious authority of Egypt, in January 2018⁷⁰. Even though in Egypt the use of cryptocurrencies is not forbidden, recognizing their illicit use perpetrated by terrorist groups, the *Mufti* issued a *fatwa*⁷¹ prohibiting the use of bitcoins. Shauqui Alam motivated his decision on the ground that exists a similarity between cryptocurrencies and gambling (strictly forbidden by the *Quran*) due to their price volatility⁷².

⁶⁹ FATF/OECD (June 2015) *Guidance for a risk-based approach virtual currencies*. Available at <http://www.fatf-gafi.org/media/fatf/documents/reports/Guidance-RBA-Virtual-Currencies.pdf>

⁷⁰ A. Helmi, B. M. Hasbi, R. Mahzam (April 2018) *Cryptocurrencies: Potential For Terror Financing?* S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU), Singapore. Available at https://www.rsis.edu.sg/rsis-publication/icpvtr/co18075-cryptocurrencies-potential-for-terror-financing/#.WyNd_RIzaqQ

⁷¹ A religious edict in the Islamic faith.

⁷² M. Sabella (January 01, 2018) *Bitcoin, il Mufti del Cairo lancia una fatwa contro la criptovaluta*. Corriere della Sera. Available at https://www.corriere.it/economia/18_gennaio_01/bitcoin-mufti-cairo-lancia-fatwa-contro-criptovaluta-a7c062d0-ef18-11e7-97e1-31c2bf5f7cef.shtml

In the case of the *Mufti* Shauqui Alam, the Muslim community developed a counter-narrative to Islamic extremism, able to dismantle its ideology and explain an alternative religious path to the Islamic community which, if strengthened, would be a valuable resource to cut terrorists financial resources through donations.

4. Crime-terror nexus and potential jihadist's uses of cryptocurrencies

The analysis commissioned by the European Parliament TERR Committee⁷³ about terrorism financing by virtual currencies, published on May 2018, "**Virtual currencies and terrorist financing: assessing the risks and evaluating responses**"⁷⁴, has depicted the complex nature of the actors generally involved in extremist groups' online financing. The study gathers the subjects involved in this cyber-threat into distinct groups (lone actors, small-cells, command and control organizations, territory controlling groups) associating them with different funding methods (raising funds, moving funds, storing) that are helpful to identify the actors taking part in the terrorist illegal use of cryptocurrencies and what would be their main purposes in this field.

Hence, in order to try to prevent the next steps in online Islamic terrorist financing field, it is crucial to analyze this phenomenon through a perspective based on a **crime-terror nexus**⁷⁵, by comparing criminals' use of digital currencies (that, since now, are far more documented) with the last development of global terrorism. This approach can help to provide a picture of where the real threat of terrorism online financing lies.

4.1 Global terrorist organizations and their support groups

Terrorist organizations which are usually relying on the occupation of territories (as **Daesh** in Iraq and Syria or **al-Shabaab** in Somalia), those without a single established base (as **al-Qaeda**) and their support groups (e.g. **Haq**

⁷³ European Parliament Committees – Terrorism. Available at <http://www.europarl.europa.eu/committees/en/terr/home.html>

⁷⁴ T. Keatinge, D. Carlisle, F. Keen (May 2018) *Virtual currencies and terrorist financing: assessing the risks and evaluating responses*. European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs. Available at [http://www.europarl.europa.eu/RegData/etudes/STUD/2018/604970/IPOL_STU\(2018\)604970_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2018/604970/IPOL_STU(2018)604970_EN.pdf)

⁷⁵ R. Basra, P.R. Neumann, C. Brunner (2016) *Criminal Pasts, Terrorist Futures: European Jihadists and the New Crime-Terror Nexus*. The International Center for Studies on Radicalization and Political Studies. Available at <http://icsr.info/wp-content/uploads/2016/10/Criminal-Pasts-Terrorist-Futures.pdf>

Web site, Akhbar al-Mulsilimin website, Jahezona group) have already started to exploit the potential of modern financial tools. Despite, in most cases, could be important to study separately the peculiarity and rationale of each global Islamic terrorist group (as much as possible in the complex nature of Islamic extremism), the fact that terrorist exploitation of cryptocurrencies is still at an early stage, allows to find common trends even among totally different extremist Islamic groups which could develop in the following areas:

- **Purchase or sale of illegal items on the dark web**⁷⁶: a large part of global Islamic terrorist groups online activities are still detectable on the surface web but most of it, especially which of those concern operative instructions or one-to-one communications, have been shifted on dark web websites⁷⁷ or encrypted end-to-end chat groups (e.g. WhatsApp or Telegram⁷⁸). Besides the radicalization and propaganda purposes, the dark web also represents a sort of Amazon-like open black markets with no regulations, which allows the match of demand and supply of illegal items (e.g. drugs or weapons), where crypto-values have become the prominent mean of payment⁷⁹. Even though there is not yet documented evidence of terrorists massive use of the dark web illegal markets, cases as the drug selling dark website “**Silk Road**” or the recently dismantled **criminal network** operating in Spain, which was producing and distributing synthetic drugs worldwide on the dark web by accepting payments in cryptocurrencies⁸⁰,

⁷⁶The deep web (Academic databases, Medical and financial records, subscription only content, organization-specific content) and the Dark web (TOR, illegal activities) make up over 99.8% of the entire web and only less than 0.2% of the web is visible (i.e. surface or public web). It is in this untraceable places of the online network, built around hidden browsers, where the most majority of illegal online activities are perpetrated. Dark web is built around web browsers, the most frequently used are TOR or OPERA, which were meant to protect the anonymity of vulnerable people online. These type of browsers operate in the same way of Google Chrome or Internet Explorer but are able to encapsulate communications in layers of encryption that mask the identity of who is browsing and what they’re looking at.

⁷⁷G. Weimann (November 3, 2016) *Terrorist Migration to the Dark Web*. Univeriteit Leiden – The Netherlands. Available at <http://www.terrorismanalysts.com/pt/index.php/pot/article/view/513/html>

⁷⁸C. McCoogan (February 2, 2016) *Dark web browser Tor is overwhelmingly used for crime, says study*. The Telegraph – Technology Intelligence. Available at <https://www.telegraph.co.uk/technology/2016/02/02/dark-web-browser-tor-is-overwhelmingly-used-for-crime-says-study/>

⁷⁹(July 21, 2017) *Two of the biggest dark-web markets have been shut down – History suggests that other sites will soon fill the void*. The Economist. Available at <https://www.economist.com/graphic-detail/2017/07/21/two-of-the-biggest-dark-web-markets-have-been-shut-down>

⁸⁰EUROPOL Press Release (June 28, 2018) *Police seize more than EUR 4.5 million in cryptocurrencies in Europe’s bigger ever LSD bust*. Available at <https://www.europol.europa.eu/newsroom/news/police-seize-more-eur-45-million-in-cryptocurrencies-in-europe%E2%80%99s-biggest-ever-bsd-bust>

suggest that this trend has the potential to become a growing threat which should be carefully monitored. Furthermore, the increasing bond between Islamic terrorists and criminals⁸¹, rooted either in the fact that terrorist organizations are inciting their supporters to commit criminal activities by encouraging them to use funds raised through criminality as a legitimate way of financing the *jihad*⁸² or in their cooperation with international crime organizations from low-scale criminality (e.g. sale of counterfeited clothes or electronic devices⁸³) to organized crime (e.g. trafficking in drugs, weapons, cultural artifacts⁸⁴), shows a potential growing threat of terrorists' use of dark web black-markets. Moreover, the new terrorist youngest recruits, which are computer literate, will inevitably grow Islamic extremism crime rate on the online realm and, as a consequence, could push more and more in order to increase the exploitation of cryptocurrencies and the dark web to raise funds⁸⁵.

- **Receive donations to store or invest money:** global Islamic terrorist organizations have always been relying on large or small, anonymous public donations coming from West-based individuals, members of the diaspora community⁸⁶, wealthy supporters (often from Gulf state countries) or like-minded terrorist groups (as in 2012, the Nigerian group Boko Haram reportedly received \$250,000 from al-Qaeda⁸⁷), to get financial support. Thus, as already seen in the cases of the donations request by bitcoins on the Al-Qaeda affiliated, Syrian-jihadi group, ***Al-Sadaqah* donation**

⁸¹ N. Malik (May 2018) *Terror In the Dark*. Centre of the Response to Radicalization and Extremism. Available at <http://henryjacksonsociety.org/wp-content/uploads/2018/04/Terror-in-the-Dark.pdf>

⁸² R. Basra, P.R. Neumann, C. Brunner (2016) *Criminal Pasts, Terrorist Futures: European Jihadists and the New Crime-Terror Nexus*. The International Center for Studies on Radicalization and Political Studies. Available at <http://icsr.info/wp-content/uploads/2016/10/Criminal-Pasts-Terrorist-Futures.pdf>

⁸³ E. Kaplan (April, 4 2006) *Tracking Down Terrorist Financing*. Council on Foreign Relations. Available at <https://www.cfr.org/background/tracking-down-terrorist-financing>

⁸⁴ Committee of Experts on the Evaluation of Anti-Money Laundering Measures and the Financing of Terrorism – *Financing of terrorism*. Council of Europe. Available at <https://www.coe.int/en/web/moneyval/implementation/financing-terrorism>

⁸⁵ TE SAT European Union (2017) *Terrorism Situation and Trend Report 2017*. Available at <https://www.europol.europa.eu/tesat/2017/>

⁸⁶ L. Dearden (July 12, 2017) *UK residents donate thousands of pounds a year to Islamist extremist organisations, Home Office reveals*. Independent. Available at <https://www.independent.co.uk/news/uk/home-news/british-people-islamist-funding-extremist-organisations-home-office-amber-rudd-uk-isis-terrorism-a7837451.html>

⁸⁷ T. Keatinge (December 12, 2014) *Finances of jihad: How extremist groups raise money*. BBC News. Available at <http://www.bbc.com/news/world-middle-east-30393832>

campaign⁸⁸ or with the media group associated with Daesh, “**Technical Support of Afaq Electronic Foundation**”, which offered an alternative to secure online purchasing via the Zcash virtual currency⁸⁹, global Islamic terrorist organizations are already inciting their followers, scattered across the globe, to give economic support (warping the Islamic principles of *zakāt*⁹⁰ or *sadaqha*⁹¹) through the online realm. The money collected by these donation campaigns, as in the case of the *Akhbar al-Muslimin* campaign which was expressively aimed at reinforcing Daesh’s military equipment, can be stored into digital values dark-wallets. Despite in many cases these money deposits or transfers can be traceable⁹², with the emergence of alternative cryptocurrencies that are more opaque and better at concealing a user’s activity (e.g. Dash, ZCash or Gram), these financial tools are going to give to jihadists movements a secure economic resource that can be potentially used to finance terrorist attacks abroad, buy weapons or strengthen their propaganda machine⁹³.

- **Extorsions, ransom and other illicit activities:** on May 20, 2018, a 13 years old boy was kidnapped in the town of Witbank in the eastern province of Mpumalanga, South Africa, by three men, demanding \$123,000 worth (15 bitcoins) for his release⁹⁴. In Ukraine, in 2017 on December 26, Pavel Lerner, a leading analyst and blockchain expert, was abducted and released after giving more than \$1 million in bitcoins as ransom⁹⁵. According to an agent speaking at a digital-asset industry conference in New York, the FBI has 130 cases tied to cryptocurrencies which of them, besides the

⁸⁸ Al Sadaqah Twitter page. Available at <https://twitter.com/alsadaqah1>

⁸⁹ E. Azani, N. Liv (January 30, 2018) *Jihadists’ Use of Virtual Currency*. IDC Herzliya – ICT International Institute for Counter-Terrorism. Available at <https://www.ict.org.il/images/Jihadists%20Use%20of%20Virtual%20Currency.pdf>

⁹⁰ An Arabic word referring to a payment made annually under Islamic law on certain kinds of property and used for charitable and religious purposes, one of the Five Pillars of Islam. The word *zakāt* origins comes from Persian and Kurdu languages, meaning “almsgiving”.

⁹¹ An Arabic word referring to a charitable giving.

⁹² B. Brown (June 18, 2018) *Tracing a Jihadi cell, kidnapers and a scammer using the blockchain – an open source investigation*. Medium. Available at <https://medium.com/@benjamindbrown/tracing-syrian-cell-kidnapers-scammers-finances-through-blockchain-e9c52fb6127d>

⁹³ The Meir Amit Intelligence and Terrorism Information Center (June 12, 2017) *Drive for bitcoin donations on an ISIS-affiliated website*. Available at <https://www.terrorism-info.org.il/en/drive-bitcoin-donations-isis-affiliated-website/>

⁹⁴ S. Busari (May 24, 2018) *The 13-year-old South African boy kidnapped for a bitcoin ransom has been found*. CNN. Available at <https://edition.cnn.com/2018/05/24/africa/south-africa-bitcoin-ransom-boy-found/index.html>

⁹⁵ P. Politiuk (December 29, 2017) *Ukraine kidnapers free bitcoin analyst after \$1 million ransom paid*. Reuters. Available at <https://uk.reuters.com/article/uk-ukraine-kidnapping/ukraine-kidnapers-free-bitcoin-analyst-after-1-million-ransom-paid-idUKKBN1EN1QE>

cases related to drugs black-markets on the dark web, registered a significant rise in extortion schemes related to virtual currencies⁹⁶. Moreover, approximately 25% of all bitcoin users and close to one-half of bitcoin transactions (44%) are associated with illegal activity⁹⁷. Terrorist groups as Daesh or Al-Qaeda in West Africa have always been using methods as extortions, kidnapping (even on a daily basis) or human trafficking to generate considerable revenues and, the high skills they've proven to have in being flexible and always up to date in technological terms, could make harder to keep track of all their illicit revenues in these fields.

4.2 Lone-actors

This cluster represents individuals who are generally inspired by a central Islamic terrorist group without having a formal connection with it. As in the case of lone-wolves, these individuals are, in many cases, radicalized entirely online⁹⁸, without the need of being in contact with other followers, leaders of affiliated to the terrorist organization but mostly as the result (among other reasons usually related to marginalization, lack of self-recognition or psychopathologies) to a constant exposure to Islamic extremist online propaganda on the surface web, dark web and encrypted chats. Furthermore, as previously described, these people are usually extremely young and computer literate. These factors make them unpredictable (given the fact that they have not a direct connection with other jihadists online nor offline) and, being usually digital natives and very high-skilled in using modern technological tools, undetectable and with a high harmful potential.

The threat represented by lone-actors' use of cryptocurrencies could develop as follows:

- **Lone-wolves attacks equipment on the dark web:** there are several cases that highlight the dangerous threat of exploitation of crypto-values on the dark web black-markets. The Munich shooter, **Ali David Sonboly**, who bought a Glock 17 pistol and 350 round of ammunition on an e-commer-

⁹⁶ L. Katz, A. Massa (June 27, 2018) *FBI Has 130 Cryptocurrency-Related Investigations, Agent Says*. Bloomberg. Available at <https://www.bloomberg.com/news/articles/2018-06-27/fbi-has-130-cryptocurrency-related-investigations-agent-says>

⁹⁷ S. Foley, J.R. Karlsen, T.J. Putniņš (January 2018) *Sex, drugs, and bitcoin: How much illegal activity is financed through cryptocurrencies?* University of Sydney – University of Technology Sydney – Stockholm School of Economics in Riga. Available at <https://bit.ly/2GtHg5r>

⁹⁸ C.S. Liang (May 02, 2018) *Dead or alive? The future of the Islamic State*. Geneva Center for Security Policy. Available at <https://www.gcsp.ch/News-Knowledge/Global-insight/Dead-or-Alive-The-Future-of-the-Islamic-State#.WvQi7nQLSJI.linkedin>

ce on the dark web by using bitcoins⁹⁹. Mohammed Ali, 31, from Liverpool, who was diagnosed with mild Asperger's or autistic traits, bought five vials of ricin (enough to murder 1.400 people), under the online moniker of “**Weirdos 0000**”, by using bitcoins, in 2015¹⁰⁰. These are just two of a large number of cases related to the arms purchases (of any kind) on the dark web which highlight how easy for anyone has become to have access to dangerous items. Such weapons are smuggled in small quantities, sometimes just components that are later reassembled¹⁰¹. Hence the dark web has the potential to become the platform of choice for individuals (e.g. lone-wolves terrorists) to obtain weapons and ammunition behind the anonymity curtain provided by cryptocurrencies¹⁰². Furthermore, the increasing threat of lone-wolves using chemical weapons, as the 29-year-old Tunisian man, Sief Allah H, arrested in Cologne for producing ricin in his apartment or Waheba Issa Dais, a pro-ISIS Israeli woman, who attempted to provide detailed instructions on how to make ricin and then suggested the individual introduce the ricin to a government post or water reservoirs¹⁰³, should increase the awareness of dark web and lone-wolves nexus in order to be prepared to counter it.

- **Spread instructions aimed at using cryptocurrencies illegally:** as in the case of “*Bitcoin wa Sadaqat al-Jihad*” (“Bitcoin and the Charity of Jihad”) which encouraged jihadists supporters to use digital currencies to finance ISIS and “limit economic support for infidels (Western Banks)” by giving instructions about how to use them¹⁰⁴, many other cases of lone actors

⁹⁹ K. Sengupta (August 26, 2016) *The Dark Web is a Dangerous New Frontier for Those who try to keep Terrorists a Bay*. Independent. Available at <https://www.independent.co.uk/voices/germany-munich-attack-shooting-ali-david-sonboly-a7212151.html>

¹⁰⁰ M. Robinson (September 18, 2015) *Breaking Bad-inspired computer geek who tried to buy enough ricin to kill 1,400 people from undercover FBI agent on hidden 'Dark Web' is jailed for eight years*. Mail Online. Available at <http://www.dailymail.co.uk/news/article-3239810/Computer-geek-tried-buy-ricin-kill-1-400-people-undercover-FBI-agent-hidden-Dark-Web-jailed-eight-years.html>

¹⁰¹ J. Burke (April 18, 2018) *Military grade firearms increasingly available to terrorists in Europe – report*. The Guardian. Available at <https://www.theguardian.com/world/2018/apr/18/arms-race-criminal-gangs-helping-terrorists-get-weapons-report-warns>

¹⁰² G. Persi Paoli, J. Aldridge, N. Ryan, R. Warnes (July 19, 2017) *International Arms Trade on the Dark Web*. RAND Corporation. Available at <https://www.rand.org/randeurope/research/projects/international-arms-trade-on-the-hidden-web.html>

¹⁰³ Justice News (June 13, 2018) *Wisconsin Woman Charged With Attempting to Provide Material Support to ISIS*. The United States Department of Justice – Office of Public Affairs. Available at <https://www.justice.gov/opa/pr/wisconsin-woman-charged-attempting-provide-material-support-isis>

¹⁰⁴ *Bitcoin wa Sadaqat al-Jihad*. Available at <https://krypt3ia.files.wordpress.com/2014/07/bt-credit-21.pdf>

which give information to finance terrorist organizations can be found on the dark web and encrypted chats. Furthermore, in case lone-jihadi-actors wouldn't have enough skills to perpetrate crimes with cryptocurrencies, as described in a 2016 report by Europol, they can rely on Crime-as-a-service (CaaS) available either on the deep web or on the dark web, where professional criminal or groups of criminals develop advanced tools, "kits" and other packaged services which are then offered up for sale or rent (by digital currencies) to other criminals who are usually less experienced¹⁰⁵.

- **Money laundering, scams and terrorism financing:** as already seen in the cases of **Zoobia Shahnaz**¹⁰⁶, who was financing IS by transferring money stolen by bank frauds in form of bitcoin and other cryptocurrencies, or **Ardit Ferizi**, an IS supporter who demanded payment in bitcoins from an Illinois Internet retailer, in exchange for removing bugs from its computers¹⁰⁷, there are signals that show an increasing trend in terrorism financing through online scams or money laundering. Some of these online money laundering methods, developed around transactions of small amounts of money, can take place inside the most unexpected web platform as, for instance, in the case of the exploitation of Massive Online Role Playing Games (MMORPG), as *Second Life* or *World of Warcraft*¹⁰⁸. Or, keeping with the online scams, the case of the 19-year old Israeli-American hacker, arrested this March and convicted on June 28, who received payment in bitcoin (allegedly almost \$250.000) by selling "intimidation" and extortion services to clients, charging (among other "services") \$40 to make a call warning of a massacre in a private home; \$80 to threaten a massacre at a school; and \$500 to phone in a threat of a bomb on a plane¹⁰⁹.

¹⁰⁵ Institute for Economics and Peace (IEP) (2016) *Global Terrorism Index – Measuring and Understanding the Impact of Terrorism*. Available at <http://economicsandpeace.org/wp-content/uploads/2016/11/Global-Terrorism-Index-2016.2.pdf>

¹⁰⁶ The Meir Amit Intelligence and Terrorism Information Center (December 20, 2017) *Spotlight on global jihad*. Available at <http://www.terrorism-info.org.il/en/spotlight-global-jihad-december-14-20-2017/>

¹⁰⁷ T. Johnson (July 20, 2016) *Computer hack helped feed an Islamic State death list*. Mc Clatchy DC Bureau. Available at <http://www.mcclatchydc.com/news/nation-world/national/article90782637.html>

¹⁰⁸ J.L. Richet (2013). *Laundering Money Online: a review of cybercriminals' methods*. Tools and Resources for Anti-Corruption Knowledge, United Nations Office on Drugs and Crime (UNODC). Available at <http://arxiv.org/ftp/arxiv/papers/1310/1310.2368.pdf>

¹⁰⁹ R. Hovel (June 28, 2018) *Israel Convicts Israeli-American Hacker Who Terrorized U.S. Jews With Bomb Threats*. Haaretz. Available at <https://www.haaretz.com/israel-news/.premium-israeli-american-convicted-of-bomb-hoaxes-against-u-s-jewish-targets-1.6220106>

5. Cyber jihad and terrorism financing: new methods – old rules

On July 2018, the **Financial Action Task Force (FATF)** published a report addressed to the G20 Finance Ministers and Central Banks Governors, summarizing the latest development in anti-money laundering and terrorism financing and drawing a short-term work program in these fields¹¹⁰.

Regarding the **G20 member States**, the FATF points out that, due to a lack of a broadly shared international legal framework to regulate virtual currencies, it is still challenging to ensure a consistent global approach. The G20 Member States are still divided into those which are preparing laws or regulations to encourage financial and technological progress and those adopting measures mostly focused on prohibition. Hence, according to the FATF report, given the highly mobile nature of virtual currencies/crypto-assets, there is a risk of regulatory arbitrage or flight to unregulated safe havens. Furthermore, many national law enforcement authorities still have to improve their understanding of how to effectively conduct investigations of cases involving digital currencies, and how to disrupt criminals.

Another important feature of the report concerns an estimation of a growing **link between cryptocurrency and terrorism**, due to the evolution of either criminal or terrorist groups' financing means and capabilities. The 2018 FATF report, referring to the joint FATF/Egmont Group analysis on 106 case studies¹¹¹, demonstrates that third parties financial entities (especially Shell Companies) are a key feature in the **schemes designed to disguise money laundering or terrorism financing**, dividing them into three groups:

- Shell company: incorporated company with no independent operations, significant assets, ongoing business activities, or employees.
- Front company: fully functioning company with the characteristics of a legitimate business, serving to disguise and obscure illicit financial activity.
- Shelf company: incorporated company with inactive shareholders, directors, and secretary, left dormant for a longer period even if a customer relationship has already been established.

¹¹⁰ FATF (2018) *FATF Report to G20 Finance Ministers and Central Bank Governors*. FATF, Paris, France. Available at www.fatf-gafi.org/publications/fatfgeneral/documents/report-g20-fm-cbg-july-2018.html

¹¹¹ FATF – Egmont Group (2018) *Concealment of Beneficial Ownership*. FATF, Paris, France. Available at www.fatf-gafi.org/publications/methodandtrends/documents/concealment-beneficial-ownership.html

5.1 The *Dawa* infrastructure, front organizations and the grey zone

Shell Companies and Front Companies (frequently non-profit organizations) cover a central role in terrorism propaganda, radicalization, recruitment, and terrorism financing. There are, indeed, various forms of radical Islam which pursue very far-reaching changes in society, but which do not involve the use of violence.

In these terms, referring to anti-money laundering or terrorism financing, a fundamental aspect to take into account is the broadly use made by terrorist groups of apparently licit **front organizations** or **religious centers** to disguise and launder their illegal financial activities: **the *Dawa* infrastructure**¹¹². The *Dawa*'s main idea is based on the core belief that investing in educating Islamic values and social activity may bear fruit to broaden the base of public support in order to: expose Muslims and general public to **jihadi ideology**; provide international **logistic support**¹¹³ to terrorists; grant a legal and legitimate **financial resource** for local or global Islamic leaders/organizations¹¹⁴.

In some cases, the *Dawa* infrastructure is established around charity organizations (exploiting the Islamic values of charity donation: *zakāt* and *sadaqha*) which are publicly represented by non-profit companies, Islamic education centers, and hubs for fundraising events.

These front organizations are deeply connected at a public or political level¹¹⁵ and represent one of the main provider of financial resources to terrorist groups, even compared to private companies and international or petty crime.

The features which make the global *Dawa* infrastructure one of the shadiest issue of terrorism financing is its unique ability to obscure its purposes either behind a public licit facade or by its ability to hide its illegal financial activities through the so-called "**grey zone**". The "grey zone" is the infrastructure that allows terrorist groups to cut the links between legal financial sources, channels used to transfer funds, and the financial aid to the *mujahideen*. A typical *modus operandi* which characterizes the "grey zone", is mo-

¹¹² S. Shay (2008) *Somalia Between Jihad and Restoration*. Taylor & Francis Group, New York .

¹¹³ C.P. Clarke (August 28, 2017) *Hezbollah Has Been Active in America for Decades*. RAND Corporation. Available at <https://www.rand.org/blog/2017/08/hezbollah-has-been-active-in-america-for-decades.html>

¹¹⁴ Israel Security Agency "Dawa" – *Hamas' Civilian Infrastructure and its Role in Terror Financing*. Available at <https://www.shabak.gov.il/SiteCollectionImages/english/TerrorInfo/dawa-en.pdf>

¹¹⁵ G.R. Simpsons (March 18, 2003) *List of Early al Qaeda Donors Points to Saudi Elite, Charities*. The Wall Street Journal. Available at <https://www.wsj.com/articles/SB104794563734573400>

ving collected funds through a chain of transfers which are later withdrawn in cash to be further transported by couriers¹¹⁶.

The *Dawa*'s politically correct approach is adopted also in online terrorism financing. In order to conceal the real purposes of fundraising and avoid blocking, online crowdfunding campaigns for the *mujahideen* often do not contain direct references to fundraising for terrorism financing but use ambiguous language or the pretext of collecting funds for charitable and humanitarian purposes.

Nevertheless, as explained in the International Institute for Counter-Terrorism (ICT) report on "2017 Trends in Cyberspace"¹¹⁷, cryptocurrencies are introducing new forms of crowdfunding, making, in most cases, a clear distinction between crowdfunding online campaigns to finance terrorism behind a false intent and those made for explicit militaristic purposes.

- **Online charity crowdfunding campaigns**, more similar to the *Dawa* infrastructure politically correct approach (e.g. raise funds for the children of prisoners or to save a mosque from destruction) are carried out on both unregulated or mainstream social websites, where it is encouraged online interactions among users and which usually don't ask for donations by cryptocurrencies, but for other sort of means of online or cash payments¹¹⁸.
- **Crowdfunding campaigns requiring donations in digital currencies** are more explicit about their terrorism financing purposes (e.g. Jahezona campaign explicitly showing that the donations were intended for buying weapons for terrorist groups). Hence, given an inadequate legal regulation on digital currencies, which still allows sending money in complete anonymity, terrorist organizations are using donation campaigns by cryptocurrency to ask for economic support for unambiguous and very clear militaristic ends. In fact, these campaigns don't encourage interaction among

¹¹⁶ "Social network fundraising with prepaid card Individuals associated with ISIL called for donations via Twitter and asked the donors to contact them through Skype. Once on Skype, those individuals asked donors to buy an international prepaid card (a credit for mobile phone or the purchase of an Apple or other programs or credit for playing on the Internet) and send them the number of this prepaid card via Skype. Then, the fundraiser sent this card number to one of his followers in a neighbouring country from Syria, who would sell this card number at a lower price and give the cash proceeds to ISIL. Source: Saudi Arabia." FATF (2015). *Emerging Terrorist Financing Risks*. FATF, Paris, France. Available at www.fatf-gafi.org/publications/methodsandtrends/documents/emerging-terrorist-financing-risks.html

¹¹⁷ International Institute on Counter-Terrorism (July 10, 2018) *Trends in Cyberspace*. IDC Herzliya. Available at https://www.ict.org.il/Article/2230/Trends_in_Cyberspace_Annual_Summary_2017#gsc.tab=0

¹¹⁸ Excet for *Al Sadaqah* donation campaign. Available at <http://www.itstime.it/w/bitcoin-and-other-types-of-cryptocurrency-modern-and-undetactable-ways-to-finance-terrorism-by-daniele-maria-barone/>

users, but rather provide clear instructions on how to keep themselves as anonymous as possible.

5.2 Cryptocurrencies: Haram or Halal?

There is no evidence of transactions of relatively large amounts of money by cryptocurrency to finance Islamic terrorist groups, especially compared to the extensive illegal use of digital currencies perpetrated by small/global criminality or extremist political movements (as neo-Nazi groups¹¹⁹).

Indeed, the largest amount of money that terrorist groups raise from donations are those coming from false Islamic charity organizations through crowdfunding campaigns¹²⁰ or from wealthy donors from Gulf countries by direct money or gold donations¹²¹. These actors may have avoided a massive use of cryptocurrency to take part in the *jihad bil maal*¹²² for reasons related to the instability of the digital-currencies market.

- **Economic reason:** even though investments in cryptocurrency have proved to be a profitable investment, its price volatility is keeping many investors from entering this new market. The recent bitcoin sharp hit on June 10 this year, as well as other virtual currencies, after South Korean cryptocurrency exchange Coinrail was hacked losing \$ 42 million in value, is just one of the many cases that can increase the perception of how risky could be to transfer and store a large amount of money entirely online¹²³. Furthermore, Islamic finance emphasizes economic activity mostly based on physical assets, avoiding interest payments and outright monetary speculation.

¹¹⁹As claimed by Royal United Services Institute (RUSI) associate fellow, David Carlisle “Where we probably see more significant adoption amongst extremist actors is amongst political extremists and particular amongst Neo-Nazi groups, who sometimes have an ideological affiliation with this notion of a borderless technology that allows one to operate outside the incumbent system and can be used as a manner of undermining the traditional banking system.” N. Gutteridge (June 18, 2018) *Bitcoin terror threat ISIS terrorists and neo-Nazis using bitcoin and other cyberscash to ‘crowdfund’ global propaganda, experts warn*. The Sun. Available at <https://www.thesun.co.uk/news/6564841/isis-neo-nazis-bitcoin-funding-terror-propaganda/>

¹²⁰E. Kaplan (April 4, 2006) *Tracking Down Terrorist Financing*. Council on Foreign Relations. Available at <https://www.cfr.org/background/tracking-down-terrorist-financing>

¹²¹R. Windrem (September 21, 2014) *Who’s Funding ISIS? Wealthy Gulf ‘Angel Investors,’ Officials Say*. NBC News. Available at <https://www.nbcnews.com/storyline/isis-terror/who-s-funding-isis-wealthy-gulf-angel-investors-officials-say-n208006>

¹²²An Islamic principle according to which the Muslims who can’t fight for the jihad, can contribute by giving money to support the *mujahideen*.

¹²³J. Lockett, E. Hyatt (June 12, 2018) *Geek’s gold. What is bitcoin, what’s happened to the price and how can you buy the cryptocurrency?* The Sun. Available at <https://www.thesun.co.uk/money/3000715/bitcoin-what-is-price-gbp-usd-today-value-cryptocurrency-buy/>

- **Religious reason:** all Islamic scholars, given its price volatility, have always referred to cryptocurrency as a form of gambling, thus, *haram*¹²⁴. Usually, terrorist front organizations and wealthy donors have to show their belonging to a strictly puritanical form of Islam to get recognition and be influential in the Islamic community, thus they're not allowed to have the same level of "ideological flexibility" that is typical of terrorist groups¹²⁵. Nevertheless, because of FinTech companies not at all related to radical extremism but rather involved in a very legitimate and innovative business, which are interested in working in growing markets of the Middle East and Southeast Asia, cryptocurrencies are becoming more and more sharia-compliant and safer for Islamic investors.
- **Gold to stabilize cryptocurrencies' value:** a startup based in Dubai, OneGram¹²⁶, is spreading a new kind of gold-backed cryptocurrency. As Ibrahim Mohammed, OneGram co-founder, explained: "Gold was among the first forms of money in Islamic societies"¹²⁷. Thus, OneGram is issuing a cryptocurrency structured in a way that each unit is backed by at least one gram of gold, giving far more stability to its value and obtaining a ruling that its cryptocurrency conforms with Islamic principles from **Dubai-based Al Maali Consulting**¹²⁸.
- **Sharia-compliant Californian FinTech firm:** California-based firm Stellar has received certification from **The Shariyah Review Bureau (SRB)**, a leading international Sharia advisory agency licensed by the Central Bank of Bahrain¹²⁹, for its blockchain platform and its native currency called Lumens¹³⁰, aiming at integrating the technology into the field of sharia-

¹²⁴ An Arabic word, which means "prohibited".

¹²⁵ Pro-Al-Qaeda English-language magazine Al-Haqiqa, distributed on Telegram, which, examining the Sharia permissibility of using bitcoin and similar currencies to fund jihad, stated: "We see lots of potential for the use of cryptocurrencies for our purposes." S. Stalinsky (March 30, 2018) *The Imminent Release Of Telegram's Cryptocurrency, ISIS's Encryption App Of Choice – An International Security Catastrophe In The Making*. MEMRI. Available at <https://www.memri.org/reports/imminent-release-telegrams-cryptocurrency-isis-encryption-app-choice-%E2%80%93-international>

¹²⁶ Available at <https://onegram.org/>

¹²⁷ Al-Jazeera (April 8, 2018) *Islam and cryptocurrency, halal or not halal? The speculative nature of cryptocurrencies has triggered debate among Muslim scholars over its permissibility*. Available at <https://www.aljazeera.com/news/2018/04/islam-cryptocurrency-halal-halal-180408145004684.html>

¹²⁸ An Islamic finance consulting company.

¹²⁹ Available at <http://shariyah.com/>

¹³⁰ Available at <https://www.stellar.org/lumens/>

compliant financial products¹³¹. “Stellar is the first distributed ledger protocol to receive Sharia compliance certification in the money transfer and asset tokenization space...”. This certification will allow the firm to work with “Islamic financial institutions in the Gulf Cooperation Council (i.e. Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE) and parts of Southeast Asia (i.e. Indonesia and Malaysia)”¹³².

6. A multidisciplinary approach to counter terrorism financing

As pointed out by Dr Peter R. Neumann on its paper *Don't Follow The Money*, “governments should integrate their efforts to restrict terrorist financing into their wider counterterrorism strategies instead of delegating this mission to finance ministries... actions aimed at countering terrorist funding may involve the financial system, but on other occasions, governments should use the military and law enforcement instead”¹³³.

Then, an intervention aimed at countering online terrorism financing implies the cooperation among apparently different sectors at a global level, which would allow filling the gap represented by four main macro-areas:

6.1 Lack of control over the online realm

By exploiting the surface and the deep web, Islamic terrorist organizations have the ability to either disseminate public messages or have a one-to-one type of communication with followers or sympathizers. Their economic resources in the online realm work in the same way of their online communication strategies: there are cases related to public links, in the most majority of them lightly-disguised, to fundraising campaigns or encrypted chats aimed to directly ask their followers an economic support. These aspects inevitably show a lack of control over online platforms¹³⁴ thus, the absence of a regulatory framework able to reduce the exploitation of the web by terrorist organiza-

¹³¹ B. Vizcanio (July 17, 2018) *Cryptocurrency firm Stellar gets Islamic finance certification*. Reuters. Available at <https://www.reuters.com/article/us-islamic-finance-cryptocurrencies/cryptocurrency-firm-stellar-gets-islamic-finance-certification-idUSKBN1K71RC>

¹³² Available at <https://www.stellar.org/blog/stellar-receives-sharia-compliance-certification-transfers-tokenization>

¹³³ P.R. Neumann (July/August 2017) *Don't Follow the Money – The Problem With the War on Terrorist Financing*. Foreign Affairs. Volume 96 – Number 4. Available at <http://icrsr.info/wp-content/uploads/2017/06/Foreign-Affairs-Dont-Follow-the-Money-Peter-R.-Neumann.pdf>

¹³⁴ K. Leetaru (May 15, 2018) *The Problem With Using AI To Fight Terrorism On Social Media*. Forbes. Available at <https://www.forbes.com/sites/kalevleetaru/2018/05/15/the-problem-with-using-ai-to-fight-terrorism-on-social-media/#4d640ad86fed>

tions in terms of communication, is inevitably pouring onto the impossibility to detect terrorism's online economic resources.

Furthermore, the increasing developments of modern technologies in the financial sector are forcing governments to constantly try to understand and adapt to them as fast as they can, in order to avoid risks and threats to legality.

A more collaborative industry-government partnership could bring faster results in countering terrorist use of virtual currencies. In fact, this lack of cooperative measures and schemes, which can be noticed even in the most recent governmental decisions, could slowdown financial innovation without even decisively cut terrorist economic resources.

Cooperation could bring a more cohesive system, able to promote new and effective solutions to counter-terrorism financing while still encouraging progress in the financial or technological sector.

This could represent a primary condition to ensure that institutions will not have to keep on adapting their policies to modern technological improvements, innovative companies will not have to operate into a grey legal area, and terrorist organizations will not find an ideal ecosystem to perpetrate their illegal activities.

6.2 The ideological factor

The ability that terrorist groups have to turn even the most practical issues into a religious rule is quite a unique feature of these sort of organizations. Fundraising campaigns for *sadaqah* or extortions under the principle of *zakāt* or presenting the use of cryptocurrencies “for ideological-religious reasons”¹³⁵, are just some examples of how they can convince people to strengthen them financially while emphasizing their ideological narrative. Fundamentally terrorism is communication, thus Counter-narratives, Alternative Narratives, and Government Strategic Communications¹³⁶ have to be added to a strategy aimed to stop terrorist propaganda and prevent people from taking part in their fundraising campaigns.

¹³⁵ *Bitcoin wa Sadaqat al-Jihad*. Available at <https://krypt3ia.files.wordpress.com/2014/07/btcedit-21.pdf>

¹³⁶ A. Reed, H.J. Ingram, J. Whittaker (November 22, 2017) *Countering Terrorist Narratives*. Policy Department for Citizen's Rights and Constitutional Affairs – Directorate General for Internal Policies of the Union. Available at <https://icct.nl/wp-content/uploads/2017/11/Reed-Ingram-Whittaker-Narratives.pdf>

6.3 A global counter-terrorism strategy

The global reach of modern terrorism is developing a new warfare scenario which imposes on governments and supranational institutions a multidisciplinary approach that has to be reinforced by a transnational level of cooperation¹³⁷. Terrorist groups have understood how to exploit their global networks either with organized crime or with like-minded terrorist organizations, making full use of transversal methods and skills able to reinforce their ranks and their funding. This is not yet enough to precisely detect and prevent cyber-jihadist activities. One of the reasons can be found in the fact that the possibilities to exploit cryptocurrencies for illegal activities are countless and many times can be very inclusive and imaginative.

Global terrorism, and especially Daesh after shifting from the management of the physical caliphate to a decentralized “virtual caliphate”¹³⁸, has brought a new protagonist in the hybrid warfare: the Lone-Wolve. Just as Lone-Wolves, the cyber-jihadists lone-actors are generally young and motivated subjects, that can increase their motivation and operational capabilities directly in the online realm, by checking a few websites on the surface web or by searching for like-minded people which can help them reach Islamic extremist forums or chats or instructions in the dark web. Indeed, global terrorist groups and lone-actors seem to be more and more linked to each other by either a **top-down effect** of terrorist groups’ propaganda, which is fragmentary able to radicalize people scattered across the globe, or by a **bottom-up effect**, which allows the terrorist groups to learn and use at their own advantage the modern methods or approaches brought up by their youngest followers. These actors, being fragmented and unpredictable, are able to spread more panic and fear than any terrorist organization itself.

Indeed, the HUMAN INTelligence or COMMUNICATION INTelligence seem to be still the most used sources to make the first steps to investigate suspicious terrorist activities which subsequently allow understanding the online network hidden behind some terrorist’s actions¹³⁹. But it should be taken into account that, the advantage represented by the increasing threat of these

¹³⁷ UN Meeting Coverage and Press releases (September 21, 2017) *Global Cooperation, Tackling Root Causes Central to Fight against Terrorism, World Leaders Stress on Third Day of General Debate*. United Nations. Available at <https://www.un.org/press/en/2017/ga11950.doc.htm>

¹³⁸ N. Spagna (December 5, 2017) *Daesh cambia forma. Resta (aumenta) la minaccia*. ITSTIME – Italian Team for Security, Terroristic Issues & Managing Emergencies. Available at <http://www.itstime.it/w/daesh-cambia-forma-resta-aumenta-la-minaccia-by-nicolo-spagna/>

¹³⁹ F. Tonacci (July 26, 2016) *Terrorismo, la rete criptata: così la cyber-jihad comunica con i lupi solitari in Europa*. La Repubblica. Available at http://www.repubblica.it/esteri/2016/07/26/news/terrorismo_rete_criptata_stato_islamico_cyber_jihad-144816976/

activities online (lone-actors' activity as well) is that they are always leaving a trace of what they do or of what they say. Thus, investigations should concentrate more efforts in strengthening their **Open Source Intelligence (OSINT)** methods, which is the key factor (with a strong and constant cooperation at local, State, and international level with the private sector¹⁴⁰) to understand, fight and prevent this growing phenomenon.

Governments should increase their level of cooperation in order to reach those undetectable areas (both online (e.g. deep web, encrypted chats, cryptocurrencies) and offline (e.g. LDCs, marginalized people or communities) where terrorism finds fertile ground to proliferate. Hence, an improved and permanent cooperation at an international level with a cross-cutting competencies approach (e.g. military, sociological, economic, political, religious, digital) seems to be the only way to detect and decisively cut Daesh's financial resources.

6.4 Cryptocurrencies impose on authorities the duty to look at Islamic terrorists' real form

Global terrorism is not only made by decentralized groups scattered across the globe, small criminality, and borderline radical ideology but, as proven also by the *Dawa* infrastructure, it is also made by strong connections with political and religious influential figures and international entirely legal organizations. In these terms, Islamic terrorism should be analyzed as a cohesive entity which accurately calibrates each move in order to hit the *takfir* (infidels) as hard as possible while gathering public, political and religious support.

Same as the *Dawa* infrastructure, terrorism financing, can't be tackled only through the financial sector, but it is a subject which includes sociological, religious, political and military aspects¹⁴¹.

Terrorist groups' connections not only with criminal organizations, but also with religious, political, and wealthy radical Islamic leaders or organization could be the missing piece of a broader religious and political justification that has, so far, kept global Islamic terrorist organizations from fully exploiting cryptocurrencies and digital assets.

¹⁴⁰ HM Government (June 2018) *The United Kingdom's Strategy for Countering Terrorism*. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/716907/140618_CCS207_CCS0218929798-1_CONTEST_3.0_WEB.pdf

¹⁴¹ P.R. Neumann (July/August 2017) *Don't Follow the Money – The Problem With the War on Terrorist Financing*. Foreign Affairs. Available at <https://www.foreignaffairs.com/articles/2017-06-13/dont-follow-money>

The developments in these terms should be accurately monitored to prevent Islamic terrorism from warping such a futuristic financial instrument as cryptocurrencies, into an unregulated fertile ground for terrorism financing.

As claimed by Dr. Jehangir Khan, Officer-in-Charge and Director of the Office of Counter-Terrorism at the UN: “Since 9/11 we have had numerous resolutions, numerous meetings in the security council and other forums, we have built a whole international legislative framework. A lot is being done, but if we look at the state of the world today... are we winning the war against terrorism or are we winning a few battles?”¹⁴².

Of course, institutions are making progress in stopping online terrorism financing, but are we really able to counter its global reach?

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¹⁴² International Institute for Counter-Terrorism (ICT) YouTube Channel (September 11, 2017) – *Officer-in-Charge and Director, Office of Counter-Terrorism, United Nations: From Rhetoric to Reality – Strengthening Multilateral Cooperation to Address the Growing Threat of Transnational Terrorism*. Available at <https://www.youtube.com/watch?v=2WtlMgCgat4>

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Woman in Islamic terrorism: history, roles, data and analysis

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Abstract

The presence of women in Islamic terrorism has been studied by different scholars, however, from the literature emerged a cognitive gap on the concrete functions assumed by them. The purpose of this research is to understand the roles played by women, if there are differences in role between women affiliated with Al Qaeda and Daesh and what are the relevant intervening variables. The study was conducted on a sample of 176 women and the approach adopted was that of a qualitative analysis. The first part of the research highlights, for each role that emerged, the socio-relational variables that influences acquisition of role. The second part of the study analysis the semiotics of two magazines that following the birth of the Islamic State with the aim of understanding if and in what terms the online propaganda promoted female mobilization. The results obtained from the study showed that there was both a gradual implementation and diversification of female support with the beginning of Daesh.

Abstract

La presenza delle donne nel terrorismo islamico è stata rilevata da differenti studiosi tuttavia dalla letteratura è emerso un gap conoscitivo sulle concrete funzioni assunte da quest'ultime. Lo scopo di tale ricerca è quello di comprendere quali sono i ruoli rivestiti dalle donne, se vi sono differenze di ruolo tra le donne affiliate Al Qaeda e al Daesh e quali sono le variabili intervenienti rilevanti. Lo studio qualitativo è stato condotto su un campione di 176 donne. La prima parte della ricerca evidenzia, per ogni ruolo emerso, le influenze socio-relazionali che ne hanno determinato l'acquisizione. La seconda parte dello studio si focalizza sull'analisi della semiotica di due riviste sorte a seguito della nascita dello Stato Islamico con l'obiettivo di comprendere se e in che termini la propaganda online abbia promosso la mobilitazione femminile. I risultati ottenuti dallo studio hanno evidenziato che vi è stata sia una graduale implementazione nonché diversificazione del supporto femminile con l'avvento del Daesh.

Keywords

Women, Islamic terrorism, roles, socio-relational influences, propaganda, Daesh.

1. Introduction

Islamic terrorism is linked to a multitude of factors but the most interesting current elements are two: the involvement of women in terrorist actions and the media coverage of terrorism. When we talk about terrorism we usually refer to a phenomenon related to male militant groups even though the tendency of female suicide bombers already emerged in the early 1990s. If Islamic terrorism is often associated with the fighting man, then it depends on the propensity to absolutize subjective criteria without taking into account that the nature of social phenomena, whatever they may be lies in their variability.

In the collective imagination, Islamic terrorism has the appearance of a patriarchal regime in which women perform passive functions at the service of their husband and family. However, regarding Al Qaeda there has already been a gradual active participation of women in terrorist attacks but with the birth of the Islamic State something has changed and the female gender could become the new sounding board.

Moreover, the use of social media to propagate extremist ideology has been crucial, it has given the opportunity to reach a broad audience with relatively simple means. The development of technology and the intensification of the use of the web have favoured communication services, the sharing of information through a web-based service and the publication in real time of images, videos and texts.

It is quite certain that terrorism has achieved most of its objectives through the spreading of intimidating propaganda thus gathering consent. Notwithstanding, there are certainly, other relevant variables that have led to the gradual introduction of women between the circle of the adepts. In order to grasp the factors that have led to the growing mobilization of women in Islamic terrorism, this study aims to analyse, evaluate and understand the history of a system of ideas that have evolved over time.

2. Objectives

Since the rise of the Abu Bakr Caliphate to Baghdadi until its ouster, 29th June 2014 to October 2017, the media have repeatedly stressed that women have been attracted to the Daesh propaganda and have responded to the call by deciding to leave for the territories of the Islamic State. In light of this, we

asked what were the roles assumed by Al Daesh women affiliated. Many academics from 2014 to 2017 have studied the presence of women in the Islamic State (Yesevi, 2014; Mietz, 2016; Jakupi and Kelmendi, 2017; Bakker & de Leede, 2015; Winter and Margolin, 2017; Mekhennet and Warrick, 2017; Huey and Witmer, 2016; Loken and Zelen, 2015; Ennaji, 2016; Strømmen, 2017; Gaub and Lisiecka, 2016; Loken and Zelenz, 2017; Mora Tebas, 2017; Bassou & Guennoun, 2017) but there was a knowledge gap that this study proposes to fill. The studies examined provided countless data on the number of women who left for Syria (Bakker & de Leede, 2015), the geo-political contexts of origin (Ennaji, 2016; Jakupi & Kelmendi, 2017; Loken & Zelenz, 2017; Mora Tebas, 2017) however, it is noteworthy to point out that no study has investigated the roles assumed by women in Islamic terrorism to date and what the relational influences are that have in some way to determine their involvement within the phenomenon.

3. Hypothesis

Three research questions have been asked:

- What are the roles that women have acquired in Islamic terrorism?
- Are there any role differences over time?
- What are the intervening variables and to what extent have they influenced the acquisition of the role?

4. Methodology

The study was conducted by gathering information from public sources and national and international newspapers. A 176 names of women involved in terrorist networks were collected, of whom for the majority arrest warrants were issued. From the sample emerged 29 women were involved in the Al Qaeda network or groups affiliated to it and 147 were affiliated to the Islamic State. The sample was collected from February 26th 2018 to July 3rd 2018. The collection was conducted through snowball or avalanche sampling. Wording or expression used to carry out the search, through the Google search engine, was: “*Women Islamic terrorists*” and it was also re-proposed in: Italian, French, German, Spanish, Indonesian, Austrian, Russian and Arabic. Each article that dealt with the topic was viewed and selected based on relevance.

In addition, 323 relevant websites were selected to proceed with this study case. The aim was to collect data that would allow a socio-relational analysis for each single female name as follows:

- Date of birth;

- Age at the time of arrest or arrest warrant;
- Ethnicity;
- Place of residence;
- Nucleus maiden family;
- Year of conversion and adherence to extremist ideology;
- Place and type of deed;
- Number of people involved since the beginning of the conversion process and respective names;
- Spouse/boyfriend,
- Year of marriage/engagement;
- Origin of spouse/boyfriend;
- Number of children and respective sex;
- Year of arrest and imprisonment and/or death.

However, it was not possible to collect all the data for each individual subject as much of information reserved and confidential and not made public.

Key indicators are the variables used to identify the specificities of the individual tasks.

The first indicator used corresponds to *relational influences*, commonly defined by anthropology with the concept of a parental system. The parental system indicates a terminological system whose functioning logic depends on social relationships and is constituted on the basis of: *parent-child relationships* (parent-child); *relationships of collaterality* (brothers, sisters or cousins) and *relationships of affinity* (husband, wife, brother-in-law, mother-in-law). The anthropological analysis of affinity relationships includes only those with whom a kinship is established by virtue of marriage, in fact the relatives of one spouse are said to be related to the other. In this study, however, a review of the definition of affinity relationship is proposed, including subjects with whom a social relationship is established through relatively stable patterns without any degree of kinship. The word affinity comes from the Latin word *adfinis* or “bordering” and it is the etymology that suggests that the boundary is that which delimits by relating. Two or more people in relationship with each other with common interests, socio-demographic or socio-psychological characteristics will come into contact and establish a relationship on the basis of affinity as happens in the case of secondary groups and/or sentimental relationships. This study also took into account the cases in which a role was acquired in the absence of relationship influences, assumptions made through the so-called *exogenous influences* i.e. the intrinsic forces of the socio-virtual system. Social networks and magazines used by the Daesh propaganda have attracted a very wide audience and such communication tools have been repeatedly defined by the mass media as facilitators of self-indoctrination.

As pointed out by the sociologist Landowski: “if the enunciation is an act, how to understand it if not in its interactional and institutional context? [...] While all at the time of structural Semnatique, they dealt with the conceptual architecture of texts, a first step decisive [...] was to take a cue from the elements [...] of narrative semiotics to start building a grammar of social relationships “. The enlightening perspective of semantics was examined to see if and how propaganda could effectively solicit women to mobilize in favour of the ideology promoted by Daesh; in fact, in Section II of this study, a semiotic analysis was conducted on the fifteen issues of “Dabiq”, the first online magazine of the Islamic State, whose first issue was published on 5th July 2014, and of the first Pakistani magazine female “Sunnat and Khola” which instead were published on the 1st of August 2017.

The second indicator encompasses the characteristics of the “role function” which has been defined as an executive stage. Each role involves different activation processes and the activation can be a single process or a set of processes that allow the subjects to put in place a series of strategic, operational or tactical actions. Therefore, drawing inspiration from the Strategic Studies, it was possible to distinguish a role for the set of behaviours associated with the function. The three different types of activation included are: *strategic activation*, i.e. the art of planning, of the internalization of the efforts required to acquire a given role; *operative activation*, that is the stage in which the woman assumes a role with a partially active involvement, mainly directs, guides and coordinates; *tactical activation* consists, instead, in the actual implementation of what has been planned through the acquisition of a purely active function.

Finally, to provide a clear example of how a woman has come to perform a specific task in favour of extremist ideology, based on the highlighted socio-relational influences that determined the acquisition of the role, the biographical analysis of an example case is developed.

This study succeeded in obtaining what the Turvey scholar defined by the term “profiling inductive” that is “a set of data related to events and correlated to the data of the people who caused them so as to arrive at deducing the standard criminal profile for that particular role/event “. The information gathered here was not aimed at obtaining a criminal profile, as Turvey’s definition of inductive profiling suggests, but rather to outline a typical profile for each role.

Subsequently, the roles acquired by the 176 women of the sample were subdivided into two categories: a category defined *typical* and another defined *atypical*. The roles that women have assumed before the emergence of Daesh have been considered *typical*, on the contrary, the roles acquired by women with the rise of the Islamic State have been highlighted as *atypical*.

The analysis revealed 29 cases of women associated with Al Qaeda or groups affiliated to it and 147 affiliated to the Islamic State.

As confirmed by the reference literature, the roles belonging to the *typical* category are five, namely: Jihadist Bride (Al-Tabaa, 2013), Attack (Von Knop, 2007, Speckhard & Akhmedova, 2006), Propagandist-Recruiter-Militant (Pilch, 2006; Fair, 2004), Lender and lastly Preacher. The following roles in the *atypical* category are: Propagandist, Propagandist-Jihadist Bride, Propagandist-Militant, Recruiter, Supporter, Supporter-Jihadist Bride, Jihadist Bride-Militant (*Table 1*).

Table 1: Counting the number of women per role.

Role	Count
Bomber	27
Jihadist Bride	9
Jihadist Bride-Militant	6
Lender	25
Preacher	2
Propagandist	17
Propagandist-Jihadist Bride	3
Propagandist-Militant	13
Propagandist-Recruiter-Militant	18
Recruiter	12
Supporter	20
Supporter-Jihadist Bride	24
Total	176

5. Section I: Empiric study: several roles of women

5.1 Jihadist Bride

The Jihadist Bride is the one who lives in the name of a relationship with a man and chooses to fulfil her role by carrying out only the task of wife and mother. As also emphasized by the propaganda of Al Qaeda, it is established that a Jihadist's wife must be religious and accept jihad as a way of life where her work consists to perform only domestic tasks. The subjects of the sample who perform this function have been educated to be a wife and mothers. In fact, the relational influences that distinguish the acquisition of this function are always relations of filiation and exogenous influences connected to the socio-cultural context of origin. Moreover, this task envisages a purely strategic activation (*Table 1, 2, Figure 1*).

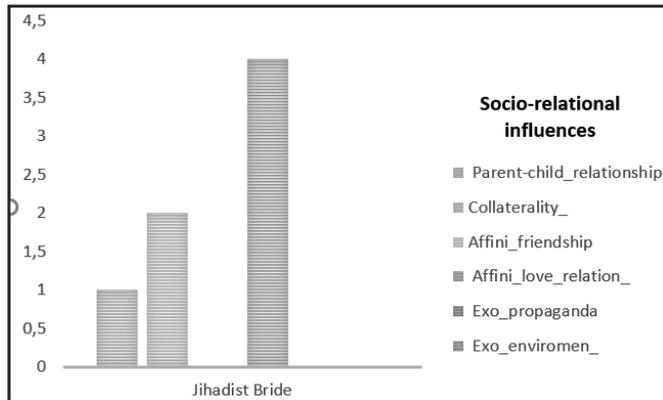
[The women in the sample on which the name is given and falling within the category are: Elena Moreno, Aaisha Yerima, Zeynab Nettleton/Sharrouf,

Zalina Akaev Zaira Akaev, Farhat Paracha, Mirsada Stabancic, Sam Al Hasani, Nozima Odilova.]

Table 2: Count women Jihadist Bride.

Role	Count
Jihadist Bride	9
Total	9

Figure 1: Graph of socio-relational influences for Jihadist Bride roles.



The graph highlights that in the majority of cases (5/9) the acquisition of the role of Jihadist Bride was influenced by romantic relationships and therefore by the relationship with a man sympathizing with extremist ideology or already a member of an organization. Nevertheless, also the influence from the context (3/9) and that suffered by an already sympathizing sister has, albeit to a lesser extent (2/9), determined in some cases the acquisition of role. Finally, it is noted that only one case has presented parental influence and there are completely absent influences coming exclusively from propaganda or from friendly relationships. This figure is particularly interesting because it refutes the idea, which has repeatedly been supported in the collective imagination, that women choose to become wives of fighters because they are uniquely influenced by the value code transmitted within the family.

Table 3: Analysis of the main relational influences and typical executive stages for the role of Jihadist Bride.

Typical category	Indicator	Indicator
Role	Relational variable	Executive stage
Jihadist Bride	Influence from filiation relationship	Strategic activation

5.2 Bomber

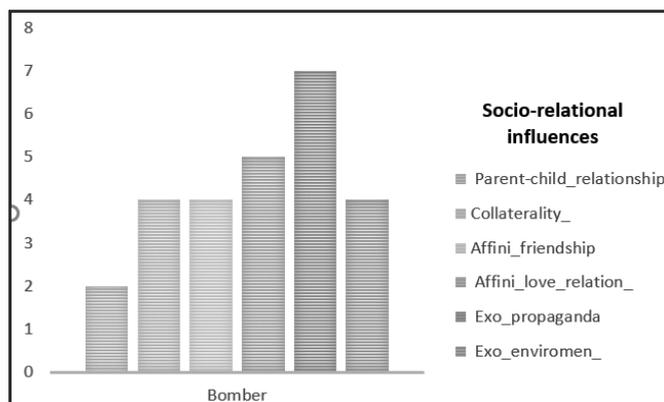
The Bomber is one who adheres to extremist ideology and chooses to perform a terrorist act. The uniqueness of women only as carers is traceable in the fulfilment of an action that is not preceded by other acts attributable to their adherence to the ideology. Martyrdom has been shown by psychology as the manifestation of a de-humanization process that occurs following a trauma, stress and/or confusion generated by specific shocking events. However, it is plausible to assume that the confusion and/or stress may have also been caused by the contrast between the values internalized by the first socialization agency and the values acquired at a later time following the influence of affinity relationships. This role foresees an initial strategic and then tactical activation, because certain precepts must first be internalized and then, once consolidated, it is possible to proceed with the implementation of the terrorist action (*Table 3, 4, Figure 2*).

[The women in the sample on which the name is given and falling within the category are: Muriel Degauque, Daria Itsenkova, Tareena Shakil, Zahra'u Babangida, Puji Kuswati, Sahil A., Dita Siska Millenia, Siska Nur Aziza, Shahlaa Najim al-Anbaky, Zohra Dawood, Khadiga Bibi Dawood, Sugra Dawood, Rizlaine Boular, Safaa Boular, Khawla Barghouthi, Grace Dare, Mina Dich, Hasna Ait Boutcachen, Ornella Gillman, Twafiga Dahir, Samiha Swaleh Awadh Noor, Osman Shindey Noor Salwa Abdalla, Samantha Lewthwaite.]

Table 4: Count women Bombers.

Role	Count
Bomber	27
Total	27

Figure 2: Graph of socio-relational influences for Bomber roles.



The graph shows that most of the Attackers played this role as a result of self-indoctrination facilitated by online propaganda (7/27). However, we note that also the romantic relationships with a man already involved in the organization (5/27) and the socio-cultural and geopolitical context of origin have to some extent determined the acquisition of role (4/27).

Table 5: Analysis of the main relational influences and characteristics of activation for the role of Bomber

Typical category	Indicator	Indicator
Role	Relational variable	Executive stage
Bomber	– Influence from filiation relationship – Influence from affinity relationship	Tactical activation

5.3 Propagandist-Recruiter-Militant

The Propagandist-Recruiter-Militant is the woman who, following her adherence to the radical ideology, carries out all three tasks acquiring a multidimensional role. The subject is thus assigned to make her belief public, to recruit other subjects and is itself a fighter. This multidimensional role that has been taken by ten women of the sample coming from the North Caucasus. The particularity of these functions is traceable in the acquisition of three tasks that are not separated from one another but appear as interdependent. The role acquisition has taken place as a result of the combination of influences from the relationship of collaterality, affinity and exogenous.

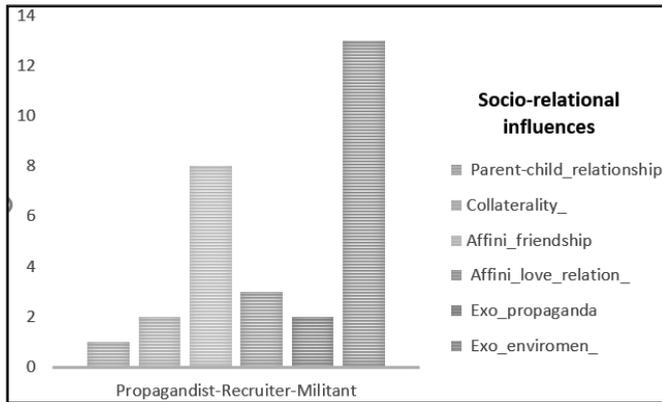
Furthermore, this multi-dimensional role will be characterized by a three-level activation, that is, strategic-operational-tactical activation (*Table 5, 6, Figure 3*).

[The champion women in this category are: Naida Asiyalova, Oksana Aslanova, Zaira Alieva, Jhannet Tsakhaeva, Ruzanna Ibragimova, Roza Nagayeva, Miriam Taburova, Amanat Nagayeva, Satisita Dzhbirkhanova, Lara Bombonati, Lynne Irene Stewart, October Martinique Lewis, Ahlam Aref Ahmad al-Tamimi, Émilie Konig, Ines Madani, Aafia Siddiqui, Collen Renee LaRose].

Table 6: Count women Propagandist-Recruiter-Militant.

Role	Count
Propagandist-Recruiter-Militant	18
Total	18

Figure 3: Graph of socio-relational influences for Propagandist-Recruiter-Militant roles.



The role acquisition has taken place as a result of the combination of influences from the relationship of collaterality, affinity and exogenous. From the graph it is evident that the socio-cultural and/or geopolitical background of origin has exerted a considerable influence (13/18) as well as the friendship relations have had greater weight (8/18) in the acquisition of this role with respect to sentimental influence.

Table 7: Analysis of the main relational influences and characteristics of activation for the role of Propagandist-Recruiter-Militant.

Typical category	Indicator	Indicator
Role	Relational variable	Executive stage
Propagandist- Recruiter- Militant	- Influence from affinity and exogenous relationship – Influence from a collateral relationship	Strategic-operative- tactical attivation

5.4 Lender

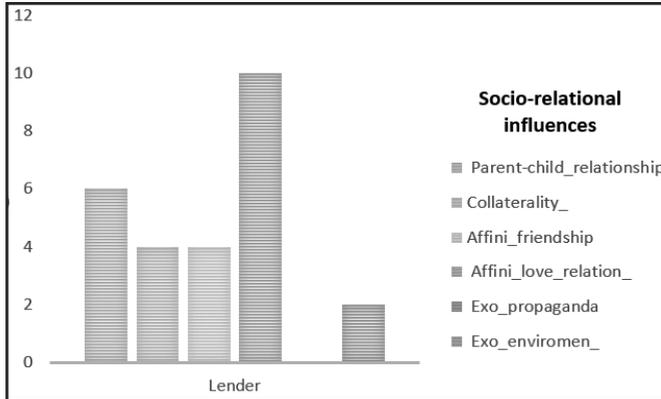
Lender is the one who supports the organization only through material support. The women involved in financing were traced as a result of investigations on banking transactions and no other act or behaviour on the web or in everyday life has contradicted them to be linked to extremist ideology. They offer material support in providing financial aid to a male member already affiliated with the organization who in most cases is a family member; a man with whom there is sentimental tie. The exogenous influences, in terms of self-indoctrination in order to support the organization, are completely absent in the acquisition of this role. In fact, present are influences from the relationship of collaterality, because one has a militant brother, or owing to relational influence of affinity in the case where a boyfriend or spouse is an aspiring fighter. The activation will be exclusively strategic as the effort required for the organization will only be material (*Table 7, 8, Figure 4*).

[The women in the sample, on which it was possible to retrieve the names, who are part of the examined role are: Nathalie Haddadi, Sabrina Seddique Abasin, Mariam Seddique, Christine Rivière, Fatima Elomar, Noor Salman, Hinda Osman Dhirane, Muna Osman Jama, Amin Fara Ali, Hawo Mohamed Hassan, Afsheen Khan, Hana Gul Khan, Aisha Saleh, Nawal Msaad, Amal el Wahabi, Jasminka Ramic, Mediha Medy Salkicevic, Sedina Unkic Hodzic, Oytun Ayse Mihalik, Soumaya Boufassil, Nazimabee Golamaully.]

Table 8: Count women Lenders.

Role	Count
Lender	25
Total	25

Figure 4: Graph of socio-relational influences for Lender roles.



The exogenous influences, in terms of self-indoctrination, are completely absent in the acquisition of this role. In fact, the sentimental influence is always present (10/25) in the event that one's fiancé or spouse is an aspiring fighter or a member of the organization from a filiation relationship, influences from a parent's relationship (6/25) or collaterality, in case you have a militant brother, or (4/25).

Table 9: Analysis of the main relational influences and characteristics of activation for the role of Lender.

Typical category	Indicator	Indicator
Role	Relational variable	Executive stage
Lender	<ul style="list-style-type: none"> - Influence from parent-child relationship and/ or collaterality - Influence from affinity relationship (love) 	Strategic attivation

5.5 Preacher

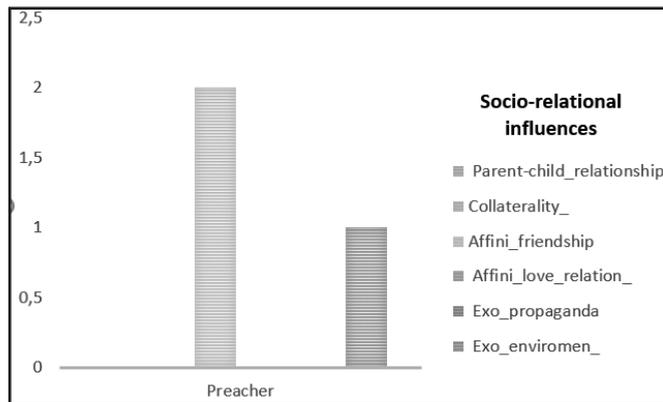
The role of Preacher is the one who performs propaganda acts in public places and/or through media tools such as magazines. Among the group of women under investigation, there emerged the specificity to acquire this role due to the need of bring a valid support of an already influential man within the extremist environment. Access to certain places for this task necessarily requires support outside the parental and family network. Therefore, the subjective characteristics required, found in both cases emerged, are the charisma and a high level of qualification. This role foresees an operative activation as the preacher's task will be to guide the audience towards a new direction (*Table 9, 10, Figure 5*).

[The sample women in the category are: Edina Lekovic, Lauren Booth.]

Table 10: Count women Preachers.

Role	Count
Preacher	2
Total	2

Figure 5: Graph of socio-relational influences for Preacher roles.



The only two Preacher women were both influenced by friendships and also by the socio-cultural and geopolitical background of origin.

Table 11: Analysis of the main relational influences and activation characteristics for the role of Preacher

Typical category	Indicator	Indicator
Role	Relational variable	Executive stage
Preacher	– Influence from affinity relationship (friends)	Operative attivation

5.6 Supporter

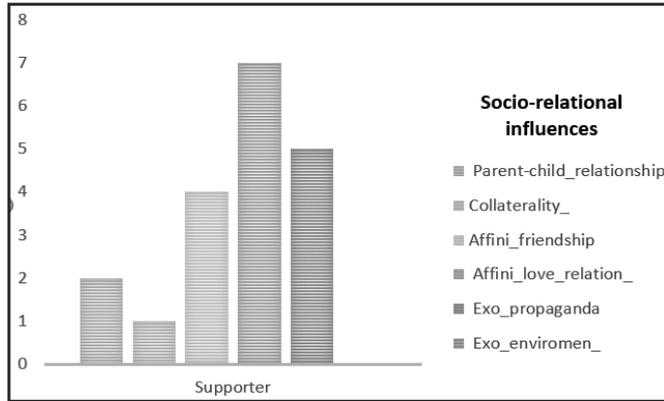
The Supporter is she who approves of the cause but does not make her belief public. These women internalize the creed but preferring privacy, prefer to communicate in total anonymity in private chat rooms. Only on personal devices were there traces of videos and/or images related to ISIS at the time of arrest. It is essential to underline that no woman becomes a supporter because she is influenced by the strictly parental circle but always by means of external subjects. Moreover, there are cases in which some become supporters in the absence of real relational processes but because they are subjected to exogenous influences, that is, from the propaganda of Daesh. Activation of this role will be purely strategic (*Table 11, 12, Figure 6*).

[The women on whom the names in this role have been recovered are: Salma Bencharki, Alice Brignoli, Hayta Boumedienne, Deqo Osman, Melina Bougedir, Jasmina Milovanov, Nadia Rockwood, Roshanara Choudhry, Sabrina Boyd, Yousma Jan, Farzana Ameen, Kamal Zine El Abidine, Lena Mamoun Abdelgadir, Nada Sami Kader, Tasneem Suleyman Huseyin, Marina Kachmazova, Shakirah Begam binte Abdul Wahab, Meryem Koraichi, Diana Ramona Medan, Zohura Siddeka.]

Table 12: Count women Supporters.

Role	Count
Supporter	20
Total	20

Figure 6: Graph of socio-relational influences for Supporter roles.



The graph shows that most of the Supporters (7/20) were influenced by the relationship with a man who already supported extremist ideology while about 5/20 embraced the cause of global jihad after proceeding with self-indoctrination. Although very few cases have been influenced by sisters/siblings or by their parents, there are no cases where the socio-cultural context has determined the acquisition of a role.

Table 13: Analysis of the main relational influences and activation characteristics for the role of Supporter.

Atypical category	Indicator	Indicator
Role	Relational variable	Executive stage
Supporter	– Influence from affinity relationships (love) – Exogenous influences (propaganda)	Strategic attivation

5.7 Propagandist

Propagandist is who through an account and forum shares images and post referable to her adherence to extremist ideology. The offense in this case is only that of propagandism, as those who assume it have this function as they have not performed any subsequent act. Moreover, to favour the acquisition of the aforesaid role there are always influences from an affinity relationship or exogenous influences due to self-indoctrination. Only one case of the sample has shown influence from a reverse filiation relationship, that is, a mo-

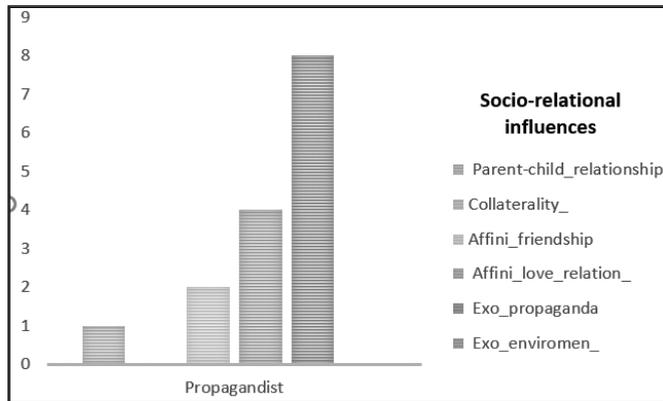
ther who begins to propagate the extremist ideology of Daesh at the moment when her daughter converts and becomes a fighter. In this case there will be a first activation and then operational (*Table 13, 14, Figure 7*).

[The women of the sample involved in the role of propagandist are: Alaa Asayed, Angela Shafiq, Mary Kaya, Zhafren Khadam, Safya Roe Yassin, Jamie Paulin Ramirez, Heather Elizabeth Coffman, Jaelyn Delshaun Young, Karen Vernon, Sara Pilè, Sally Jones, Claire Sagemakers, Fatimah Peer-Mohd, Runa Khan, Xaviera Rose, Jasmina Collaku.]

Table 14: Count women Propagandists.

Role	Count
Propagandist	17
Total	17

Figure 7: Graph of socio-relational influences for Propagandist role.



The graph shows that 8/17 women carried out propaganda activities following self-indoctrination through online propaganda and only 4/17 were influenced by the sentimental relationship. It is evident that there are no exogenous influences deriving from the socio-cultural context nor influences on the part of sisters or brothers influencing the acquisition of this role.

Table 15: Analysis of the main relational influences and activation characteristics for the role of Propagandist

Atypical category	Indicator	Indicator
Role	Relational variable	Executive stage
Propagandist	<ul style="list-style-type: none"> - Influence from inverse filiation relationship - Influence from affinity relationships (love) - Exogenous influence (propaganda) 	Operativ attivation

5.8 Recruiter

The women among the sample who have taken on the role of recruiter, i.e. those responsible for the selection of potential future fighters or other tasks in favor of the organization, have been influenced by the relationship of collaterality, or influence by affinity or exogenous influences. Their function is one of implementing a task of vital importance for the advancement of the terrorist organization and therefore a strategic and operational activation is planned (*Table 15, 16, Figure 8*).

[Women of the sample who have taken on this role are: Nadà Muiz Qahtani, Wafa Koraichi, Bushra Haik, Maria Giulia Sergio, Alaa Esayed. Malika El Aroud, Serjola Kobuzi, Marianna Sergio, Ljubljana Gjecaj, Arta Kokobuni, Donika Coku, Fatima Aberkan.]

Table 16: Count women Recruiters.

Role	Count
Recruiter	12
Total	12

Figure 8: Graph of socio-relational influences for Recruiter roles.



The graph highlights that 5/12 Recruiters have been influenced by their parents and 2/12 have been influenced by both the context and a sister/brother. Therefore, no Recruiter has self-indoctrinated.

Table 17: Analysis of the main relational influences and activation characteristics for the role of Recruiter.

Atypical category	Indicator	Indicator
Role	Relational variable	Executive stage
Recruiter	<ul style="list-style-type: none"> - Influence from relationship of collaterality - Influence from affinity relationship 	Strategic-operativ activation

5.9 Supporter-Jihadist Bride

Supporter-Jihadist Bride is she who at first approaches the extremist ideology and only after being drawn and engrossed decides to contract marriage with a fighter. In this case the desire to become a bride-jihadist is not induced by the socio-cultural context of belonging or by an obligation imposed by their family but occurs as a result of self-indoctrination or relational influences external to the family context.

For the acquisition of Supporter -Jihadist Bride, the women of the sample are characterized by not being mere militants' wives but women who have decided to contract marriage only after having joined the cause promoted by Daesh. Based on the relationship influences this two-dimensional role pre-

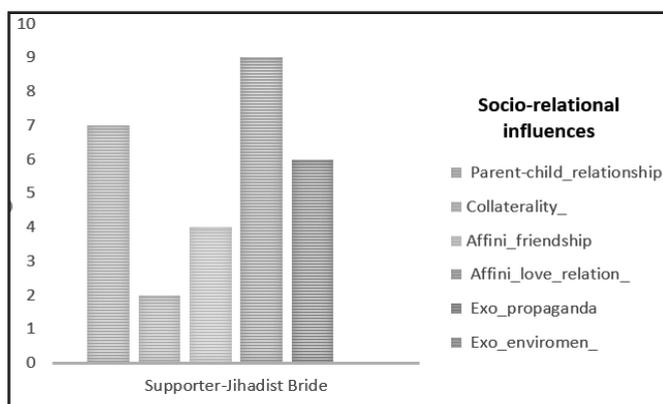
sents itself in a different way: in the case of exclusive influence from filiation relationship there will be first ascribed acquisition of the role of jihadist bride, as a destiny fate biologically determined by the parent educational influence, and in a next moment the woman will support extremist ideology. On the other hand, in the case of influence from the relationship of collaterality, generally suffered by a sister, of exogenous influence or influence from affinity relationship, self-indoctrination will first be necessary, first of all to support the cause promoted by jihad, and in a second moment will be the choice to become the wife of a fighter. The typical activation of this function is only strategic (*Table 17, 18, Figure 9*).

[Women of the sample who have taken on this role are: Samya Dirie, Yusra Hussien, Rajia KhanonRoshanara Bengum, Shaarmeena Begum, Amira Abase, Kadiza Sultana, Samra Kesinovic, Sabina Selimovic, Linda Wenzel, Laura Hansen, Varvara Karaulova, Miriam Ismailova, Khaterine Russell, Zahera Tariq, Tara Nettleton, Sonia Khediri, Julie Maes, Asia Ahmed, Fatima Akil Laghmich, Islam Mitat, Aqsa Mahmood, Zahra Halane, Salma Halane.]

Table 18: Count women Supporters-Jihadist Brides.

Role	Count
Supporter-Jihadist Bride	24
Total	24

Figure 9: Graph of socio-relational influences for Supporter-Jihadist Bride roles.



The role of Supporter- Jihadist Bride was hired by 9/24 women who were influenced by their partner or spouse while 6/24 chose to take it after self-indoctrination and another 6/24 were spurred from a parent.

Table 19: Analysis of the main relational influences and activation characteristics for the role of Supporter-Jihadist Bride.

Atypical category	Indicator	Indicator
Role	Relational variable	Executive stage
Supporter-Jihadist Bride	<ul style="list-style-type: none"> – Influence from affinity relationship (love) – Influence exogenous (propaganda) – Influence from parent-child relationships 	Strategic activation

5.10 Propagandist-Militant

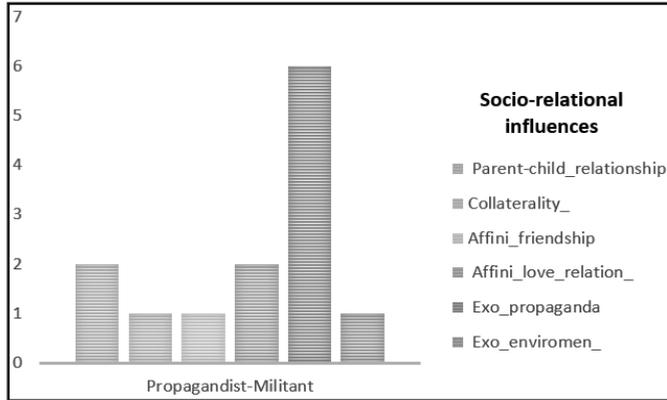
The women of the sample who belong to the two-dimensional role of Propagandist-Militant are distinguished by having developed the trait of aspiration with respect to the role thanks to the presence of influences from the relationship of collaterality or affinity. The solidity of the relationships determines the ability of the subjects belonging to the same circle to mutually influence each other and therefore to favour homologated behaviours. No woman in the sample has acquired this role because she is influenced by her parents and this would confirm that a sister or a friend is able to sustain the weight to make a subject question the previously internalized values. The typical activation of this role is identifiable both as operational and tactical (*Table 19, 20, Figure 10*).

[Women of the sample who have taken on this role are: Cláudia Patatas, Fatma Fahmy, Noelle Velentzas, Keonna Thomas, Zehra Duman, Zainub Mirza, Madihah Taheer, Amel Sakaou, Sarah Hervouet, Christina Presnyakova, Maria Pogorelova, Waheba Issa Dais, Tashfeen Malik.]

Table 20: Count women Propagandists-Militants.

Role	Count
Propagandist-Militant	13
Total	13

Figure 10: Graph of socio-relational influences for Propagandist-Militant roles.



The graph shows that 6/13 Propagandist-Militants have assumed this role thanks to the propaganda of the Islamic State. Furthermore, 2/13 were influenced by their parents and 2/13 by the relationship with a man already involved in the organization.

Table 21: Analysis of the main relational influences and activation characteristics for the role of Propagandist-Militant.

Atypical category	Indicator	Indicator
Role	Relational variable	Executive stage
Propagandist-Militant	- Influence from relationship of collaterality - Influence from affinity relationship	Operativ-tactical activation

5.11 Propagandist-Jihadist Bride

Propagandist-Jihadist Bride is who after having internalized and adhered to the precepts promoted by extremist ideology strives to spread the propaganda on the web and at a later time chooses to contract marriage with a man who is also affiliated with the organization and/or fighter.

What emerges from the women of the sample in this role is that the typical relational influences are always and exclusively or by relationship of affinities or exogenous influences. In the first case there will be a friend or a man with whom they entertain or intend to entertain a sentimental relationship to influence them in becoming a fighter’s wife, in the second case they undertake

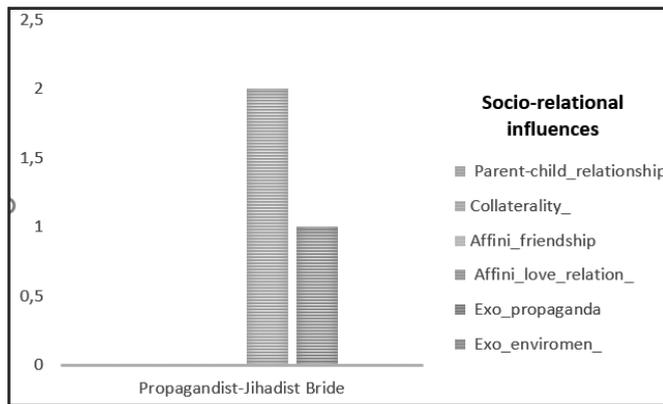
this path following self-indoctrination. The activation of the role-function will be both operational and tactical (*Table 21, 22, Figure 11*).

[Women of the sample in this role are: Laura Passoni, Shannon Coley, Novia Humaraya.]

Table 22: Count women Propagandist-Jihadist Bride.

Role	Count
Propagandist-Jihadist Bride	3
Total	3

Figure 11: Graph of socio-relational influences for Propagandist-Jihadist Bride roles.



The graph shows that 2/3 Propagandist-Jihadists Bride were influenced by their partner or spouse and only 1/3 took this role after self-indoctrinated.

Table 23: Analysis of the main relational influences and activation characteristics for the role of Propagandist-Jihadist Bride.

Atypical category	Indicator	Indicator
Role	Relational variable	Executive stage
Propagandist-Jihadist Bride	- Influence from affinity relationship - Exogenous influence	Operativ-strategic activation

5.12 Jihadist Bride-Militant

The two-dimensional role of the Militant- Jihadist Bride is woven in being the wife of a fighting man as well as acquiring the role of militant herself.

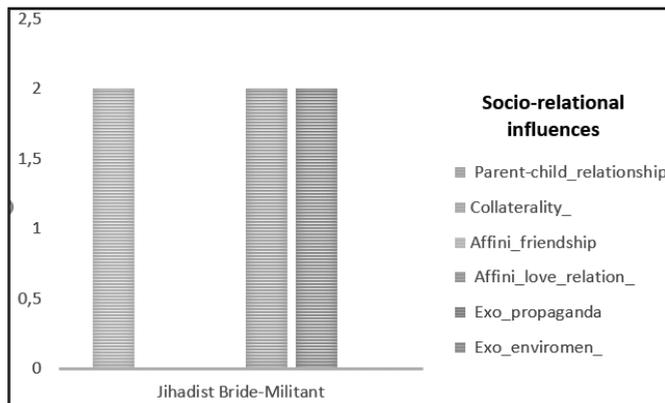
With the two-dimensional role of Propagandist-Jihadist Bride has been taken up by several women of the sample and the specificity of the function is to be found in the dual decision to become a militant of Daesh but at the same time contract marriage with a man who performs the same function. Therefore, the relational influences that emerged in favour of the acquisition of the role are only of affinity and exogenous and in all cases it has emerged that the choice of covering this dual task is favoured by the presence of two influences and those of affinity relationship, usually connected to a man who is infatuated or a friend already intent, and thanks to a process of self-indoctrination. Furthermore, the activation foreseen for this role is both strategic and tactical (*Table 23, 24, Figure 12*).

[Women of the sample who have taken on this role are: Jamila Henry, Meriem Rehayli, Kerry Thomason, Lorna Moore, Sheida Khanam.]

Table 24: Count women Jihadist Briede-Militant.

Role	Count
Jihadist Bride-Militant	6
Total	6

Figure 12: Graph of socio-relational influences for Jihadist Bride-Militants roles.



The graph shows that 2/6 have acquired the role of Jihadist Bride-Militant after being influenced by the partner or spouse and only 2/6 have chosen to take it after having undergone self-indoctrination and 2/6 for influence of parent-child relationships.

Table 25: Analysis of the main relational influences and activation characteristics for the role of Jihadist Bride-Militant.

Atypical category	Indicator	Indicator
Role	Relational variable	Executive stage
Jihadist Bride-Militant	<ul style="list-style-type: none"> – Exogenous influence (propaganda) – Affinity relationship (love) – Parent-child relationships 	Strategic-tactical activation

6. Section II: semantic analysis of online propaganda

The analysis of the 176 cases of the sample led the study to analyse the importance of online propaganda as an exogenous influence, a decisive variable in self-indoctrination processes, effective in mobilizing a considerable number of women. Obviously, the propaganda of terrorist organizations, as shown in chapter 4 of this study, was already present at the time of development of Al Qaeda but it is certain that the success in determining differentiation of roles was due to the effective communication strategies of the Islamic State. To understand how online propaganda played a vital role in the making of the organization itself; the managing to take hold of female subjects of different ages with dissimilar backgrounds was read in a semantic analysis of the first issue of Daesh magazine: “Dabiq” which was carried out on 5th July 2014. A period which coincided with the increase in female mobilization, and its communicative drive promoted the rise of “Sunnat and Khola”: the first Pakistani woman’s magazine launched in October 2017 a magazine from Muhajirat fi Sabeelillah in Khurasan.

The analysis of the Dabiq periodical was carried out by identifying nine key words that conveyed messages addressed to a female audience, such were: *women, sisters, girls, wife, child, fighter, young, sons, daughters*. The semiotic analysis of the concepts related to these key words, carried underlying messages which are believed to have promoted the diversification of female mobilization.

6.1 “Dabiq” analysis

The analysis of the semantics of Dabiq has brought out relevant results regarding the communicative strategy used by the Islamic State, in fact several

concepts have emerged that highlight the gradual evolution of the contents of the messages and the audience to which they were addressed particularly to those of interest in this study. From the first issue of “Dabiq” the messages were never addressed exclusively to men, however, especially in the first seven publications, both a personal masculine pronoun and personal pronouns as “you” were used. Then, from the eighth to the fifteenth, a gradual introduction of messages explicitly addressed to the female component was found.

Subsequently the paragraphs have been reported, containing one or more key words.

DABIQ #1

- **Page 8:** *“Encouraging young people to join the ranks of the Islamic State”*. This phrase represents a possible motivational push for the female audience. Whether the woman identifies herself in the concept of **young**, given the non-specification of gender, or that the adult woman decides to proselytize the message for the younger generation.
- **Page 18.** *“Jihad should be based on: listening obedience; training; combat”*. The concepts of **listening** and **obedience** are used to be associated with the behaviour that the female figure should assume in marriage. The reference instead to **training** and **combat** are not specified to a male audience but are simply explained as typical elements of Jihad. Therefore, literally following what expressed would seem that anyone who shares faith can and must take the proposed behaviour.

DABIQ #3

- **Page 15:** *“This month, the soldiers of the Islamic State launched a rapid and brutal offensive in the northern Campaign of Halab”*. The campaign, entitled “Taking revenge for the chaste **sisters**”, targeted the perfidious Sahwāt Murtaddīn who prostituted themselves in America. In this sentence emerges the justification of the armed struggle to save women daughters of Islam. Women are considered **sisters** of fighting men, not an object in their possession but a subject to defend. For the first time, the recognition of women within a caste to be protected emerges from a content point of view.
- **Page 25:** *“O you who believed! Why do you say what and do not you do it? It is very odious in the eyes of Allah that you say what you do not do” [As-Saff: 2-3]*. The verse that brings the magazine, related to a deepening on the hypocrisy of those who choose not to fight while professing Jihad, is addressed to all Muslims who must choose to fight if they want to defend their faith. The combat emerges again without gender distinction. Furthermore, Allah [...] said: why should we not fight in the cause of Allah when we have

been driven out of our houses and turned away from our children? “Children are a priceless asset for mothers and putting the fight at the top of the priorities for every Muslim who intends to protect their family or simply to claim the loss of their children is interpretable as a message that can also mobilize women.

- **Page 26:** *“Therefore, any professional Muslim who has delayed his jihād [...] his number one priority to repent should be fighting”.*

The message here refers to every Muslim who for work, study or other has avoided the recruitment in the ranks of the Islamic State “. The profession or the qualification is certainly an element connected to the process of westernization which is why it is plausibly connectable to every Muslim who lives beyond the Caliphate. Promoting mobilization among professionals is considered a communication strategy that aims to extend its audience.

DABIQ #4

- **Page 9:** *“[...] have you seen the American, the Frenchman, or any of their allies [...]to walk safely upon the earth while the armies of the crusaders strike the lands of the Muslims not differentiating between a civilian and fighter? They have killed nine Muslim women three days ago by striking a bus transporting them from Shām to Iraq”.*

The message refers to the killing of nine Muslim women through the abatement of a bus in Iraq. Reporting the event and the culpable killings of women who were on the vehicle is intentional as it promotes awareness of their audience.

- **Page 16:** *“The slave becomes a slave to her master while her children have the status of her mastering herself. This is because the child of the teacher has the rank of the master, and in this way the son of the slave has the status of his master “.*

The message here is explicit, increasing the number of jihadist brides means increasing the number of future fighters. The woman is encouraged to acquire this role because it could guarantee him the acquisition of a status.

DABIQ #6

- **Page 44-45:** *“Why should the sons and daughters of the region enter the schools of the secular government to a great and remarkable extension without being any direction or preparation for the establishment of school houses by the Mujāhidīn?”.*

The reader is led to understand that the Mujaheddin school is the true education and it is the right way for both men and women to educate themselves by rejecting the secular and secular precepts.

DABIQ #7

- **Page 51:** *“My brothers and sisters, I ask you to be concerned about the conditions of the Ummah in the world, to act in this way following the Qur’an and the Sunnah”.*

The invitation is specifically addressed also to Muslim women, an exhortation to make the right choice to defend the cause of the Islamic State. This extract focuses on the wife of the pharaoh who chose to worship Allah despite this involving his torture and killing. Death is not represented as a possibility but as certainty, which guarantees women the possibility of recognition not only in heaven but also on earth through the memory of their deeds.

*“There were a lot of **straight women** in history, so follow their example”.*

The invitation to patience is emblematic. To have patience not only in bearing the hardships and pains but is also necessary in accepting that for real recognition it takes time. Pazientare means accepting the time necessary for reality to change. It is the legitimacy of waiting, respecting the inevitable times to acquire a role or to undress a habitus in favour of a new role.

- **Page 75:** *“What is the problem with you that you do not fight for the cause of Allah and the oppressed among men, **women** and **children** who ask for help [...]?”*

The question raises the importance of combat as means through which the oppressed, whether women, men or children, can be claimed. In this sentence we note that, unlike what was commonly used to think, the oppressed are no longer just women. With the battle you can remedy the abuses and the generalization of the figure of the fighter shows that there is no specific person responsible for the liberation of the oppressed but anyone can do it and who does not is assigned the label of traitor.

DABIQ #8

- **Page 33:** In this paragraph there is a clear and precise statement of what is implied in the concepts reported above.

*“The obligation is for **women** as for men. Allah has excluded from the mission the incapable women just like the incapable men [...]”.*

It is clear that no distinction appears more necessary, no role typing is more fundamental. The abilities of the individual are emphasized and it is what every woman has to rediscover in herself if she wants a prominent role in the Islamic State and to gain value in the eyes of Allah.

- **Page 34:** The clear reference to the “**sisters muhajirah**” is the appeal to the ambition that must move mothers and women who, even if apparently fragile compared to men, have already proved to have an ambitious soul

like men. The psychological vigour of the woman is expressly linked and equated with that of men and this specification represents the first explicit legitimation able to awaken the female audience in search of a status and/or a reason for living.

- **Page 35:** “*When women who believe come to you as muhājirāt, they test their faith*”.

With this statement an explicit invitation is made to Western women migrants, the Muhajirat to demonstrate their self-faith by recruiting.

DABIQ #9

- **Page 48:** “*The slave-girls are those who in the aftermath have turned into diligent and industrious seekers of knowledge after having found in Islam what they did not find in the Kufr, despite the slogans of*” Freedom “and” equality “.

The reference to Jihadist women-wives who have rejected Western values in favour of Islamic culture implicitly urges the sisters of Islam who live in the territories of the unbelievers to mobilize themselves to obtain the right recognition.

- **Page 70:** “*Once, a Muslim woman came to us with her children and asked us to kill her and not take her as a slave! There we offered her bread and help and clarified things to her. After a few days, she returned and defended the Islamic State* “.

The testimony shown here shows once again that women can obtain the ransom they longed for by proposing themselves and joining the Islamic State not through the role of a slave but rather as a fighter.

DABIQ #10

- **Page 48:** “*Some said that the first muhājirāh among women was Umm Salamah. [...]* “.

Being a model and an example for other women seems the way to social recognition exactly like what happened in history through the figure of Umm Salamah.

DABIQ #11

- **Page 45:** “*Do you know what the mother of lion cubs is? She is the teacher of generations and producer of men. [...] you are a pastor and everyone is responsible for his herd, [...] The Muslim generation is the part of the mother that nourishes* “.

The role of the woman is here connected to the teacher, to the training assistant of the future fighters emphasizing the importance of the female figure for a good education-training of the future fighters.

“*These are the women of Ummah! The first woman al-Khansaa!*”.

The reference to Al-Khansaa's first female battalion let the possibility of acquiring a function within the female platoons re-emerge.

DABIQ #13

- **Page 3:** *“For a husband and wife helping each other to get for qiyām al-layl, how much more deserve the blessing of Allah is a husband and wife who march together to fight the crusaders in defense of Khilāfah! And the brother is blessed as well as the wife who accompanied him despite the fight was not even mandatory for her but did not want to lose the opportunity [...]”*.

The possibility of fighting comes through a different reading, not proposed in the precedent numbers of magazines. The fight of women next to their husbands, is the legitimacy of a new image of the role of women and their identity. Women are next to their men, represented as their peers with the opportunity to access an exclusively male channel. Choosing as a husband a militant can be part of the earthly blessing but fighting with him allows the attainment of complete glory in the hereafter and the recognition of one's own new identity on earth.

DABIQ #15

- **Page 23:** *“[...] And what is due to wives is similar to what is expected of them, according to what is reasonable but men have a degree on them [in responsibility and authority]”*.

The message here suggests that what is due to wives is equal to what is expected of them. Chastity and obedience are the essential traits of the good wife and in this brief reflection the traditional values linked to this figure are re-proposed. Therefore, despite the various incitements to the change of role, the key to reading the female role is re-proposed as subordinate to the male role.

6.2 “Sunnat e Khola”

The analysis proposed for “Sunnat and Khola” differs from that used for “Dabiq” because the use of key words would undermine the possibility of bringing out important data. Furthermore, as only two issues of this magazine have been published, the text has been paraphrased to highlight all possible analogies with the first periodical of the Islamic State.

The first issue of “Sunnat e Khola” was published on August 1st 2017 and the second on October 18th 2017 after this date the publication was interrupted.

Figure 13: The cover of first issue of magazine “Sunnat e Khola”.



From the content analysis of the first issue there merged a preamble connected to the political situation of Pakistan and its potential international enemies.

- From pages 1 to 11, there is reported the dangerousness that India represents for Pakistan and the betrayal of the latter towards its people, which occurred following its alliance with America. The aforementioned initial pages refer to the power of the American army already demonstrated with the attack on Japan and further confirmed by the subsequent strategic operations that made it possible to defeat Gaddafi and Saddam Hussein. At the end of the tenth page we note the first appeal to women or those who have the duty and honour to fight for Allah.

Jihad is a form of worship and do not forget that we have promised Allah to obey all his commands. My respected sisters, those who understand Islam always show a greater degree of religious honor. He thinks Asia is a woman, then a wife of Pharaoh, [...] She agrees to sacrifice everything for the sake of her emaan. [...]. There is no difficulty after death. No fasting, no prayer, no jihad, no zakat. Everyone in Jannat is young. My sisters! [...]. My respected sisters, the reason why Allah Almighty gave this example is for us to follow it. Even the female slave of Pharaoh's daughter accepted Islam and submitted to only one Allah. O my respected believing sisters, the first martyr of Islam was a woman; Sumayya, the first sacrifice for the sake of Allah was given by a woman, Hazrat Khadija, the first to comfort the Nabi was a woman; his wife Hazrat Khadija; The first to spend for Allah's deen was a woman; Hazrat Khadija, the first to whom the Koran was recited, was also a woman; Hazrat Khadija. Allah the Merciful gave the woman a very high status. Mujahida, muhajira then if the father or the husband or the brother gets martyrdom, then also a higher status. In this time of trials and tribulations you have been given a great blessing. Run to get good deeds.

These extracts show that the messages proposed by “Dabiq” to a male audience are translated here to the feminine. “Dabiq” proposed to his would-be fighters, pages that give an account of comrades and brothers who died in battle, of friends who played leading roles among the battalions of Daesh and who gained glory through martyrdom, as well as urging the adepts of all world to carry out attacks in the name of Allah. Noteworthy are the lines providing a useful guide to the manufacture of explosives. Therefore, “Sunnah and Khola” uses the same communication strategy, adapting it to a uniquely female audience.

- From pages 12 to 30 there is the first significant testimony of a young Pakistani woman, graduated in medicine and specialized in the West, who has felt the need to turn her gaze to her Home land and rescue her suppressed people and rebel against unbelievers. This story entitled “From sinner to guide” is a clear exhortation addressed to all women to fight for the Islamic faith.

My ambition was clear; get the highest education so you can get the maximum worldly benefits and also to serve the Pakistani people and especially the Pakistani army to the best of my ability. To understand why I thought so? You have to take a look at my past. I was born and raised in an army family. My father was a Pakistani army officer. Most Pakistani army families are leading a non-Islamic and Western way of life. Democracy is used as a tool to keep these evil human beings in power and the “constitution” is used to give security to the government of these devils dictators. I knew that if I can read all those huge medical books, reading and meditating on the Qur’an is no longer difficult for me. [...] Allah gave my parents the ability and strength to repent and return to their Maker Allah. They started asking me continually to repent and read and understand the Quran, but maybe my crazy conscience needed a kick! I have tried many times to leave the satanic, atheist, less moral, aimless, less soul than I was living but each time my emerging career and ignorant friends have called me back. I thought what a woman can do? The first martyr of Islam was a woman, the first to accept that Islam was a woman, the first to spend for the love of Allah was a woman, the first to claim that Nabi was a woman, the first istashàdi was a woman. Although I have studied medicine for all the wrong reasons, but now after repentance, working for the mujaheddin, I can show practical evidence of my repentance. I also aspire to support the holy cause with the pen. If I cannot do anything, I would increase the number of Taliban.

- From pages 31 to 40, the magazine offers a second statement that of a six years old boy who aspires to follow in the footsteps of his family and become a Mujaheddin. To accompany the reader and give added value to the message, “Dabiq” places the image of a child-soldier with a bazuca on his shoulder next to the text. At the end of the magazine there is a further statement; an interview with a woman promoter of Jihad who is the daughter

of a Pakistani preacher arrested for promoting Sharia in the country. The issue, after the three testimonies, ends with the pages 41 to 45 with an instruction list giving women an array of deeds and roles they can take up in the name of Jihad:

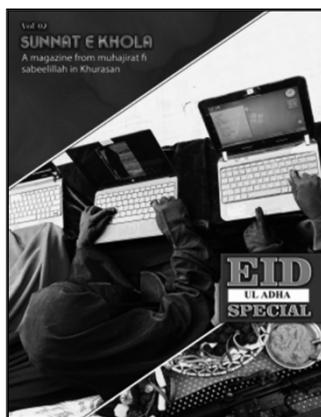
Sister, you can do the following activities:

1. *Help to publish and distribute jihadist literature.*
2. *Pen-shaped Jihad. Write essays to support the cause of jihad.*
3. *Organize religious gatherings at home. Try to preach the right faith, the true meaning of tauheed, emphasizes the need to lead life as dictated by the Qur'an and the Sunna. Invite them to meditate on the Qur'an and the Sunnah and preach the need to fight to implement the Sharia law in Pakistan and around the world.*
4. *Organize secret meetings at home and invite the like-minded jihadist sisters. Distribute literature reflecting on the obligation of jihad, organize physical training classes for the sisters. Learn how to use simple weapons. Learn the use of grinades.*
5. *With great prudence preach to the members of your family the obligation, the duty of every Muslim to fight to implement the law of sharia. Explain what is jihad and its obligation. It illuminates the aqeeda of Al wala wal bara, and that it is obligatory for every Muslim to fight the taghoot.*
6. *Create public awareness on the oppression of rulers and political generals. It supports the mujaheddin to fight the oppressors.*
7. *Help the cause of jihad with money. Promote related people to support jihad with money.*
8. *Support the mujaheddin in their secret hideaways far from the cities. Get food for them, help carry weapons, trust jackets and other requirements. Keep your weapons, money, other devices in a safe place and when you need to transfer them to the mujaheddin.*
9. *In case of danger of attack by the army or the police on a specific jihadist center, immediately inform the mujaheddin.*
10. *To plan the martyrdom operations, help the mujaheddin. Give them information on the security of the army and government institutions, hide their weapons, provide them with money. In addition, it indicates to them the possible men, women and institutions to attack.*

So, at the end of this first issue it was possible to see that true guidelines were given to all the mujahide sisters. From the ten points listed, it emerges that the actions that women can perform coincide with the roles played by them within the terrorist organizations, highlighted in Chapter 5 of the study.

On the other hand, regarding "Sunnat e Khola # 2" (**Figure 14**), contents are reinforced by more representative images. This data can already be verified from the cover image of the new issue which depicts the personification of the new female roles that arose with the birth of the Islamic State.

Figure 14: The cover of second issue of magazine “Sunnat e Khola”.



From the cover you can see three women in niqab working on PCs, one of which is viewing the first issue of the magazine “Sunnat and Khola”. If this representation actually shows the new icon of an active woman in favour of the terrorist organization, a second image on the right, which shows dishes served at the table with a gun next to it. What immediately comes to mind is how it symbolizes the multidimensionality of the role of women in addition to giving evidence that the main image of the cover coincides with the atypical role of Propaganda-Bride jihadist and that the second image depicts the essence of the Jihadist-Militant Bride, roles emerged from the analysis of the sample of 147/176 women affiliated to the Islamic State.

The preface of this second issue, from pages 1 to 4, gives details in advancement or progress the Pakistani Muslim woman has managed to achieve but it also seriously threatens the will of Allah; a progress that is repeatedly reported as an outrage to the Islamic faith.

What is in truth is that the real force behind the sudden enthusiasm of the government to improve the status of women in Pakistan MDG (Millennium Development Goal's)? Speaking of gender equality, Allah is our Creator, He knows best what is good for us. [...]. The MDG directly dismantles the family unit in an Islamic society. They do this by promoting gender equality and empowerment of women. The main role of a woman is to bring in a new generation and work for the best possible character building and education of this future generation. Primary schools based on the secular program will tear the Islamic roots from your children.

- From pages 5 to 8 the discourse is centred on the act of martyrdom and the sacrifice of one’s own children necessary to ensure the benevolence of Allah and obtain eternal glory.

See the example of Hazrat Abraham a.s. How great was his proof that Allah only through a dream asked him to slaughter his only son, that is, to sacrifice his son in the way of Allah. Hazrat Abraham listened and obeyed. [...]. We muhajireen and mujahideen feel special love and bond with Hazrat Abraham [...]. Our call is "Shariat or Shahadat (martyrdom)". Sunnat and Khaula's team was invited by several sisters ansar and muhajireen.

- From pages 9 to 11, there are different messages, declarations of mothers who have lost their sons or daughters, martyrs, wives of combatant inmates and sisters of mujiaheddin. Each of these testimonies is reported in the magazine in favour of an increasingly conscious and aware mobilization of the benefits deriving from this choice.
- From pages 11 to 14, the magazine reports a speech addressed to Ayesha Gulalai that is "the youngest Pakistani parliamentary woman and first elected of the conservative administrative unit of the FATA, or the tribal areas with federal administration on the border with Afghanistan". The statements reported reveal the total disapproval of those who have not conformed to the precepts promoted by the Sunna but adapted to the secular program proposed by the West. In the following lines reported here is a comparison between Ayesha Gulalai and Aafia Siddiqui. It is repeatedly stressed that Lady Al Qaeda, unlike Ayesha, is the icon of the true Muslim woman who fought to eliminate the kuffar and was an example for all those who have believed and still believe in the future supremacy of a global jihad.

Finally, I would like to ask the human rights and right-wing organizations of women who are growing in support of Ayesha Gulalai and Nawaz Sharif's daughter-in-law, have stood up for our respected sister Afia Siddique when she was sold to the enemies of Islam. Musharraf? She was a pious Muslim sister who propagated deen and Islam and lived a life of piety. On what crime were convicted 83 long and tortuous years of imprisonment in Kuffar prisons? The Pakistani media are biased and anti-Islam. He is promoting the kuffar agenda to dishonor Islam and mujahideen and Islam.

- From pages 14 to 21, there emerges a declaration of a woman belonging to the team of "Sunnat and Khola" who tells of her personal experience in favour of jihad after having married a militant sentenced to death.

I felt the happiest woman on earth, my Abdur Rehman, my husband is a Mujahid. Also, if you do not want to be related to a prisoner sentenced to death, I am ready to free you from my marriage contract. "I replied," if you are a believer, then I am a believer woman, if you are a mujahid, then I am a mujahida. I am also a mother of a shaheed Alhamdulillah. Our little girl got seriously ill last year and died a martyr.

- From pages 22 to 28, there are the accounts of female figures who historically have actively contributed to make justice to the Islamic faith through martyrs and kuffar killings.
- From pages 29 to 33, there is a re-publication of a letter, hypothetically written by a child eager to become a mujaheddin. Therefore, in this second issue the image that accompanies the reader is no longer that of a child with a bazuca on his back, but a child with a Glock 43 caliber 9 in his hands.
- Finally, from pages 34 to 38, an interview is reported of Ameer's wife Teherrek taliban-e-Pakistan mullah Fazlullah. From the lines translated here, there emerge more important topics: the importance and prestige of being the wife of a fighting man, the acceptance of polygamy as an opportunity to share domestic burdens, the acceptance of martyrdom as a possibility of rebirth and glory eternal.

Sunnat-e-Khaura's team is first and foremost grateful to Allah Almighty for offering us the opportunity to jihad in the guidance of the truth-seeker, a man of mercy, Mulla Fazlulla Khurasani. privileged information providing security information. The men of the Pakistani army are sick of a secular democratic system. They know the reality of their generals without personality and want to get rid of them. Some of them have secretly promised loyalty to Ameer Sahib and are working undercover in Pakistan. While others have hijra and live with us. Not only men, but women belonging to the army have joined the ranks of the mujaheddin. [...]. To my sisters mujahida and muhajira I would like to say that we greatly appreciate your love for deen and Islam. Every day we receive requests from the sisters who ask for a martyrdom to be performed and have been blessed to fight the taghoot. Sisters, I believe there are Ummay Ammara, Khansa, Khaura among you who will raise the flag of La ila ha illala. Perform good deeds with sincerity and pray to Allah for firmness.

The various testimonies reported both in the first and in the second issue of the magazine have revealed the importance of the female team in the fight for a global jihad, an indubitable stimulus to all the young sympathizers and future supporters of extremist ideology.

Propaganda is known to have been more evident in wartime, as in the Manifesto, but in reality it is constantly being used as a political and social means to influence people's behaviour. Moreover, as shown by the semantic analyses, the repeated statements supported by the verses of the Qur'an provide legitimacy to any choice even to martyrdom.

The propaganda of terrorist groups uses all the means of communication available to spread their messages: press, radio, video, posters, meetings, flags, books, comics, poetry and music. The news and the most important issues are spread every day on sites like www.jihadology.net and if the propaganda is

so powerful is because the speeches supported by video images and produce greater effects than any other medium. Today, more than yesterday, social media are an instrument of active participation and as such guarantee the achievement of the primary objective: to drive people's opinions.

7. Discussion of results

7.1 Valuation of results

The narratives in both Dabiq and "Sunnat and Khola" can be divided into three main themes: political, religious and social because the main efforts of the information strategy have been based on four main directives from the beginning: Combining, Frightening, Supporting and Inform. Furthermore, qualitative and quantitative analysis has shown repeatedly that propaganda has exerted a considerable influence on role-playing, facilitating self-indoctrination.

From the count of the 176 women in the sample the roles assumed to a greater extent (*Table 25*), with a number of members ≥ 15 , are: Bomber, Supporter-Jihadist Bride, Lender, Supporter, Propagandist-Recruiter-Militant, Propagandist.

Table 26: Counting women for each roles id descending order.

Roles	Count
Bomber	27
Lender	25
Supporter-Jihadist Bride	24
Supporter	20
Propagandist-Recruiter-Militant	18
Propagandist	17
Propagandist-Militant	13
Recruiter	12
Jihadist Bride	9
Jihadist Bride-Militant	6
Propagandist-Jihadist Bride	3
Preacher	2
Total	176

A further analysis, however, has shown that the processes of self-indoctrination through online propaganda have determined only the acquisition of some of the roles (*Table 26*).

Table 27: Count in descending order of self-indoctrinated women.

Etichette di riga	Exo_propaganda
Propagandist	8
Bomber	7
Supporter-Jihadist Bride	6
Propagandist-Militant	6
Supporter	5
Jihadist Bride-Militant	2
Propagandist-Recruiter-Militant	2
Propagandist-Jihadist Bride	1
Preacher	
Jihadist Bride	
Lender	
Recruiter	
Totale complessivo	37

It emerges that the six roles covered to a greater extent have not always been acquired as a result of self-indoctrination, in fact there are: 7/27 Attackers who have acquired this role thanks to online propaganda as well as 5/20 Supporters-Jihadist Brides, 0/20 Lenders, 5/20 Supporters, 1/18 Propagandist-Recruiting-Militant and 8/17 Propagandists. For what concerns the roles with a number of subjects ≤ 15 the propaganda has influenced respectively: 1/2 Propagandist-Militant, 0/12 Recruiters, 0/9 Jihadist Brides, 2/6 Jihadist Brides-Militant, 1/3 Propagandist- Jihadist bride and 0/2 Preachers.

Notwithstanding, it is not possible to consider the results in absolute terms, given the limited number of the sample, but to some extent it is clear that the propaganda of the Islamic State has favoured female mobilization.

However, social relations have had considerable influence. The data that emerged frequently is the influence exercised by a boyfriend or a spouse who is a supporter of extremist ideas as a subject capable of plagiarizing the women close to him. In fact, viewing the results obtained (*Table 27*), it emerged that 49/176 women supported different Al Qaeda and Daesh procedures following the conditioning suffered by their partner.

Table 28: Counting in descending order of women affected by romantic relationships.

Roles	↓ ↓ Affini_boyfriend
Lender	10
Supporter-Jihadist Bride	9
Supporter	7
Bomber	5
Jihadist Bride	4
Propagandist	4
Propagandist-Recruiter-Militant	3
Jihadist Bride-Militant	2
Propagandist-Militant	2
Propagandist-Jihadist Bride	2
Recruiter	1
Preacher	
Total	49

It emerges that 10/20 Financiers have acquired this role following the relationship of affinity with a man as well as 9/20 Supporters-Jihadist Bride, 7/20 Supporters, 5/27 Attenders, 4/9 Jihadist Bride, 4/17 Propagandists, 3/18 Propagandist-Recruiter-Militant, 2/6 Jihadist Bride-Militants, 2/3 Propaganda-Jihadist Bride, 2/2 Propagandists-Militants, 1/12 Recruiters and 0/2 Preachers.

The data show that those who play passive roles (Lender, Supporter, Supporter-Jihadist Bride) have been more influenced by the men with whom they have undertaken a relationship. For the active roles, other types of socio-relational influences would appear to intervene.

In general, the frequency of relationships derives from the probability of building solid emotional bonds that act as excellent instruments capable of promoting the ideological and value-converting of a subject. The belief system is strengthened with the support of other social actors so the gradual entry of women into terrorist organizations consolidates the hope, sometimes manifested at times incessantly placed, that female support is fundamental for the survival of the ideology itself. In fact, the bonds promote very precise attitudes and behaviours that facilitate mutual solidarity. It is no coincidence that supporting and marrying a cause already supported by some friends or by one's partner favours the construction of a group identity so strong as to repress any interference coming from the outside world.

7.2 The limits of the study

The study of 176 women highlighted socio-relational influences that have, to a different extent, determined the choice to adhere to extremist ideology. However, despite the qualitative analysis indicated trends due to the small sample size it is not possible to generalize the results obtained.

Secondly, the failure to evaluate the ethnic origins of each subject did not allow a study on the geography of the roles. This analysis would have been useful in order to understand how the influence of the socio-cultural and geopolitical context has determined the acquisition of some roles.

The possible future developments of this study therefore require a large sample and a more detailed analysis.

8. Conclusion

The study carried out tried to provide an idea of how Islamic fundamentalism has increased its influence and has come to take different forms over time. The excursus proposed here has shown that the greater involvement of the female component within the extremist groups is nothing more than a historical product dictated by the need of such groups to change their strategy. The transformation of a group is necessary for its survival, a reason why it is no longer possible to think of women, in the context of Islamic extremism, with an exclusively passive role. In this study it was shown that women have always had a key function in terrorist networks, even before the birth of Daesh, and that they were gradually rediscovered as strategic actors with the advent of the Islamic State whose propaganda gave them the legitimacy they needed to assume different roles, both inside and outside the territory of the Caliphate.

Firstly, it must be considered that if the number of operative women is significantly increased it is because they have provided terrorist organizations with an undoubted advantage also in terms of internal security, just think that women generally have the ability to provide support through the home without arouse particular suspicions. In fact, there may be alternative ways of supporting Daesh and the role of Supporter, emerged in this study, has provided a different way of engaging in the activities of the organization which, given its passive nature, is very difficult to detect from the apparatus of safety.

Secondly, we must bear in mind that women are subjected to softer security checks, that violent attacks by women led by other radical organizations are known to be more lethal, as they are able to carry out attacks by hiding weapons under their clothes and get more media coverage.

Third, not least in importance, women play an educational role more than a man does in the family context. In fact, the supporters of extremist

ideology can produce an influence from deleterious filiation on the offspring with devastating effects on the new generations. In light of this, it is clear that there is a sort of “positive prejudice” towards the female component, a major problem that cannot be ignored because an inadequate evaluation in terms of danger facilitates the carrying out of activities in favour of extremist groups.

With the hope of continuing with increasingly specific studies on the involvement of the female component in terrorist groups of Islamic origin, it is hoped that the international community takes into account the importance of the multi-dimensionality of women’s roles and their strategicity too often scarcely considered.

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Sitography

<https://jihadology.net/>

L'eredità operativa di Stato Islamico: dall'*open source jihad* all'*open source extremism*

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Abstract

Il periodo compreso tra la fine del 2017 e l'inizio del 2018 ha visto il passaggio di Stato Islamico (IS) da organizzazione protostatale a insurrezione diffusa. Diviene quindi ora necessario considerare la minaccia presentata dal "nuovo IS" e più in generale dall'influenza che questi ha avuto e ancora esercita sull'estremismo violento, come pure nelle nostre società. Il presente contributo si focalizzerà sulla dimensione operativa dell'*eredità* di IS, declinata nella sua divisione tra *scuola* e *metodo* all'interno di società altamente mediatizzate.

La prima si sostanzia in una linea diretta tra l'organizzazione e i suoi proseliti, un *continuum* ideologico-operativo che raccogliendo il *know-how* maturato nel corso della sua esistenza intende proseguirne la guerra; la seconda intende sfruttare tale esperienza operativa, aperta a chiunque voglia raccoglierne le *best practices* per raggiungere scopi non necessariamente legati a una ideologia. Tale metodo segna quindi una transizione dall'*"open source jihad"* a un più ampio "*open source extremism*"¹, segnando una fase di attentati e minacce con cui confrontarsi potenzialmente contemporanea e/o parallela a quella jihadista.

Abstract

During the months between 2017 and 2018 it was possible to witness the shift of Islamic State (IS) from a semi-State group to wide insurgency. It thus becomes imperative to acknowledge the threat posed by the "new IS" and the influence that the group exercises over violent ex-

¹ Nel presente contributo il termine "estremismo" è da considerarsi nella sua accezione di deriva violenta.

tremism and our own society. This paper focuses on the operative dimension of IS' *legacy* by analyzing its forms – *heritage* and *method* – inside our “media society”.

The *heritage* regards a direct link between the group and its followers, a *continuum* both ideological and operative which collects the know-how made by IS with the aim of continuing the war against its enemies; the *method* aims to exploit such operative knowledge which in truth remains open to whoever desires to use its best practices for its own aims, even ones not linked to violent jihadism. Such approach marks the shift from an “open source jihad” to an “open source extremism”, potentially leading to attacks and threats simultaneous and/or parallel to jihadi ones.

Keywords

Stato Islamico, Daesh, legacy, eredità, estremismo violento, comunicazione, propaganda, new normal.

1. Eredità come proseguimento: la “scuola IS”

Vinto in larga parte lo scontro sul territorio, le potenze del variegato mosaico anti-IS hanno dovuto constatare che all’erosione del dominio sul campo non è corrisposta la cessazione di attentati da parte del gruppo – quali le operazioni in stile “cane sciolto”, più comunemente (anche se non sempre correttamente) associate alla categoria dei “lone wolf”. A poca distanza dalla caduta di Raqqa (ottobre 2017) sono stati sferrati infatti ben due attacchi nel cuore degli Stati Uniti, più precisamente a Manhattan il 31 ottobre e l’11 dicembre 2017; in Russia, le forze di sicurezza hanno dovuto evacuare migliaia di persone durante i festeggiamenti per il centenario della Rivoluzione d’Ottobre a causa di molteplici allarmi bomba²; nel 2018, diversi attacchi in Europa hanno insanguinato i primi mesi dell’anno e sono diventati sempre più frequenti con l’avvicinarsi del Ramadan e dei campionati mondiali di calcio. Tutto questo senza considerare gli attentati sventati, come quello che avrebbe dovuto colpire la mezza maratona di Berlino³ o l’attacco previsto al British Museum e in seguito a Westminster⁴. Tali ultime azioni hanno

² Sputniknews, *Thousands of People Evacuated in Central Moscow After Bomb Threat Calls*, 5/11/2017, <https://sputniknews.com/russia/201711051058836424-moscow-bolshoi-theatre-evacuation/>; Marc Bennets, *Moscow bomb hoaxes lead to evacuation of 100,000 people*, The Guardian, 14/9/2017, <https://www.theguardian.com/world/2017/sep/14/moscow-bomb-hoaxes-lead-to-evacuation-of-100000-people>

³ Melissa Eddy, *6 men were plotting attack on Berlin half-marathon, police say*, The New York Times, 8/4/2018, <https://www.nytimes.com/2018/04/08/world/europe/berlin-half-marathon-attack.html>. Si noti che per tutti i casi ancora in fase di processo presentati in questo contributo vige la presunzione di innocenza dei presunti autori fino a sentenza definitiva.

⁴ BBCNews, *Mother and daughter jailed for terror plot*, 15/6/2018, <https://www.bbc.com/news/uk-44496433>

tutte almeno due elementi in comune: I) non sono state eseguite/pianificate materialmente da operativi ufficiali IS ma da suoi “affiliati”; II) questi ultimi hanno impiegato o erano intenzionati a mettere in pratica modalità largamente (anche se non esclusivamente) pubblicizzate da Stato Islamico. In tal senso ad esempio molteplici edizioni di Rumiyaḥ (a lungo principale magazine multilingua dell’organizzazione) contengono sezioni denominate “*just terror tactics*”, alcune specializzate nella scelta e utilizzo di armi da taglio e/o veicoli; il gazzettino settimanale in lingua araba al-Naba⁵ ha diffuso un vero vademecum per aspiranti attentatori (sezione “didattica” peraltro sempre più presente) mentre altri prodotti ancora offrono tutorial tramite “lezioni” video.

Immagine 1: Sezioni tratte da Rumiyaḥ 2, al-Naba 105 e Rumiyaḥ 3.

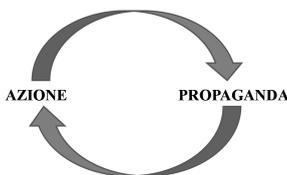


Propaganda e attentati sono stati spesso intimamente legati: negli anni trascorsi dalla “restaurazione del califfato” fino alla caduta delle sue basi principali si è potuto notare, infatti, come attacchi e propaganda di IS abbiano progressivamente innescato un circolo vizioso. Tale semplice circuito si è tristemente palesato ad esempio attraverso diverse ondate di attacchi imitativi come nel caso di Barcellona, quando all’attacco a La Rambla del 17 agosto 2017 sono seguiti quelli di Turku (18 agosto), Surgut (19 agosto) e Bruxelles (25 agosto)⁶.

⁵ Nello specifico si tratta del numero 105, cui si fornisce una versione tradotta in inglese nella relativa immagine.

⁶ Marco Lombardi, *Daesh? Quale forma sta prendendo il terrorismo? Ma chi sono i nemici?*, ITSTIME, 2/3/2018, <http://www.itstime.it/w/daesh-qual-forma-sta-prendendo-il-terrorismo-ma-chi-sono-i-nemici-by-marco-lombardi/>; La Vanguardia, *Un atropello masivo deja 13 muertos y un centenar de heridos en un atentado en la Rambla de Barcelona*, 17/8/2017, <http://www.lavanguardia.com/sucesos/20170817/43611025471/atentado-barcelona-rambla.html>; Yle, *NBI: Turku stabbing suspect radicalised three months before attack, inspired by ISIS propa-*

Immagine 2: Il circolo imitativo azione-propaganda.



La pubblicità concessa dai media a questo tipo di azioni ha avuto, inoltre, un “effetto sponda” che ha dato indiretto supporto prima ad al-Qaeda e in seguito anche a Stato Islamico⁷, favorendo quindi il proliferare di gesti emuli come quelli descritti⁸. Da questi elementi si evince la prima e più diretta dimensione dell’eredità di IS come “scuola”: linee guida operative, supportate da numerosi attacchi-esempi cui guardare per continuare la guerra contro i suoi nemici. Questa dimensione diretta dell’eredità di IS non si esaurisce tuttavia solo e soltanto nell’aspetto imitativo ma comprende anche un lascito materiale a livello di propaganda e *modus operandi* (quindi non solo di *know-how*), con migliaia di foto, video e magazine disponibili sul web e facilmente accessibili.

Iniziando con l’aspetto operativo, specifici canali Telegram e altre app di comunicazione costituiscono certamente una via diretta per accedere a parte di questo materiale⁹ – come dimostrato ad esempio dal famigerato cana-

ganda, 7/2/2018, https://yle.fi/uutiset/osasto/news/nbi_turku_stabbing_suspect_radicalised_three_months_before_attack_inspired_by_isis_propaganda/10063538; Lindsay Isaac, Ralph Ellis, *Man killed after knife attack on soldiers in Belgium*, CNN, 26/8/2017, <https://edition.cnn.com/2017/08/25/europe/man-attacks-soldiers-in-brussels/index.html>

⁷ Per una breve disamina si rimanda a Michael Jetter, *Terrorism and the Media*, IZA Institute of Labor Economics, 2014, <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjOzYjs6eHbAhUEGCwKHT6RDvYQFgguMAA&url=http%3A%2F%2Frep.iza.org%2Fdp8497.pdf&usg=AOvVaw00lXlrzMO1pYfBuqnYpC09>; Nicholas Farham, Marieke Liem, *Can a Copycat Effect be Observed in Terrorist Suicide Attacks?*, ICCT, 28/3/2017, <https://icct.nl/publication/can-a-copycat-effect-be-observed-in-terrorist-suicide-attacks/>; Michael Jetter, *Terrorism and the Media: The Effect of US Television Coverage on Al-Qaeda Attacks*, IZA Institute of Labor Economics, marzo 2017, <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiCk7yQ6-HbAhVHFSwKHZU-A0UQFggzMAA&url=http%3A%2F%2Fftp.iza.org%2Fdp10708.pdf&usg=AOvVaw0lVYykwHSq9xoitxVomkZu>

⁸ Alan Hope, *Anti-terror boss warns copycat attacks “certain” after Liege killings*, The Brussels Times, 16/6/2018, <http://www.brusselstimes.com/belgium/justice/11652/anti-terror-boss-warns-copycat-attacks-certain-after-liege-killings>

⁹ Si veda ad esempio Bennet Clifford, *“Trucks, Knives, Bombs, Whatever”: Exploring Pro-Islamic State Instructional Material on Telegram*, in CTC Sentinel, maggio 2018, pp. 23-29. In questo senso il focus è incentrato su materiale IS e non sulla vasta gamma di *technical tactical communications* antecedenti.

le “Lone mujahid”¹⁰. Ma è anche nella “terra di nessuno” delle piattaforme di archivio online che potrebbe annidarsi una minaccia nel lungo periodo. Talune di queste piattaforme infatti garantiscono o hanno garantito l’anonimato degli utenti i quali possono caricare e scaricare manuali per fabbricare esplosivi o per addestramento militare e così sopperire (per quanto possibile) ai centri di addestramento sul campo¹¹. La diffusione e la facilità di accesso a tale materiale si intrecciano ad appelli al *low tech terrorism* che nel tempo non sono rimasti solo chiamate generiche ma hanno assunto valore di veri e propri ordini, corredati inoltre da istruzioni adatte per essere tradotti in azione o fungere da ispirazione¹².

Questa dimensione *tattica* della “scuola IS” si inserisce tuttavia all’interno di una visione *strategica*, più o meno consapevole. Per meglio comprendere questa dimensione è necessario attingere brevemente all’esperienza di Abu Musab al-Suri, uno dei più influenti strateghi del jihadismo contemporaneo: secondo il suo pensiero, espresso soprattutto nella sua opera *Appello per la resistenza islamica globale*, il jihad armato avrebbe dovuto liberarsi dall’immobilità dovuta alle sclerotizzazioni gerarchiche per focalizzarsi su un movimento spontaneo, dal basso, composto da cellule liberamente legate tra loro e in grado di portare molteplici attacchi di loro propria iniziativa. La quintessenza di tale strategia si compendia nella frase *Nizam la tanzim*, “il sistema, non l’organizzazione”¹³.

A questa maggiore attenzione per l’iniziativa personale e dal basso fa seguito un focus ancora più marcato sulla figura del “lone mujahid”, passaggio che trovava un chiaro riferimento nelle parole di Abu Muhammad al-Adnani – già portavoce e “numero due” di Stato Islamico.

Non cercare il parere di nessuno, né il suo giudizio. (...) Dunque, oh *mu-wahhid*, non lasciare che la battaglia ti passi accanto, ovunque tu sia. (...) Se non riesci a trovare dell’esplosivo improvvisato o un proiettile, allora affronta un miscredente americano, francese o qualunque loro alleato. Spacca la sua testa con un sasso, o massacralo con un coltello, o investilo con la tua macchina, oppure gettalo da un luogo elevato, o soffocalo, o avvelenalo¹⁴.

¹⁰ Canale assunto all’attenzione mediatica anche per via del caso di Husnain Rashid che sul canale aveva allestito un vero e proprio “*e-toolkit for terrorism*”.

¹¹ Ahmad Shehabat, Teodor Mitew, *Black-boxing the Black Flag: Anonymous Sharing Platforms and ISIS Content Distribution Tactics*, Perspective on Terrorism, volume 12, issue 1, 2018, <http://www.terrorismanalysts.com/pt/index.php/pot/article/view/680/0>

¹² Come la serie *Knights of Lone Jihad*, incentrata sull’ispirare più che sul guidare *step by step* gli aspiranti attentatori.

¹³ Giuliano Battiston, *Arcipelago jihad. Lo Stato islamico e il ritorno di al-Qaeda*, Edizioni dell’asino, Roma, novembre 2016, p. 93.

¹⁴ Discorso di al-Adnani del 21 settembre 2014. Fonti aperte.

Ogni attacco di questo tipo nella “terra dei miscredenti” secondo al-Adnani è di fondamentale importanza in quanto “(...) *La più piccola azione che metti in pratica nel tuo Paese è migliore e per noi più duratura di quello che potresti fare se fossi con noi.*”¹⁵

Ne consegue che tra la dottrina di al-Suri (legami organizzativi blandi ma fedeli, ancorati saldamente a una ferma formazione teologica) e gli appelli di al-Adnani sembra quasi diluirsi il requisito di una profonda formazione religiosa per approdare a un *furor* estremista o a un gesto improvvisato: in tale contesto la fase attuale sembra seguire un passaggio dal modello “*sistema, non organizzazione*” a quello di “*azione, non sistema*”.

Vari strateghi del jihadismo hanno apportato continui spostamenti verso una sorta di jihad individuale, come nel caso di al-Suri, ma anche di Adam Gadah (autore de “*La chiamata alle armi*” dove si assiste al passaggio di AQ da ispiratore a istruttore) e di Anwar al-Awlaki (alle cui lezioni virtuali si sono ispirati e addestrati ad esempio gli autori dell’attacco alla maratona di Boston del 2013¹⁶; anche Nidal Malik Hasan, l’artefice dell’assalto a Fort Hood nel 2009, si era rivolto ad Awlaki¹⁷). Tuttavia con questo passaggio all’attacco minimalista non solo nella tecnologia e nell’esecuzione ma anche nel requisito ideologico/religioso, IS ha raccolto le *tactical technical communication* sviluppate nel tempo (soprattutto da al-Qaeda) per elaborare una nuova concezione di attentato e di attentatore, un’arma vivente che può ispirare terrore anche con azioni meno spettacolari o raffinate grazie anche alla grande mediatizzazione delle nostre società.

Un altro aspetto dell’eredità di IS come “scuola” deriva dal formidabile apparato comunicativo del gruppo terrorista e dei suoi sostenitori.

Il lascito materiale della comunicazione costituisce infatti una duplice minaccia: primo, perché fornisce una quantità notevole di materiale anche di “rapido consumo” – come il vademecum di al-Naba sopracitato; secondo, perché IS ha profuso ingenti risorse del suo eccellente apparato comunicativo in narrative e contronarrative che rimangono aperte alla consultazione. Ne

¹⁵ Discorso di al-Adnani del 21 maggio 2016. Fonti aperte.

¹⁶ A.A.V.V., *Unclassified summary of information handling and sharing prior to the april 15, 2013 Boston marathon bombings*, 10/4/2014, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjzNLjz9_bAhWCzxQKHSduAp8QFggxMAA&url=https%3A%2F%2Fwww.oig.dhs.gov%2Fassets%2Fmgmt%2F2014%2FOIG_Bos_Marathon_Bom_Rev_Apr14.pdf&usg=AOvVaw3hDdxHuVfrvt3O3lehW5NX

¹⁷ FBI National Press Office, *Final report of the William H. Webster Commission on The Federal Bureau of Investigation, Counterterrorism Intelligence, and the Events at Fort Hood, Texas, on November 5, 2009*, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiKtcbkzN_bAhVSRQKHdXZAKUQFgggMAA&url=https%3A%2F%2Fwww.hsd.org%2F%3Fview%26did%3D717443&usg=AOvVaw3Myiuh93YKssu3bKuUg1ks

conseguo quindi che un futuro utente, magari nelle prossime generazioni, potrebbe trovare o ricevere tale materiale narrativo e apprendere la storia di IS non dal punto di vista dei “vincitori” ma per come il “califfato” intendeva proporla: una sorta di revisionismo tutt’altro che improbabile e i cui frutti IS ha gettato con attenzione.

Infine, è possibile notare come la massiccia presenza mediatica di IS negli ultimi anni abbia esercitato un’influenza sulla società anche in modo insidioso e difficilmente identificabile. Si tratta del caso in cui un individuo compia azioni o adotti comportamenti collegandosi a Stato Islamico non per un’effettiva affiliazione quanto per coprire o dare voce a propri disagi e/o aspirazioni. L’indossare il mantello di IS in tali occasioni è una tecnica che abbraccia molteplici casi e sembra dovuta alla fascinazione del “brand” Stato Islamico: tale possibilità tuttavia non riguarda solo atti estremisti violenti ma è riscontrabile anche nel quotidiano – nel Regno Unito, ad esempio, un bambino di nove anni ha proclamato la propria fedeltà a Stato Islamico durante una lezione a scuola: si scoprirà in seguito che da diverso tempo era vessato da atti di bullismo¹⁸.

2. Eredità come esempio: un “metodo IS”?

Se i risultati “postumi” della scuola IS potrebbero essere stati voluti e/o previsti dall’organizzazione, il secondo elemento della sua eredità costituisce una sorta di effetto secondario o collaterale dell’unione tra propaganda e dottrina tattica: secondo questa ipotesi, i “casi di studio” offerti da IS e rilanciati dai media potrebbero aver fornito dei banchi di prova per le varie “tattiche del terrore” ampiamente diffuse sul web e, come abbiamo visto, facilmente consultabili. A tale processo si somma inoltre l’effetto amplificatore della eco mediatica, innescando azioni e reazioni come è già stato appurato per quanto riguarda al-Qaeda e Stato Islamico.

Per quanto concerne l’aspetto strettamente pratico di tali tattiche, l’idea di creare una biblioteca virtuale specifica per condurre degli attacchi non è nuova né esclusiva di IS. Sempre all’interno della galassia jihadista, i redattori della rivista qaedista *Inspire* ad esempio avevano progettato una sezione di “open source jihad”, definendola “A resource manual (...); includes bomb making techniques, security measures, guerrilla tactics, weapons training and all other jihad related activities. (...) It allows Muslims to train at home instead of

¹⁸Lizzie Dearden, *Nine-year-old boy who stood up in class and declared allegiance to Isis among thousands of children referred to Prevent programme*, Independent, 9/11/2017, <https://www.independent.co.uk/news/uk/home-news/prevent-programme-children-schools-boy-isis-support-class-thousands-far-right-extremism-teachers-a8045411.html>

risking dangerous travel abroad". Di seguito alla definizione è stato posto uno slogan: "Look no further, the open source jihad is now at hands reach"¹⁹. Una soluzione particolarmente congeniale da parte di *Inspire* è stata ad esempio l'analisi nel diciassettesimo numero della rivista di alcuni attentati: dei vari assalti riportati vengono mostrati quindi punti di forza e mancanze nell'ottica di raffinare le capacità operative dei futuri esecutori.

Immagine 3: Il confronto operato da *Inspire* tra diversi attentati.

LONE JIHAD OPERATIONS				
				
	ORLANDO OPERATION	NIECE OPERATION	9/17 OPERATIONS	WESTMINSTER OPERATION
Country	America	France	America	Britain
Name of Executor	U'mar Sideeq Matcen	Muhammad Al-Huwayj	Ahmad Khan Raheemy & Dahir A'dan	Khalid Masoud
Target Priority	First Priority.	Third Priority.	First Priority.	Second Priority.
Inspire Guide Edition	1 st	2 nd	4 th	5 th
Means of Targeting	Firearm	Truck & Firearm	Explosives & Knife	Car & Knife
Fatalities	50	84	----	5
Strengths	<ol style="list-style-type: none"> Using means available at hand. Simple Operation Operation was performed on an enclosed area, thus favouring taking hostages. Killed many of the trapped hostages, due to the enclosed space. The executor was proficient in using firearms. 	<ol style="list-style-type: none"> The executor used a new means to execute the operation, and thus had the element of surprise. His means of execution realized many fatalities. He incorporated two means of attack: ramming a truck in the crowd & a firearm. Selected appropriate place and time for the operation. Prepared his operation well. 	<ol style="list-style-type: none"> Many operations were performed on the same day. The operation occurred immediately after the 9/11 remembrance ceremony. Using explosives as a weapon to terrorize the enemy. In Minnesota, the executor's cover was well chosen - dressed as a police officer. 	<ol style="list-style-type: none"> He used the weapon which was readily available at hand. He had courage and strong will. Chose a place where the auto of the country is found.
Weaknesses	<ol style="list-style-type: none"> Targeting a specific group of people, this deviates from the actual intended message from the operation. 	----	<ol style="list-style-type: none"> The bomb was not placed in an area where it could have inflicted great damage to the enemy. The aftermath of the operation was not properly planned. 	<ol style="list-style-type: none"> Executing both operations at the same time - it could have been that the ramming operation on the bridge could have prepared the operation in parliament.

A differenza della "scuola", il "metodo" si distingue proprio per l'affrancamento da vincoli ideologici obbligati in favore di un'acquisizione di tecniche messe in pratica da IS (e non solo). Un primo passo in questo senso è avvenuto con l'ibridazione e l'integrazione di tattiche di AQ con altre divenute quasi una "firma" di Stato Islamico.

¹⁹ *Inspire* 17, op. citata, p. 69. La serie dedicata all'interno del magazine aveva infatti fornito istruzioni ad esempio sulle hidden bomb, le bombe a tempo, le door trap e su esplosivi ricavati anche dalle pentole a pressione (rispettivamente nei numeri 13, 14, 15 e soprattutto 16 del magazine).

In questo senso alcuni operatori, formatisi sotto l'influenza qaedista, hanno poi abbracciato la causa di IS: rientrano tra questi gli autori dell'attacco a San Bernardino del 2015²⁰ e delle esplosioni dinamitarde nel 2016 ad opera di Ahmad Khan Rahami, operante tra New York e New Jersey²¹.

Come già specificato altrove²², diversi casi più recenti come gli attentati condotti da Sayfullo Saipov e Ullah Akayed a Manhattan – rispettivamente il 31 ottobre e l'11 dicembre 2017 – mostrano tali segni di ibridazione e relativo disinteresse nel reperire informazioni unicamente di matrice IS.

Un caso particolarmente indicativo per il tema in esame riguarda Aaron Everitt Jameson: il giovane statunitense aveva progettato di compiere un attentato al molo 39 di San Francisco, gremito durante le festività natalizie, in nome di IS. Il suo attacco prevedeva due fasi: nella prima avrebbe fatto detonare degli esplosivi, in modo da convogliare la folla in preda al panico verso determinati colli di bottiglia; nella seconda avrebbe aperto il fuoco, sfruttando il poco spazio e il gran numero di persone accalcate per infliggere il massimo numero di perdite²³. Il *modus operandi* ricorda l'attacco al Bataclan di Parigi del 2015, tuttavia Jameson non sembra aver tratto ispirazione unicamente da IS: nel 2009, infatti, aveva completato l'addestramento per entrare nel corpo degli U.S. Marine e si era procurato il libro "The Anarchist Cookbook" – un classico, tra le altre cose, per la fabbricazione di esplosivi a pressione come quello utilizzato durante la maratona di Boston del 2013²⁴.

Se è quindi assodato che un numero crescente di jihadisti stia impiegando tattiche pubblicizzate non solo da altre fazioni islamiste ma anche da fonti estranee alla galassia ideologica jihadista, allo stesso modo è possibile notare

²⁰ U.S. Department of Justice, *California Man Charged with Conspiring to Provide Material Support to Terrorism and Being 'Straw Purchaser' of Assault Rifles Ultimately Used in San Bernardino, California, Attack*, 17/12/2015, <https://www.justice.gov/opa/pr/california-man-charged-conspiring-provide-material-support-terrorism-and-being-straw>

²¹ U.S. Department of Justice, *Chelsea bomber Ahmad Khan Rahimi sentenced to life in prison for executing september 2016 bombing and attempted bombing in New York City*, 13/2/2018, <https://www.justice.gov/opa/pr/chelsea-bomber-ahmad-khan-rahimi-sentenced-life-prison-executing-september-2016-bombing-and>

²² Daniele Plebani, *Dal nadir al rilancio: la comunicazione di IS dalla caduta di Mosul all'eredità del califfato*, Sicurezza, Terrorismo e Società, Vol. 7, maggio 2018, pp. 59-80. Articolo accettato il 30/3/2018. [chrome-extension://oemmnadbldboiebfnladdacbfmadadm/http://www.sicurezzaerrorismosocieta.it/wp-content/uploads/2018/05/Dal-nadir-al-rilancio_la-comunicazione-di-IS-dalla-caduta-di-Mosul-all'E2%80%99eredit%C3%A0-del-califfato.pdf](http://www.sicurezzaerrorismosocieta.it/wp-content/uploads/2018/05/Dal-nadir-al-rilancio_la-comunicazione-di-IS-dalla-caduta-di-Mosul-all'eredit%C3%A0-del-califfato.pdf)

²³ U.S. District Court, *Criminal Complaint: Unites States of America vs Everitt Aar-on Jameson*, Eastern District of California, p. 3, 22/12/2017, [chrome-extension://oemmnadbldboiebfnladdacbfmadadm/https://www.justice.gov/opa/press-re-lease/file/1020676/download](https://www.justice.gov/opa/press-re-lease/file/1020676/download)

²⁴ *Idem*.

un processo contrario per il quale alcuni estremisti violenti attingono dall'*open source jihad* per fini completamente diversi da quest'ultimo.

Negli anni in cui manuali, infografiche e video istruivano su come preparare e condurre un attacco, decine di attentati eseguiti hanno portato sempre più spesso tali modalità alla luce dei notiziari, sui quotidiani e nelle agenzie di informazione pubblica. Questo, come già sottolineato, ha costituito un'eccezionale sponda per far rieccheggiare il terrore. Tuttavia, quello che forse IS non aveva previsto sembra essere il fatto che dall'altra parte dello schermo l'audience non fosse composta solo da vittime passive ma anche da attenti ascoltatori. Ecco quindi che all'interno delle nostre società si è assistito a dei cambiamenti di abitudini, non solo in senso *preventivo* ma anche nell'*eseguire* determinate azioni violente; le modalità di alcuni recenti attacchi – cui di seguito si fornisce un campionario esemplificativo – possono rivelarci uno spaccato di tale mutamento verso l'adozione di “tattiche IS”.

Caso 1. Un uomo di 47 anni residente nel Regno Unito aveva pianificato un attacco avente come obiettivo un gruppo di persone impegnate in una marcia a scopo politico. Venute meno le condizioni per attuarlo, ha vagato per ore guidando un furgone noleggiato qualche giorno prima. Notando un assembramento di persone intente a soccorrere un fedele colto da malore fuori un luogo di culto, ha accelerato contro il gruppo cercando di uccidere più persone possibile.

Caso 2. Poco dopo la partenza del bus, tre ordigni sono esplosi al lato della strada investendo il veicolo. Sul posto è stata ritrovata una lettera nella quale si rivendicava l'attacco, dichiarato come risposta per l'intervento militare del Paese europeo nelle terre musulmane e la presenza sul proprio suolo di basi statunitensi.

Caso 3. Il giovane, sui vent'anni, stava partecipando a una manifestazione organizzata da gruppi radicali. In seguito a scontri con alcune persone che protestavano contro l'evento, ha scagliato la propria auto contro questi ultimi.

Caso 4. Nella giornata di sabato un uomo a bordo di un furgone si è scagliato contro un gruppo di persone nel centro storico della città, gremito durante il fine settimana, mietendo almeno due vittime.

Semberebbero classici attacchi in stile IS: ma nel primo caso l'autore era un risultato della “doppia radicalizzazione”²⁵ e intendeva colpire i musulmani perché visti *in toto* come nemici. Con le parole del giudice Justice

²⁵ Marco Lombardi, *Londra: veicolo sulla folla davanti alla Moschea di Finsbury Park*, 19/6/2017, <http://www.itstime.it/w/londra-veicolo-sulla-folla-davanti-alla-moschea-di-finsbury-park-by-marco-lombardi/>

Cheema-Grubb: *“Your plan was simple. To copy the method used by some Islamist terrorist and take a vehicle to a densely populated place and wreak as much devastation as possible as well as sowing long lasting terror among the Muslim population”*²⁶.

Il secondo attacco è avvenuto in Germania ai danni della squadra di calcio del Borussia-Dortmund: se le indagini in un primo momento hanno considerato la matrice terroristica dell'attacco per via del *modus operandi*, in seguito è stato scoperto che si trattava in realtà di un tentativo di speculare sul crollo delle azioni della squadra tedesca²⁷. Nel terzo esempio l'autore non era un aspirante martire del “califfato” ma un membro dell'estrema destra statunitense²⁸. L'ultimo episodio è accaduto il 7 aprile 2017 a Münster in Germania, dove un uomo con presunti problemi mentali alla guida di un furgone si è scagliato contro degli avventori all'esterno di un bar, mietendo diverse vittime e ferendo altre venti persone²⁹. La maggior parte di questi ed altri attacchi sono stati portati contro l'immagine di un nemico che si è concretizzato agli occhi degli autori nella comunità musulmana o comunque percepita come antagonista: pare quindi che abbiano cercato di combattere quella che vedevano come un'estensione di Stato Islamico e più in generale i propri avversari... utilizzando (inconsiamente?) le tattiche pubblicizzate e impiegate dallo stesso Stato Islamico. Altri episodi ancora non vedono la necessità di un nemico dichiarato ma adottano tattiche simili a quelle indicate per dare sfogo a un proprio malessere: sembra essere questo il caso di un cittadino tedesco che il 24 dicembre 2017 ha condotto la propria vettura carica di materiale esplosivo fin dentro la sede principale del Partito Socialdemocratico a Berlino. Alla polizia l'uomo ha risposto che era sua intenzione suicidarsi³⁰. I di-

²⁶ Il primo caso si riferisce ai fatti del 19 giugno 2017 alla moschea di Finsbury Park ad opera di Darren Osborne. Judiciary of England and Wales, Woolwich Crown Court, *R v DARREN OSBORNE*, Sentencing Remarks, 02/02/2018, [chrome-extension://oemmndcbldboiebfnladacdbdfmadadm/https://www.judiciary.gov.uk/wp-content/uploads/2018/02/r-v-osborne-sentencing-remarks.pdf](https://www.judiciary.gov.uk/wp-content/uploads/2018/02/r-v-osborne-sentencing-remarks.pdf)

²⁷ Barbara Kollmeyer, *Borussia Dortmund bus bomber was no terrorist – just a greedy trader, prosecutors say*, MarketWatch, 21/4/2017, <https://www.marketwatch.com/story/borussia-dortmund-bus-bomb-was-no-terrorist-just-a-greedy-investor-investigators-say-2017-04-21>

²⁸ Georgetown Law, *Complaint for injunctive and declaratory relief*, <https://www.law.georgetown.edu/icap/wp-content/uploads/sites/32/2018/02/lawsuit-charlottesville.pdf>

²⁹ Souad Mekhennet, Michael Birnbaum, *Van plows into crowd in northern German city of Münster, killing at least 2*, The Washington Post, 7 aprile 2017, https://www.washingtonpost.com/world/europe/van-plows-into-crowd-in-northern-german-city-of-munster-killing-at-least-3/2018/04/07/007e428c-3a75-11e8-b57c9445cc4dfa5e_story.html?utm_term=.9ef1aa3ecc13

³⁰ Adam Sage, *Car bomb fails as driver crashes through doors of German Social Democratic Party HQ*, The Times, 26/12/2017, <https://www.thetimes.co.uk/article/car-bomb-fails-as-driver-crashes-through-doors-of-german-social-democratic-party-hq-kffwxcq9>

versi attacchi precedentemente descritti sono quindi da leggersi come frutto di questo “effetto collaterale”, notevolmente più insidioso e che rappresenta una minaccia potenzialmente più pericolosa in virtù proprio della sua natura non necessariamente legata all’ideologia.

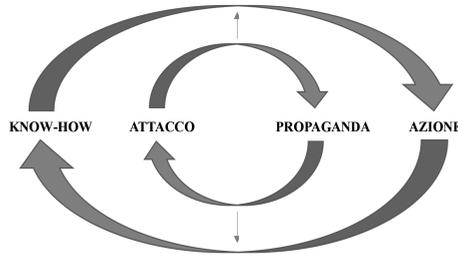


Immagine 4: Il passaggio dal circuito imitativo IS a quello collaterale.

È necessario sottolineare inoltre come il “metodo IS” risulti efficace anche perché questo si innesta in un terreno psicologico che l’organizzazione (e in parte anche i media dei Paesi colpiti) ha pesantemente influenzato nel tempo. Tale terreno altro non è che la percezione che la società ha del terrorismo e più precisamente delle azioni immediatamente ricondotte ai vari attentati che IS ha eseguito negli anni. Ne consegue che un atto riconducibile al “metodo IS” possa ottenere un’eco mediatica e un impatto psicologico amplificato grazie all’influenza che il “califfato” ha avuto sulla società: il terrore che questi ha ispirato sembra rinnovarsi a ogni attacco e la sua ombra aleggia continuamente di fronte a un attentato con un simile *modus operandi* o un’azione che ne richiami la memoria, anche nel caso in cui non sia possibile stabilire legami certi tra l’atto e l’organizzazione. Diversi episodi testimoniano tale timore – basti pensare al falso allarme alla stazione della metropolitana di Oxford Circus a Londra il 24 novembre 2017³¹ o all’evacuazione di Mont Saint-Michael il 22 aprile 2018 dopo che un uomo all’interno del sito ha inveito contro la polizia³². Simili reazioni si sono avveritate in Sudafrica, quando un commando ha fatto irruzione in una moschea sciita accoltellando un uomo (tre giorni dopo verrà inoltre ritrovato un ordigno incendiario all’inter-

³¹ A.A.V.V., *Oxford Street panic began with fight at tube station, suggest police*, The Guardian, 25/11/2017, <https://www.theguardian.com/uk-news/2017/nov/24/oxford-circus-police-attend-tube-incident>

³² France 24, *France’s Mont-Saint-Michel evacuated after man threatens police*, 22/4/2018, <http://www.france24.com/en/20180422-france-mont-saint-michel-evacuated-over-police-threat>

no dell'edificio)³³. Impossibile infine dimenticare i fatti di Piazza San Carlo a Torino del 3 giugno 2017, vero paradigma di questo *effetto terrore*³⁴. Un effetto amplificato nel caso in cui tali azioni avvengano in tempi ravvicinati e/o durante eventi particolari³⁵: si considerino ad esempio l'incidente avvenuto a Mosca il 16 giugno 2018, quando il conducente di un taxi ha investito un gruppo di persone;³⁶ l'azione di una donna in un supermercato francese il 17 giugno, la quale si è scagliata armata di coltello contro presenti³⁷; o ancora, il 18 dello stesso mese, in Olanda, quando un uomo ha condotto un van contro delle persone che tornavano da un concerto³⁸. Se a questi presunti “cani sciolti” affianchiamo gli attacchi rivendicati IS come a Parigi, Grozny e Liegi appena un mese prima (rispettivamente 13, 20 e 29 maggio³⁹) si comprende come il fenomeno debba essere combattuto accettando il fatto che episodi simili possano ripetersi più volte, a prescindere dall'affiliazione ideologica e più in generale dalle motivazioni che spingono a tali atti. Se agli attentati senza matrice oppure di matrice religiosa qui descritti si sommano anche quelli provenienti dall'estremismo politico, peraltro in continua crescita, si potrebbe giungere a una minaccia più ampia- una “nuova normalità”.

In un tale scenario le nostre società sarebbero costrette a fronteggiare – con periodi anche fluttuanti – attacchi provenienti da molteplici fronti, una minaccia quindi multiforme che potrebbe vedere varie declinazioni di estremismo “sparare nella stessa direzione” a prescindere dalle varie matrici di appartenenza e potenzialmente ispirarsi l'un l'altra nell'elaborare tattiche e strategie.

Una nota finale guarda a una pericolosa strumentalizzazione di IS proprio all'interno delle società colpite. L'appena descritto “effetto IS” infatti ha già attecchito in molteplici dimensioni e non solo per quanto riguarda la sicurezza. Un falso attacco da parte di Stato Islamico è stato inscenato a Praga nel

³³ South African Police Service, *Hawks to investigate incendiary devices at Verulam*, 14/5/2018, <https://www.saps.gov.za/newsroom/msspeechdetail.php?nid=15687>

³⁴ Silvia Caprioglio, *Torino, fatti di piazza San Carlo: chiesto rinvio a giudizio per Appendino*, La Presse, 22/6/2018, <http://lapresse.it/torino-piazza-san-carlo-chiesto-rinvio-a-giudizio-sindaca-e-altri-14.html>

³⁵ Gli esempi di seguito riguardano episodi ancora in fase processuale.

³⁶ The New York Times, *Taxi Hits Pedestrians Near Moscow's Red Square, Injuring 8*, 16/6/2018, <https://www.nytimes.com/aponline/2018/06/16/world/europe/ap-eu-russia-taxi-crash.html>

³⁷ France 24, *Woman shouting 'Allahu akbar' injures two with blade in France*, 17/6/2018, <http://www.france24.com/en/20180617-woman-shouting-allahu-akbar-injures-two-with-blade-france>

³⁸ Reuters, *Dutch prosecutor: Man who drove into concert-goers not a terrorist*, 19/6/2018, <https://www.reuters.com/article/us-netherlands-concert-prosecutor/dutch-prosecutor-man-who-drove-into-concert-goers-not-a-terrorist-idUSKBN1JF14K>

³⁹ Rivendicazioni tratte da fonti aperte.

2016, a scopo *politico*⁴⁰; alcuni attori ne hanno ricreato un secondo a Teheran come operazione di *marketing* per la diffusione del film *Damascus Time*⁴¹; l'industria dell'intrattenimento ha attinto copiosamente e sfruttato il "brand" IS all'interno di propri prodotti – come serie tv e spettacoli⁴². Ha fatto scalpore ad esempio la richiesta di un rapper francese, autore in passato di un disco intitolato "*Jihad*" e di alcune canzoni da alcuni considerate ambigue, di tenere un concerto proprio al teatro Bataclan a Parigi⁴³. Si può quindi rilevare come il "fenomeno Stato Islamico" sia stato in qualche modo "inglobato" dalle società che ha cercato di colpire: il modo in cui questo sta avvenendo dovrebbe essere oggetto della massima attenzione per evitare una sorta di propaganda indiretta o postuma del gruppo e di coloro che vi si sono ispirati.

3. Conclusioni

Quella contro IS è stata sin dai suoi esordi una sfida non solo sul piano militare ma anche al comprendere il "fenomeno Stato Islamico". La medesima sfida si pone ora nei confronti delle nuove minacce e il presente contributo ha tentato, senza pretesa di risolvere una questione così complessa, di fornire un'ulteriore lente per interpretare tale fenomeno attraverso il concetto di *eredità* di IS, divisa tra *scuola* e *metodo*.

Entrambe rappresentano possibili evoluzioni dell'estremismo violento e ciascuna presenta specifiche peculiarità. Il *metodo* è stato spesso impiegato da persone che hanno agito in autonomia e pertanto un'azione che utilizzi tale ispirazione difficilmente può essere prevista; d'altro canto l'esecuzione della maggior parte di questa tipologia di attacchi tende a un livello tecnico-tattico basilare, quindi maggiormente gestibile nel suo contenimento. Operatori invece che si rifacessero alla "scuola" sarebbero probabilmente legati a una comunità terroristica di riferimento – anche solo a livello virtuale. Questa potrebbe fornire addestramento e/o strumenti, in teoria elevando il grado di pericolosità di un'azione violenta; tuttavia proprio il sistema di relazioni tra operatore e comunità aumenta la probabilità di essere individuato.

⁴⁰ Dan Bilefsky, Jan Richer, *Fake ISIS attack in prague, intended as protest, causes panic*, The New York Times, 22/8/2016, <https://www.nytimes.com/2016/08/23/world/europe/prague-fake-isis-attack.html>

⁴¹ BBC, *Fake 'Islamic State' mall prank outrages Iranians*, 9/5/2018, <https://www.bbc.com/news/blogs-trending-44053836>

⁴² Daniele Plebani, *Dal nadir al rilancio*, op. citata, p.77.

⁴³ La natura estremista o meno di alcuni messaggi lanciati dal rapper nelle sue produzioni è oggetto di dibattito. A.A.V.V., *French Muslim rapper calls off shows at Bataclan after protests*, The Guardian, 22/09/2018, <https://www.theguardian.com/world/2018/sep/22/french-muslim-rapper-calls-off-shows-at-bataclan-after-protests>

Analizzare le due modalità indicate non è però sufficiente se non si comprende anche l'ambiente nel quale operano. Come si è cercato di dimostrare, infatti, l'eredità di IS non si limita ad un passaggio di capacità (*metodo*) o di testimone (*scuola*) ma investe anche la società (ambiente) in termini di influenza: la comunicazione di Stato Islamico si è innestata nei meccanismi di un sistema altamente mediatizzato come quello delle nostre società ed è riuscita a sfruttarlo a proprio vantaggio, facendo in modo non solo di colpire le vittime di un attacco ma anche di infliggere terrore (o di suscitare ispirazione) in un'ampia audience.

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II. PERSPECTIVES ON SECURITY

Contemporary irregular conflicts: new and old ideas

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Nota autore

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Abstract

Contemporary international system is at a political turning point due to security issues partially related to the concept of irregular warfare. Over the last three decades, several theories have emerged around the idea that war has changed and should no longer be considered in some areas and contexts state versus state. The goal of the essay is to analyse the nature of contemporary irregular warfare, showing, on the one hand, the continuities of the current debate with old strategic ideas (mainly related to the notion of insurgency) and, on the other hand, its consequences for politics and security.

Keywords

Irregular Warfare, Transformation of War, Security Studies, Hybrid Warfare, Terrorism.

1. Introduction

At least since the end of the Cold War (Krause and Williams, 1996), a huge debate over the transformation of war has arisen, that is, how and why war is changing, what the triggers are, and what features are most affected by the change. Although scholars have provided different conceptualizations to

describe conflicts over the last three decades, everyone has stressed the idea that modern conflicts are irregular wars, i.e. not state versus state wars. This finding is also confirmed by empirical data. In fact, according to SIPRI data from between 2001 and 2011, 69 inter-state wars were fought, but non-state wars amounted to 221 (SIPRI, 2012: 5); while more recent SIPRI data stated: “[T]here have been signs of increasing non-state violent conflict since 2010 in Africa and the Middle East” (SIPRI, 2015: 7).

This essay focuses on irregular conflicts, their interpretation, and their nature, because it is imperative to study the kind of violence that drives the political change of contemporary international system. However, the paper does not want to infer that regular wars fought by States do not represent a threat to international system. The focus of this essay is just armed violence of non-state actors, which is very different from state versus state ones in terms of strategy, tactics, and social consequences. As Steven Metz (2015) wrote in *World Politics*, a form of “new-feudalism” is emerging, and it “will have profound effects on the global security system, since the latter’s norms, laws, practices, and procedures are based on sovereign nations that control their territory and are held responsible for what happens there. [...] By contrast, the emerging global security system is a heterogeneous one that includes traditional sovereign nations but also feudal states, whose formal national governments only control the capital and, in some cases, a few resource-producing regions”.

This study does not suggest any new conceptualization of irregular conflicts; its goal is to offer, instead, a sort of history of ideas related to the debate on irregular warfare in order to figure out common characteristics, thereby creating a more accurate and comprehensive picture of contemporary armed violence. The essay adopts a theoretical approach but it considers typical contemporary cases of irregular warfare, for instance, the ISIS warfare in Iraq, Syria, Libya and even in Europe, the insurgencies linked to Hezbollah and Hamas in the Middle east, the operations of Al-Qaeda.

The paper is organized into three sections. The first one offers a definition of war, explains the Western dichotomy between regular and irregular wars, describes their features and offers some historical examples of the latter. The second section takes into account some of the buzzwords used to describe contemporary armed violence and aims both at conceptualizing contemporary irregular conflicts highlighting their key features and at singling out the lack of historical background because the majority of them seems to suggest some kind of break with the past. However, this break seems to be more the result of the scholar will to differentiate him/herself from other scholars offering a new definition than the result of a serious historical study. The third section takes a historical point of view both to highlight the shortcomings of contemporary ideas on irregular conflicts giving at least tentative answers to

them and to study some crucial characteristics that may have important consequences, such as urban battlefield. As a result, the paper highlights the lack of historical awareness in the Western strategic thought in confronting and analysing contemporary irregular conflicts.

2. War and irregular warfare

Defining the notion of war is a very complex, multifaceted, complicated and challenging task even for the simple reason that a precise definition of war has proved elusive. However, for the sake of this paper, it is a key step to offer a definition to adhere to even to show in which way it differs from the concept of irregular warfare. For instance, Clausewitz defines war as “an act of violence to compel our opponent to fulfil our will” (Clausewitz, 1984: 75). Although such a definition takes into account at least three central elements of war, i.e. “violence”, “opponent”, and “will”, it appears to be too loose. In order to suggest a more accurate definition, in the present study, war is defined as a conflict among independent political groups that is resolved by means of organized and armed violence (Bobbio, 1997). In this definition, three elements stand out. First of all, war is a conflict, which is a less specific term that includes situations often excluded in the definition of war, i.e. guerrilla warfare, terrorism, and similar contingencies. Secondly, the definition entails the political element because actors of the conflict could be both State and different polities, the key point is that such actors are independent and they represent politically organized units. Finally, this kind of political conflict is not resolved in a democratic parliament, by elections, and by other political means but using “organized and armed violence”. The notion of “organized and armed violence” is important for two reasons. To begin with, violence is the trading mark of every war, as Clausewitz put it: “War is a clash between major interests, which is resolved by bloodshed—that is the only way in which it differs from other conflicts” (Clausewitz, 1984: 149). Secondly, the adjective “organized” signals that the violence is not random, casual, or arbitrary, but on the contrary it is organized both in terms of means (fighting units, weaponry, chain of command and so on) and in terms of goals. Moreover, the violence must involve dealing out death and destruction to the other. That does not mean that both actors might be able to reach such a level of violence to destroy or annihilate the enemy; it means, instead, that an actor must be able to generate a level of organized and armed violence that might threaten at least one of the following: enemy’s policy, strategy, security, economy, or way of life. For instance, despite the fact that ISIS is often defined as a “terrorist group”, it has waged a war in Iraq, Syria, Libya, and Sinai that has threatened local security and stability. In Europe ISIS uses a different

approach but due to its attacks it compels Western governments to invest more in security, and to intervene in Middle East and North Africa. A further example of this kind of organized and armed violence is the 9/11 attacks in New York and Washington. As a consequence of this blow al-Qaeda did not aim at destroying the US, nevertheless it was able to influence US foreign policy and security.

After having defined in such a way the notion of war, the paper needs also to tackle the issue of the dichotomy between regular and irregular warfare. While a variety of definitions of the term 'irregular warfare' have been proposed, this paper uses the definition suggested by Charles Edward Callwell, who defines it as 'all campaigns other than those where both the opposing sides consist of regular troops' (Callwell, 1996: 21). Moreover, the dichotomy between the notions of regular and irregular warfare is closely linked with the Western concept of State. For the Western military professionals the State represents the second element of the definition of war aforementioned, i.e. the politically organized units that in Western political thought since XVI century are the State. As a consequence, according to Carl Schmitt, the terms 'regular' and its opposite 'irregular' have to be understood within the framework of modern state regularity: 'The distinction between regular and irregular battle depends on the degree of regularity [*Präzision des Regulären*]. [...] the force and significance of his irregularity is determined by the force and significance of the regular that is challenged by him' (Schmitt, 2004: 3). Accordingly, this paper uses the term 'irregular warfare', which, on the whole, refers to non-state actors' warfare. As a consequence, irregular warfare is a Western concept based on the primacy of the state, and thus not applicable to most parts of the contemporary world. This also explains why Western strategic thought, which is closely related to the notion of State, finds it difficult to define irregular warfare as the transformation of war debate summarized below demonstrates.

Despite these Western limitations, irregular warfare has a long history, and, from the 18th century onwards, several authors have reflected on the phenomenon. Andreas Emmerich, Johann Ewald, and Carl von Clausewitz in Germany, Carlo Bianco in Italy, and Callwell in Great Britain are just a few examples of that hugely multifaceted and long tradition (Laqueur, 1977; Heuser, 2010, 2013; Rink, 1999; 2010; Arquilla, 2011; Beccaro 2016). During the 20th century the notions of insurgency and counterinsurgency (COIN) have started to be used to describe such contingencies (Shy, John, Collier, 1986; Rid, 2009; 2010).

Although throughout history irregular warfare has been named in different ways, such as guerrilla warfare, insurgency (and its opposite counterinsurgency), small war, *kleiner Krieg*, Guerra per bande, colonial warfare, partisan warfare, hybrid warfare, asymmetric warfare and so on, it is possible to

single out several common elements such as the fact that irregular warfare is fought by non-state actors, it tries to find different way to confront with the enemy, it does not seek a frontal battle, it has a different relation with the local population.

According to Beatrice Heuser, in order to understand modern irregular warfare, and as a consequence the debate on transformation of war, two different conceptualizations of irregular warfare are crucial: the 18th century concept of *kleiner Krieg* and the military experiences during the 19th and 20th century. As far as *kleiner Krieg* is concerned, it is a notion closely linked to regular warfare and armies, even though it had its own rules (surprise and mobility). Since, eighteenth-century armies were large and had limited manoeuvring capabilities, lighter troops were necessary to manoeuvre, to move quickly and freely throughout the battlefield and to accomplish surprising attacks and reconnaissance (Lüh 2005). Therefore, their weaponry and equipment were lighter than that of regular troops. Moreover, the *kleiner Krieg* hallmark is the element of surprise, which is possible due to great mobility in time and space (Beccaro 2016). *Kleiner Krieg* troops are important for two reasons. First, they represent the ancestor of contemporary Special Operations Forces who operate linked to regular armies using unconventional approaches. Secondly, the *kleiner Krieg* tactics epitomize the general rules of irregular warfare: light troops, attacks conducted during the night or when it rains, snows, or with fog, the troops must be masters of the use of terrain and of disguise with local clothing or camouflage.

Those features represent the background of the next phase of irregular warfare pinpointed by Heuser, that is the 19th and 20th century during which irregular warfare has been waged by fighters with political (mainly nationalism and Marxism) or religious (mainly Islam) motivations (Heuser 2013: 20). Irregular fighters of this kind are different from the previous ones because they are not linked to regular armies. On the contrary they are totally 'irregular' because they are the opposite of the State regularity that they fight using the aforementioned tactics.

Is the irregular warfare a kind of war? The answer to this question must be positive because irregular warfare includes every elements of the definition of war. Irregular warfare is a conflict between political groups that use organized violence. However, irregular warfare is a kind of warfare that differs from the regular one in at least six strategic/tactical aspects. The first difference is related to time, since irregulars tend to prolong conflict, while regular army operations aim to shorten it. Time becomes a twofold weapon for irregular fighters: on the one hand, it is used to gain population support, while, on the other hand, it is useful for sapping the strength of the government. Western strategic thinking has focused on the possibility of concentrating forces over time and

space in order to get a quick win, on the contrary the irregulars try to disperse forces, prolong operations, and avoid direct confrontation. Moreover, this contrast explains the importance of the counterinsurgency doctrine in contemporary politics, because it assumes the necessity of long-term military and political involvement and a strategy able to take into account the military and political side of a conflict, which is the second difference that concerns the duality of the insurgent strategy: military and civilian. The government confronting an insurgency must win in both fields (with a consequent problem of resource allocation), while insurgents could simply prevail in just one.

The third difference is the political organization that characterizes the insurgents. It is often a shadow government or a network, but it has a key role in collecting and transmitting information, providing financial support and recruitment, and organizing terrorist attacks.

The fourth difference is irregularity. Insurgents do not seek confrontation with the army; on the contrary they avoid and wear down it with quick actions and without giving precise targets. As a result, in such contexts, there is no defined front; the battlefield and the enemy can be anywhere, thus forcing regulars to divide their forces, making them more vulnerable. As a consequence, insurgents operate in small and scattered units, thus denying fire-power superiority to a regular army and forcing it to adopt similar tactics and to employ infantry. While regular forces are designed to obtain the mobility of large units, irregulars point to the mobility of small units (or even the individual soldier in the case of terrorism), avoid direct confrontation with the enemy, and accept it only when they have a numerical advantage in attacking and can disappear as quickly as possible. Thus, terrorism is often the preferred tactic, not only because it is cost-effective, but also because it allows one to terrorize the population and to advertise through actions, the old concept of propaganda by the deed, that immediately attract the media.

The fifth difference lies in logistics, because the supply flow of a regular army follows its advance, enabling interdiction operations with infiltrated troops, with artillery, or from the air. In an insurgency, the population supports insurgents, and, as a consequence, the concept of interdiction loses much of its value. The last difference is the centre of gravity, whose destruction is the regular army's main objective. In an insurgency, both sides have the same centre of gravity: population (Simpson, 2012).

Having defined what is meant by war and irregular warfare, the paper will now move on to discuss in more detail the transformation of war debate, which on the one hand helps to understand contemporary strategic landscape; on the other it will show how these buzzwords are simply an attempt to re-conceptualize the old Western dichotomy between regular and irregular warfare using more charming name but referring to the same kind of conflict

that the essay has already described. This result will be then confirmed in the last paragraph.

3. Irregular warfare: contemporary buzzwords

At least since the end of the Cold War the Western strategic thought has been confronted with the problem of irregular warfare, as a result several conceptualizations have arisen. Martin van Creveld's *The Transformation of War* (1991) was one of the first book to pose the problem of how the war has changed at the end of XX century. The book criticizes the Clausewitzian ideas of the war as a continuation of politics, and a trinity of people, government, and military, because these are typical distinctions of the modern European state (Strachan, Herberg-Rothe, 2007). In order to describe the kind of organized violence likely in the future, Creveld uses the definition of LICs, Low Intensity Conflicts, which was probably introduced in 1971 by British General Frank Kitson (1971). In the eighties, the term LIC referred to a number of operations, from peacekeeping to counterinsurgency (Charters, Tugwell, 1989) and included even international terrorism and hostage-taking.

As a consequence LICs represent well the problem of defining irregular warfare because they are neither peace nor war, so they must be everything that stands between the two poles (Klare and Kornbluh 1988). The concept of LICs, therefore, does not stop at military operations alone, but also includes civilian ones. The problem is that soldiers have to handle this multiplicity of tasks, and, for this reason, they would have to be highly skilled and trained to rapidly change their approach and behaviour.

Considering the same issue, General Charles Krulak (1999) developed his "Three Block War" theory stressing two elements. In the future, the population will be concentrated in rather poor, coastal cities with little infrastructure. Within the same city and during the same day, soldiers could lead three different types of military interventions: distribution of humanitarian aid, small fire fights, and higher intensity battles.

According to Creveld, LICs have been the most common warfare since 1945, arguably the only one able to change the international system and are "by far the most important form of armed conflict in our time" (Creveld, 1991: 22). There are four differences between LICs and regular wars: LICs take place mainly in less developed countries; they do not involve regular armies on both sides; they are not fought with advanced weaponry; most LIC victims are civilians.

There are two reasons for the development of this kind of warfare: the huge cost of regular conflicts, and the inversely proportional relationship between the technological complexity and high costs of modern weapons

and weapons like RPG7s, mortars, and firearms, which are lethal and easy to operate and find on the market.

According to Holsti (1996) and his “wars of the third kind” theory (1), innovation, surprise, and unpredictability are necessary; irregulars use crime to raise funds, and terrorist attacks are useful for advertising, not for defeating, the enemy. Unlike regular wars, LICs are not fought over interests, but instead about and for people. This is a common feature of the entire debate – even Rupert Smith (2009) stresses the point with the idea of “war amongst people”.

Regular armies might be ineffective against these threats, because they are weighed down by too much logistics and by too much technology. Irregular foot troops have proven to be as mobile as modern mechanized vehicles and have been able to make better use of terrain (Schultz, Dew, 2006).

Described in this way LICs appear to be a kind of “insurgency”. For this reason some scholars used the same notion and pondering on the development of international terrorism and urban warfare (McInnes, Sheffield, 1988; Beckett, 1988).

The same ideas related to the term insurgency then formed the background of the fourth generation warfare theory (Lind et al., 1989, 1994, 2001, 2004) that divides the modern history of war into four distinct generations. The first is related to the tactics of the musket era, line and column formations, and its main characteristic is the use of mass. The second generation responds to new inventions (breech-loading, barbed wire, the machine gun) and is based on tactics that are still linear but more related to fire and movement. In particular, artillery and indirect fire acquire importance so fire-power has the central role. The third generation is mainly driven by ideas that have allowed the development of new tactics such as *Blitzkrieg*. Scholars refer to those ideas implemented in the second part of the First World War as infiltration of troops behind enemy lines with the aim of carrying out an in-depth advancement and avoiding the strongest enemy points of resistance.

The fourth generation blurs traditional distinctions between civilians and the military, between war and peace, and it is characterized by five different elements: the battlefield includes the entire society; it emphasizes operations of small contingents; it gives less importance to logistics; since forces are small, the manoeuvre is a central element; destroying the enemy morale becomes more important than doing it physically.

The fourth generation can be driven by technology, that is, equipping small groups of soldiers with more and accurate fire power (contemporary Special Operations Forces, for example), or by ideas particularly from non-Western cultures, giving rise to forms of warfare that are less linear (Brun, 2010), like the “new” form of ISIS terrorism (Lewis, 2014; Kurth Cronin, 2015).

Thomas Hammes (2004; 2005) stresses these non-linear aspects, comparing the latest generation to a modern insurgency, designed as an advanced form that uses all available networks (political, social, economic, and military) to convince enemy policy-makers that their strategic goals are too expensive considering the benefits that might be obtained. Unlike previous forms of warfare, fourth generation does not aim at destroying enemy forces, but at striking and breaking their political will.

According to Hammes (2004), there are four elements that lead to the change from the third to the fourth generation. In addition to the crisis of the state, as well as the emergence of international organizations (the UN, NATO, the EU, etc.) and non-state actors (both transnational, like Al-Qaeda, and drug cartels, and sub-national, like many ethnic communities), he includes the development of international financial markets that can instantly move billions of dollars all over the world. In the past, state power was measured in terms of military, economic, political and industrial raw materials; today, however, information and knowledge are the real strengths, and they are often developed in one country and then used in another. That model reflects that of contemporary conflicts, which develop a strategy of attack in one country, and then this knowledge is combined with the resources of another country so as to have the means of attacking a third state.

Therefore, the interconnectivity and globalization of communications and of transportation are crucial elements. As a result it has also been used the notion of "Open-source Warfare" (Robb, 2005, 2007), which is derived from information technology and, in particular, the Unix/Linux operating systems that are free and developed, compiled, and corrected by users themselves. Contemporary irregular conflicts are then open-source, because irregulars are not included in a hierarchical structure, but in a network allowing them to be very skilled and fast at adapting due to information that can be shared very quickly and effectively through the Internet and media. In this type of war, it is essential that anyone has the ability to buy devices that can be easily turned into weapons or useful intelligence tools (Charette, 2007). For example, in Iraq, some IEDs (Improvised Explosive Device) have been constructed with primers simply derived from domestic electric bells. In addition, the techniques used are immediately shared with the community through manuals and websites allowing every irregular fighter around the world to study a tactic and change it according to his ability, equipment, and local situation. For example, this open-source feature is a key element of ISIS warfare that should be viewed as an eclectic mix of learned TTP that mostly draw from those used by insurgents during the 9/11 Wars (Cancian, 2017).

The most relevant shortcomings of fourth generation theory is its historical inaccuracy, in particular regarding the construction of the entire theory,

which leads to the count of four generations. While agreeing with the fact that the fourth generation is a kind of insurgency, it is difficult to understand how this kind of war might represent a fracture and a novelty in the history of war. Fourth generation does not represent a break with the past, but it is one of the stronger symptoms of continuity (Echevarria, 2005).

The argument about a supposed break with the past is a key theoretic foundation of several theory on contemporary warfare. One more example is illustrated by Mary Kaldor (1999) in *New and Old Wars: Organized Violence in a Global Era*, in which she analyses the Yugoslav Wars, inferring that the main cause of the war change lies in the erosion of state prerogatives, both from above, through the trans-nationalisation of armed forces, and from below, with the privatization process. This gives rise to a revolution in war's social relations, largely due to the effects of globalization. Therefore, new wars differ from old ones in three fundamental elements.

New wars have different purposes because they would not be driven by ideological motives or geopolitical interests but by identity politics – that is, the claim of power on the basis of an alleged identity. The identity element is a key one to understand ISIS, even though the clash between Sunni powers and Shiite Iran in the Middle East also correspond to paramount geopolitical and economic interests related to oil and regional hegemony (Wehrey, 2013; Israeli, 2013).

Moreover, new wars use different combat methods: they seek to meet their goals not through fighting, i.e. a frontal clash between two regular armies, but through controlling the population, which occurs with the elimination of those who have different ideas and identities. The strategic aim is the expulsion of the population via killing, deportation, and broad violence: rape, mass murder, torture, confiscation of property, denial of political rights, and segregation. Therefore, rape and violence against women represent a calculated strategy not the result of indiscipline (Münkler, 2002). This was true in the Yugoslav wars, and it is also true today looking at “Siraq”, where ISIS uses every kind of violence to subdue the local population and to expel or eliminate the non-Sunni population. However, this tactic is not new, because the same kind of violence could be found in the context of civil wars and in the use of terrorism (Kalyvas 2006).

The economy of war is also different because is decentralized, with low participation in the conflict, with high unemployment. Furthermore, it is closely linked to external resources because, at the beginning of hostilities, domestic production collapses, leaving room for looting, the black market, external aid, and various illegal trades. Since the warring parties benefit from this same environment, it is not uncommon that one supports the other in order to perpetuate a state of war wherein they can prosper.

Kaldor (2003) describes a kind of conflict that basically crosses boundaries, involves a set of global actors, is concentrated in areas where the modern state is failing and where diaspora plays a predominant role. At the same time she stresses the complex relationship between Western advanced technology and local troops, recalling Shaw's *risk-transfer war* (2005), in which collateral damage is minimized by controlling media.

Unlike Kaldor, Herfried Münkler (2005) emphasizes the idea that "new wars" resume conflict paradigms of early modern Europe and of the Thirty Years War in particular: different actors took part, the battle was not a central element, violence against civilians was normal, as well as ravaging the country, stealing, and looting.

From an economical point of view, Münkler (2006: 83-86) describes new wars as "kleptocratic" – that is, they benefit parasitically from humanitarian aid and are inextricably linked to the global economy through drug production or the trade of raw materials (LeRiche, 2004). Wars between states have always been rather expensive, but new wars are cheaper because they are based on small arms (machine guns, mines, RPGs), exploit civilian vehicles (pick-ups, trucks), employ untrained staff (civilians, child soldiers), and, finally, track down the necessary funds through theft, extortion, and looting.

It is clear that these conceptualizations stress the idea that contemporary conflicts mix different ways of fighting and different phenomena. Around this problem some scholars have started to use the term hybrid warfare, which today is become a common but problematic term because it could refer to two very different kinds of conflicts. Russia's operations in Ukraine and Crimea in 2014 have been labelled by some Western scholars as hybrid warfare. On the other hand, more than ten years ago, the notion of hybrid warfare was suggested in order to describe the way in which non-state actors fought: a mix of regular infantry tactics using modern anti-tank weapons, guerrilla tactics with small groups of fighters, and terrorist tactics. The latter is the notion explored in this paper.

Indeed, the idea that contemporary conflicts may mix different approaches was already suggested in the nineties, because the idea of unrestricted warfare supports the erosion of the traditional boundaries of war and the advance of a warfare that eludes them and enters the world of economics and finance, or employs those weapons in unexpected ways (Liang, Xiangsui, 1999). However, the theory of hybrid warfare comes from the Israeli conflict with Hezbollah in Lebanon in 2006 (Glenn, 2008). Hezbollah is interpreted as an example of the new enemy because it is structured in a network, is related to the local population, and is irregular in its tactics. At the same time, Hezbollah has employed anti-ship and anti-tank missiles and has developed effective tactics for halting the advance of the IDF (Biddle, Friedman, 2008).

Moreover, hybrid warfare is a useful concept for describing the military operations of ISIS, which uses terrorism, guerrilla tactics, and more conventional weaponry. However, Russell Glenn (2009) is quite critical both of the definition of hybrid warfare, considered not precise enough because it has been applied at different levels of war (tactical, operational, and strategic), and of the use of Hezbollah as an ideal type. It should also be noted that historically hybrid war has been the norm (Echevarria, 2016).

Hybrid warfare is characterized by the concept of *synergy*, that is, the simultaneous application of a multiplicity of ways of fighting to reach the goal (Hoffman, 2007; 2009a). In essence, contemporary conflicts cannot be characterized by a simple dichotomy of black and white, but they have more nuanced characteristics, losing the perception of boundaries between different forms and concepts. Therefore, the war is hybrid because the enemy's way of fighting combines different methods, tactics, and tools, including conventional capabilities, irregular tactics, terrorism, indiscriminate violence, and criminal acts with the most modern technologies (Hoffman, 2006).

The situation is further complicated by the fact that the hybrid warfare battlefield is threefold: conventional; linked to the indigenous population; international. Only by prevailing in all three battlefields is it possible to win. Moreover, what distinguishes hybrid warfare from other types of struggle is that it must be fought on all three battlefields simultaneously and non-sequentially, and a "counter-organization" strategy is needed (McCuen 2008).

4. Critical approach to irregular warfare

The aforementioned debate on the transformation of war may be understood as an attempt to conceptualize irregular conflicts in the contemporary and globalized international system. Those different ideas on contemporary armed violence may be considered just a post-Cold War way to describe irregular warfare, which is as old as human history, and is a phenomenon that took several names during history due to its protean nature. It should be said that LICs, fourth generation warfare, and new wars are just different ways of expressing the notion of insurgency.

As a consequence, the modern and western strategic thought seem to have removed history from the study of war. Each of the mentioned conceptualizations describes modern conflicts as asymmetric conflicts; however, this kind of war has and will always be a part of warfare. All those buzzwords (LIC, New Wars, Hybrid Warfare and so on) essentially describe attempts to find ways of defeating the opponent, but add little to the understanding of the nature of such conflicts. They are an attempt to update the concepts of

insurgency and counterinsurgency (COIN) for contemporary political and strategic environment.

However, in this way they highlight the poor historical background of the debate that is also demonstrated by the dozens of studies over the terms of insurgency and counterinsurgency (Beckett, 2001; Nagl, 2002; Boot, 2003; Ucko, 2009; Rid, Keaney, 2010). Those scholars have the merit to describe the history, evolution and experiences related to irregular warfare. Some of them also try to update the notion of insurgency to the modern strategic environment. For example, Steven Metz (1993) identifies two forms of insurgency: spiritual, driven by a religion; commercial, a widespread and prolonged criminal activity with a proto-policy that threatens the security of a state.

According to David Kilcullen (2004), today, we are witnessing an “Islamic global” uprising, “a popular movement that seeks to change the *status quo* through violence and subversion”. These groups share financial constraints, family and personal histories, common ideology, i.e. Saudi Wahhabism, the pursuit of a pan-Islamic caliphate, cultural and linguistic traits, the propaganda, procedures, techniques and doctrines (Springer et.al., 2009). Moreover, globalization allows the exchange of information, money, tactics, tips, and expertise between regional movements, which became part of a global Jihad.

Another common feature of the aforementioned conceptualizations and of irregular warfare is related to the role of criminal activities, which offer means of financing. Creveld stresses that LICs arise as banditry, and, in order to survive and finance, the irregulars use methods close to those of criminal groups, such as robbery, kidnapping, and drug trafficking, thinking. However, this is hardly a novelty, since, for instance, Hobsbawm in his study on banditry drawn the same conclusions (Hobsbawm, 1985). The mix between criminal activities and kinds of irregular warfare is further demonstrated by looking at the security landscape in Latin America (Bunker, 2011; 2012; 2013; 2014).

Creveld shares with fourth generation warfare theory the idea of modern war as insurgency. In contrast, Creveld foresees low-tech conflict, while fourth generation warfare emphasizes new technologies like hybrid warfare, which merges high technology with irregular elements.

On the whole, technology plays an important role in such conflicts. Hybrid warfare and “Open-Source Warfare” theories emphasize the role of new technologies in contemporary wars, especially as concerns media, communication, and the ability to build IEDs, suicide vests (Beccaro, Bertolotti, 2015), and similar weapons that are trademarks of contemporary conflicts. ISIS is a very representative example of such trend – not only is it able to use the media and the Internet to spread its propaganda around the globe, thereby terrorizing Western society and recruiting young fighters (Farwell, 2014), but it is also able to build more and more complex suicide vehicles in

order to destroy defence positions (Knights, 2014; Price et al., 2014; Ubaydi et al., 2014).

New wars are new not because of some new military aspects but because of the social and political context in which they are fought. New wars conceptualization underscores the ways in which globalization shapes war: the lesser importance of state borders, the new economy, and the increasing role of identity and religion are all crucial elements for understanding contemporary armed violence. Moreover, globalization has important consequences on space and time, two key strategic dimensions, because it reduces reaction time and distances. Due to the global media, over the course of a few hours, a minor, tactical problem may become a strategic one, that is the meaning of “strategic corporal” theory.

Whereas Kaldor is right in highlighting the link between the central role of cultural/religious targets and ethnic conflict, her conclusion that this explains the extensive use of rape, mass murder, torture is misleading. Unfortunately, military history is rich of such brutal actions in both regular and irregular wars and carried out by both regular armies and irregular fighters. Moreover, sexual violence has been increasingly understood as weapon of war (Eriksson Baaz, Stern 2013) suggesting that it is an element more of continuity than of novelty in warfare.

Although every scholar suggests that war is changing, they seem to presume that the battlefield will remain the same as in past wars or they do not take into account adequately the possible consequences of different battlefield. Today, the battlefield is more indefinite, and, according to Evans (2003) it seems “evaporated”. Furthermore, the battlefield is becoming more complex due to the global trend of urbanization. The “urbanization of conflicts” is an important research topic (Desch, 2001; Spiller, 2001; Hills, 2002; Robertson, 2003; Glenn et al., 2007; Jardine, 2010; Kilcullen, 2013) and a key element of contemporary armed violence. However, changing the actors of armed violence and the places where they fight also changes strategy and tactics of conflicts. The “urbanization of conflicts” is a global trend rooted in “rapid population growth, accelerating urbanization, littoralization (the tendency for things to cluster on coastlines), and increasing connectedness” (Kilcullen, 2013: 25), as the 2011 Arab Springs showed when the use of cell phones, social media, and text messaging emerged as organizing tools (Kilcullen, 2013: 32).

However, in addition to urbanization, technology, and globalization, progressive ideologies; youth population bulges; unemployment; climate change; and scarcity of food, water, and medicine are among the reasons that explain why human migration to urban areas is a trend expected to continue.

Furthermore, the urbanization of conflicts is a key element to understand one feature of contemporary armed violence, i.e. the increasing role of terro-

rism, which has always represented a way to fight within cities, where it can find several targets, simple ways to conceal, and media coverage. The idea of using media as proposed by fourth generation warfare and hybrid warfare is well linked to the use of terrorism as a tactic. Terrorism is a controversial feature, because not all scholars agree in considering it solely a tactic, and because not all terrorist groups are protagonists of an insurgency. However, every insurgent group has used terrorist tactics (Byman, 2008).

5. Conclusions

This paper has conceptualized the notion of irregular warfare in contemporary international following three steps. The essay started with a definition of war, which is a central factor in order to understand the Western dichotomy between regular and irregular wars. Then it offers some historical examples of irregular warfare and describes its six features that differentiate it from regular warfare. Having defined what is meant by irregular warfare, the essay moved on to discuss more recent buzzwords used by scholars in order to describe contemporary irregular warfare. This second step has highlighted to which extent the six features of irregular warfare are crucial in contemporary conflicts and as a consequence it has singled out the lack of historical background in the current strategic debate that too often appears to suggest some kind of break with the past. However, this break seems to be more the result of the author will to offer a new definition than the result of a serious historical study. The third step took a historical point of view and went further to highlight the shortcomings of contemporary ideas on irregular conflicts giving at least tentative answers to them and to study some crucial characteristics that may have important consequences, such as urban battlefield. As a result, the paper has highlighted the lack of historical awareness in the Western strategic thought in confronting and analysing contemporary irregular conflicts.

Another shortcoming is that, looking at the conflicts that every scholar has taken into account (Creveld the Israel-Palestinian conflict; Kaldor Yugoslav Wars; fourth generation warfare and hybrid warfare the Iraqi insurgency and Hezbollah in Lebanon), the central role of the Mediterranean region in the debate emerges clearly. However, focusing just on Mediterranean conflicts those conceptualizations have taken into account neither irregular conflicts in other part of the world such as Asia or Latin America where, for instance, criminal activities, such as drug trafficking, kidnappings, black market, extortions, play a key role nor the persistence of the risk of state vs state war.

Although several scholars stress an idea of novelty, it is evident that there are several strong continuities between contemporary irregular warfare and the history of strategic thinking. One of the most important continuities is re-

lated to the strategic dimension of time: insurgencies, LICs, or whatever these kinds of warfare are called, are long wars. According to Daase, there are two factors that distinguish regular, state versus state wars, from the kind of armed violence described in this essay and that have a decisive political influence: time (irregular conflicts are longer than regular one) and space, because irregular conflicts do not limit their battlefield (Daase, 1999: 96-97). As a consequence, contemporary armed conflicts should be expected to be long and not limited in one single theatre of war. ISIS operations are a perfect example because the group has indifferently operated in Mediterranean countries such as Iraq, Syria, Libya, Egypt and in Europe, Russia or Philippines.

Notes

(1) Wars of the first kind are the modern wars of the 18th and 19th centuries, while wars of the second kind are the 20th century total wars.

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The birth of French economic intelligence and the contribution of Christian Harbulot

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Abstract

This article deals with the cultural development and general perception of the concept of "intelligence" and "economic intelligence" in France. After the Cold War, finance and markets assumed a greater importance in determining the relations between countries; however, it took a long time for the French elite to be convinced of the existence of "economic warfare" and to define a culture of its own in the field of intelligence. Still, when all the international analyses were strongly related to the Cold War ideology and talking about economic warfare seemed like an abuse of language, C. Harbulot and P. Baumard urged the need to reconsider intelligence activities and to apply them in the national economy, overcoming the negative connotation that "renseignement" had. Researching, processing and spreading any piece of information that can be considered strategic is the only formula we can rely on in order to face the last challenges posed by globalization. Between 1992 and 1994, the expression "economic intelligence" officially entered the French public debate on national competitiveness, together with the request for public intervention in the national economy. Harbulot and Baumard kept recommending the systematic search and interpretation of the information available to everyone, showing a new way to interpret the markets. The new approach is different from traditional intelligence by the nature of its field of application (open information); the nature of its actors (inserted in a collective information culture context), and its cultural specificities (each nation's economy generates its own specific model of economic intelligence).

Abstract

Questo articolo focalizza la sua attenzione sul concetto di intelligence economica in Francia. Dopo la guerra fredda, i mercati hanno assunto una maggiore importanza nel determinare le relazioni tra i paesi; tuttavia, è stato necessario molto tempo affinché le élite francesi si rendessero conto dell'esistenza del concetto di guerra economica e della necessità di sviluppare un autonomo concetto di intelligence economica. Grazie ai contributi fondamentali di C. Harbulot, P. Baumard e della Scuola di guerra economica l'espressione "intelligence economica" è entrata ufficialmente nel dibattito pubblico francese.

Keywords

Economic Intelligence, Economic Warfare, Intelligence Culture, Information; Globalization.

The tensions underlying international exchange are indicative of the importance of cultural factors in economic warfare and oblige companies to be aware of the scientific progress if they intend to continue developing.

It took France a long time to define a culture of its own in the field of intelligence, and until the previous century, the French word *renseignement* had a negative connotation. The political elite considered this activity to be degrading and comparable to dirty police work.

The French government felt the need to launch certain reforms in both its external and internal services only after the First Gulf War, thanks also to constructive political consensus. This reform process focused on security that did not give due consideration to the decisive role that finance and markets have come to assume today in determining a people's and a nation's future, in an offensive context in which Western countries are not the only protagonists.

The main concerns of the French political elite regarded the use of *renseignement* in increasing the nation's power and the ways that the offensive practices, typical of the information warfare, could be used while maintaining respect for the rules of democracy.

The management of conflicts linked to information has now become more complex due to the lack of strategies capable of managing and controlling virtual markets, the immaterial world represented by Internet, and the presence of new weapons capable of influencing public opinion.

With his interdisciplinary point of view, Christian Harbulot offers a reflection to understand the nature of the relations of power existing between national economies by juxtaposing strictly economic factors with historical, geopolitical, or cultural factors that affect economic warfare.

The reason why the elite were so unable to formulate a clear doctrine in this regard is perhaps due to previous historical factors. For three times in little less than a century – in 1815 with the succession of King Louis the 18th to

Napoleon, in 1870, with the support of Bismarck against the Paris Commune, and in 1940, with the collaboration between Pétain and Nazi Germany – a national force interested in taking power created an alliance with a country that had defeated France on the military level. This contributed to the beginning of a certain wariness in public opinion of patriotism, which became devoid of substance when the enemy was presented as an indispensable ally. The Colonial Wars and the Cold War, with their ideological view of power as an act of domination and the substitution of national idealism by solidarity for struggling peoples, reduced the dimensions of patriotism to a minimum. The Cold War imposed ideology as the dominant key to the reading of events and the unity of the Western world assumed top priority against the threat from the Soviets, thus re-dimensioning the balance of power between the economies of the Western nations.

Only the arrival of General De Gaulle at the head of the fifth Republic produced an attempt at redefining the challenge posed by relations based on power in an economic perspective.

General De Gaulle tried to ensure a homogenous approach to the strategy of power and a better positioning of France on the international scene in 1958, but encountered great difficulty in having this approach accepted by civil society. He proposed an alternative to the Cold War based on an equilibrium between East and West and a conciliation between the world's North and South, but this attempt at compromise failed, due to the lack of international support (the United States opposed this pursuit of strategic autonomy) and also the scarce interest shown by the French elite.

De Gaulle had a wide and articulated vision of France's power also on the economic level, with its positive foreign trade balance; on the military level, with the advantages derived from the growth of its power; on the diplomatic level, with a permanent seat on the UN Security Council. The main concern in managing the territory was the modernization of the infrastructure to attract foreign investment.

This one-way vision did not permit the assessment of the intentions of these foreign investors or the drawing of a balance of failures or unfair business practices.

If the existence of the USSR served the purpose of uniting the Western world, its demise as an ideological empire and potential nemesis restored the previous relations of power between nations – in other words, the pursuit of supremacy over markets and resources and the creation of long-lasting relationships of dependence.

The evolution of the international situation continued demonstrating the exacerbation of the balance of economic power between the dominant na-

tions on the international scene and in the areas contested for energy and mining resources.

After De Gaulle, no reflection on the growth of power ever completed the defensive approach conceived in the wake of the Second World War.

History shows, however, that up until the Restoration, the elite had had a clear perception of the contribution made by the economy in the growth of a nation's power, the symbol of which was the model of development based on trade adopted by the United Kingdom. The clarity of French vision about the reality of the relationships between economic forces faded after 1815 when the resistance structure applied by Napoleon to contrast Britain's commercial offensive was dismantled. London's strategy of influence based on the propaganda of free trade bore fruits with the rise to power of the future Napoleon the 3rd.; he would sign the free trade agreement with England in 1860 despite opposition from French industrialists. Liberalism as the fundamental basis of the market economy came to replace a realistic vision of the balance of economic power for nearly a century afterwards.

This tendency for the conceptualization of economic warfare during peacetime has legitimized the numerous works created since 1997 by the Paris School of Economic War. Furthermore, by the end of 1988, the continuing lack of competence in the matter of France led Thierry Gaudin, Director of the Ministry of Research's Prospects and Evaluation (CPE) and Jean-Pierre Quignaux, Secretary General of the Association for the Diffusion of Technological Information (ADITECH) to fund a study on economic warfare at a time when the international economic situation fully warranted its legitimacy.

Harbulot decided to publish *Techniques offensives et guerre économique* for the first time at the end of 1988, when all the international analyses existed in the conceptual shelter of the Berlin Wall, and talking about economic warfare seemed like an abuse of language. The Wall that had delayed the spread of new technology in the industrial fabric succeeded in disguising the history of certain peoples, the rootedness of their cultures and their national peculiarities for more than thirty years. With the fall of the Berlin Wall, the binocular vision of our world was abruptly clouded over. Its geopolitics and the analysis of its economic clashes had to be reconsidered, and it is from this point of view that the retrospective assessment of Christian Harbulot assumes particular significance, with its emphasis on the need for a resumption of research in this field in order to evaluate the consequences of current events and permit a reading of the future sufficient to prevent certain events from occurring.

Harbulot urges to become aware of the threat: in the international market, with competition in every direction, no one can afford the luxury of fighting a war of reaction.

Yet even in France, Harbulot claims, a certain desire for non-aggressive competition still prevails that is certainly not favourable in terms of competitiveness or creating jobs, due also to the mostly verbal and improvised ways in which awareness of economic warfare is transmitted.

The globalization of exchange is changing the very nature of economic warfare. This new state of affairs gives *intelligence culture* an extraordinary strategic importance, even more so in light of the fact that information is a capital with a long-term return. In addition to being a production factor, it is also an offensive and dissuasive weapon, and the absence of information engineering has become a strategic problem at the level of SMI. Even if, as Harbulot explained, this weakness in regard to foreign competition is not necessarily synonymous with defeat, the French companies' ability to take action remained insufficient for a long time.

The opening of national markets to foreign exchange has multiplied the difficulty in interpreting phenomena related to competitors and competitiveness. Faced with this revolution in the world market, the approach adopted by French companies remains one of merely "sailing by sight" that has no place in a dynamic national industrial policy.

Active economic aggression measures are a source of concern primarily for the strategic sectors of armament or atomic energy, whereas most other economic actors perceive this type of risk too passively.

1. The Martre Report

The expression "economic intelligence" officially entered the public debate on national competitiveness together with the request for public intervention in regard between 1992 and 1994.

Merit must go to Jean-Louis Levet, Chief of the technological and industrial development service at the Plan's General Commissariat since 1992 for the possibility to transform the thoughts of Harbulot and Baumard into an official Report. He was convinced on one hand of the need for a radical review of the relationship between the State and industry allowing to seize the new opportunities offered by technological evolution and globalization and on the other of the need for France to implement a new policy of offensive competition on three fronts: the use of natural resources; the use of new strategies for new forms of protectionism, and new ways for the State to intervene in the economy, all of which in the context of a concerted long-term strategy.

Harbulot and Baumard defined the issues to be addressed:

- reflections on the way to encourage economic intelligence at company level;
- the study of foreign economic intelligence systems;

- the development of written knowledge on economic intelligence;
- the development of educational content addressed to higher level university professors and the encouragement of the sharing of experiences between operators in the sector;
- lastly, the launching of a national reflection by public administrations utilizing governmental economic intelligence measures.

The collaboration between Harbulot and Baumard resulted in a joint effort in defining the major working areas for the Plan's work group, with an objective of methodological nature, namely, uniting the disciplines of information engineering and political nature, or in other words, remedying the absence of a French economic intelligence structure.

Furthermore, the integration of Harbulot into the Plan's various work groups enabled the reinforcement of ADITECH, which if up until then had been a mere association, since then became the ADIT (Technological Information Diffusion Agency) through Ministerial Decree in May, 1992, under the control of the Ministry of Foreign Affairs and the Aerospace and Research Ministry.

In the context of the Report, under the leadership of Henry Martre, a previous Chief Executive Officer for Armament, a work group specifically dedicated to questions of economic intelligence was set up: Baumard would work with Harbulot, the former on the comparative analysis of the world's economic intelligence systems, the latter on national reflection on the issue.

The Report, which was published in 1994 in *La Documentation Française*, documented the degree to which French companies were obliged to operate under increasingly more complex circumstances and unpredictable dynamics that demanded the implementation of economic intelligence systems capable of further developing the strategic management of information, economic potential, and the number of jobs. The Report reiterated the meaning of economic intelligence intended as the coordinated research, processing and distribution of information, which can be useful to economic actors. These actions need to be conducted with guarantees of the protection necessary for the preservation of the nation's business assets in the best conditions of quality, terms, and costs

It was through the work of Harbulot that the term and the definition of economic intelligence first appeared in an official document.

The Report clearly shows Harbulot's vision: describing economic intelligence as an activity, not another type of information, involving the leading economic players, the companies.

The sources remain open, disproving the argument that paints economic intelligence as being involved in actions at the limits of legality.

However, it is precisely in regard to the greater availability of open sources that certain problems linked to economic intelligence emerge, such as the data distribution and protection: the circulation of data inside the company assumes fundamental importance whenever it transforms into a news leak, a constantly increasing risk in today's ever more interconnected world.

The Report urged the State to take rapid action, and provided four embracing proposals:

- involving companies in the practise of economic intelligence;
- optimizing the flows of information between the public and private sectors;
- the creation of databases;
- getting the world of education and training involved.

The Report is permeated with the awareness that the problem is primarily political and that reasoning through the dictates of economic intelligence means changing our ways of perceiving the economy:

Economic intelligence, together with the intention to impose an enlarged horizon of comprehension including companies, agencies and nations, provides a response to the urgent need of understanding the economy in other terms than those of mere and overly simplistic competitiveness. The question is political and requires the directors of the organizations above to enter into awareness because it regards a view of the economy that is not neutral¹.

The Report issued by the group led by Henry Martre developed a summary of the thought of C. Harbulot and P. Baumard and provided keys to the comprehension of the world. It gave official form to a particular description of the relations between states on the international panorama in which the latter compete with no legal holds barred: the end justifies the means, and above all else, justifies the marshalling of actions in favour of the economy by intelligence services.

Conceived in terms of systems, networks of protagonists, intentions, and influence, and the coordination of decision-making centres, this view gains leverage from the fears derived from the invisibility of the threats. The central position of the State, the guarantor of national cohesion, is confirmed, as is the accent on the importance of unity and national cohesion, taking Japan and Sweden as examples. France can take control of its future only in a collective perspective, therefore must remedy the absence of interaction between the public and private sectors and overcome the usual priority given to maintaining a defensive position, with the objective of mobilizing the po-

¹ H. Martre (the group chaired by), *Intelligence économique et stratégie des entreprises*, 1994.

litical class in regard to the importance of controlling and using information as an arm of domination.

Harbulot accuses both France to be unprepared for “economic warfare” and its policies to continue believing that a united Europe would provide a fertile field for French economic patriotism.

Harbulot defined economic patriotism as a three-dimensional value system, consisting of a cultural dimension that looks to the roots of the productive system; a dimension of conflict based on the relationships between the competing forces, and a temporal dimension influenced by the evolution of technological progress.

In order to promote the passage from an information culture that is closed and individual to one that is open and collective, he suggested creating an economic intelligence instrument through the concerted effort of public and private parties.

For Harbulot, economic intelligence is the systematic search and interpretation of the information available to everyone for the purpose of understanding the intentions and capabilities of the protagonists. Economic intelligence incorporates all the capacity of surveillance of the competitive environment (protection, vigilance, influence) and is distinguished from traditional intelligence by the nature of its field of application (open information), the nature of its actors (inserted in a collective information culture context), and its cultural specificities (each nation’s economy generates its own specific model of economic intelligence). This is represented by means of an economic intelligence diagram with three levels: the companies, the nation, and the world.

Overall, the Report would be judged faint-hearted in the measures it proposed, but more innovative in the vocabulary it employed, by officially introducing, in fact, both the new term “economic intelligence” and a different vision of reality, with the objective of generating a shift in mentality that justified the urgent implementation of a government action plan.

The proposed scope of the Report was the improvement of the offensive and defensive capacities of both national and corporate economic intelligence.

For the purpose of providing these recommendations with a follow-up, Martre promoted the creation of the *Comité pour la Compétitivité et la Sécurité Economique* (Economic Competitiveness and Security Committee) in 1995 with tasks similar to those of the US National Economic Council. The establishment of the CCSE significantly empowered French economic intelligence, which could already vaunt the fact of having promptly supplied the French government with news regarding the abandoning of the *gold standard* and the devaluation of the dollar received from US Treasury Department

sources at the start of the Seventies. Furthermore, being characterized by close cooperation and trust between the public and private sectors, French economic intelligence also has a highly centralized structure that enables quick reaction times and a noteworthy ease in acquiring confidential information.

The system's flexibility is achieved through the involvement in the "Economic intelligence structure" at territorial levels.

C. Harbulot was, together with P. Baumard, one of the protagonists between 1990 and 1992 of the construction of French economic intelligence, supported in his conviction that the international context would play a determinant role in the creation of new relationships between the State and business. The discussions about security – promoted on the other side of the Atlantic – along with the political and economic uncertainties linked to the building process of the EU, had already prepared the ground for change.

2. Christian Harbulot and the creation of "Economic Intelligence"

Christian Harbulot was the first French author to address the topic of economic intelligence, presenting ideas that sparked the debate on its importance, given that the gaining of consciousness of the changes on the international scene could no longer be postponed, and recognizing the priority of economic questions over military ones.

The writings of C. Harbulot are authentic essays on the nature of economic confrontation written with the objective of convincing the political elite that an offensive use of information is a key factor in ensuring a Nation's success.

Through comparative cultural analysis, Harbulot explained why certain peoples had mobilized and addressed the conflictual aspects of the market economy while others had not, and advanced his reasoning by which information capital is at the same time a leading factor in production but also an offensive weapon, in addition to being an arm of dissuasion.

Harbulot demonstrated how Japan's economy was further ahead than America's, and naturally France's, precisely because it was capable of exploiting all the potential of intelligence activity in the sector. The United Kingdom, the United States, Germany, France, and Japan developed their own cultural model of market economy. In particular, Harbulot believed that Germany and Japan had gained remarkable economic leverage from their information and intelligence assets and had implemented more offensive and more effective economic policies because they were based on concerted strategies between private or public companies, between administrations and bank networks. Businesses in these two countries optimized their profitability

by reducing the gap between information and intelligence, between open practices and closed practices, between what is available to the entire world and what instead must remain secret, moving from information – the mere awareness of information – to action, or rather information that can be useful for intelligence.

Harbulot often accused French political power of not giving the right amount of importance to “economic warfare”, thus remaining vulnerable to the risk of losing the control of its own economic information independence when faced with the massive growth of the Asian economies, all of which are – as opposed to those in the West – founded on unspoken rules of economic warfare.

For France, instead, the complete ignorance of the offensive potential of information engineering would be the cause of the scarce competitiveness of its companies.

Furthermore, the concept of “economic defence” – intended solely in a military perspective – is equally invalid.

This can be summarized by quoting Luttwak:

A nation’s cohesion is no longer born from the fear of a military threat but an economic threat instead, in a context in which the importance given to military alliances decreases and geo-economic priorities prevail instead.

In short, the elite in power in France still needed to be convinced of the existence and the importance of “economic warfare”.

The term “economic warfare” appeared too strong and radical right from the start, especially when used by authors like Bernard Esambert, who compared a nation’s loss of jobs and wealth and the lowering of its standard of living tout court to the disasters of war. Yet for this author, as well as Harbulot, the underlying idea is that a nation’s economic success is based on the concept of “culture” considered as a weapon that some nations use better than others: Japan’s economic dynamism can be explained by the strength of its cultural power, as might be Germany’s economic power as well. The French economy was playing a defensive game, instead.

However, the vocabulary suggested by Harbulot and terms regarding concepts like “combat culture”, “economic confrontation” and “economic warfare” were seen as scarcely convincing and overly radical. Thanks to the work conducted together with Philippe Baumard, the terms “confrontation” and “warfare” were replaced with that of “intelligence”. The use of the term intelligence derived from a combination of the French definitions of “*surveillance*” and “*veille*” and the Anglo-Saxon and Swedish definitions of the concept of intelligence intended as reasoning, planning, and ability to establish relations between various elements, or more simply, active information gathering

activities. However, the term economic intelligence invokes an entirely new category in the field of economic geopolitics that expresses new needs for cooperation between the public and private sector.

P. Baumard proposed a methodology for the creation of a business intelligence system before constructing together with Harbulot a common reading of the stakes at risk linked to the new forms of competition based on offensive approaches to information. The ideas of Harbulot that were given most credence and which best describe the French situation are based on the use of subversive cultural elements in economic warfare.

The analyses of Philippe Baumard are very similar to those of Harbulot, especially concerning changes in terminology: from the concept of “surveillance of the environment”, “intelligence” came to signify the “intelligence of the environment” reflecting the prospect of greater tactical and strategic interaction of information.

Various other authors have considered the ambiguity of the term intelligence. The British give it a wider range of significance than the Americans did, for one thing. To make matters worse, difficulties in translation contribute to the confusion. The French word “*intelligence*”, for example, refers nearly exclusively to a human faculty, the intelligence of an individual, but not the activity of by which a government agency or a private company collects information. The French word *renseignement* is applied to the activities of national security agencies and not those of private companies or a particular social group: it expresses the product, the information that was collected in the environment, and makes tacit reference to the secret services.

Philippe Baumard focused his work on semantic problems and the difficulties of understanding and using the term in France in regard to the terms “*veille*” and “*renseignement*”. Baumard would attempt to renew the image of “vigilance” and “surveillance” in the perception of companies by exploiting the Anglo-Saxon concept of intelligence. However, his meeting with C. Harbulot – whom he even criticized for his use of the French term *renseignement*, declaring his preference for *intelligence*, as well as for the expression “*intelligence économique*” which he preferred to indicate with “economic confrontation” – would lead to the integration of the expression “*intelligence économique*” in the debate on the adaptation of public actions in regard to the problems posed by the management of information in 1992.

In this way, both style and terminology would become more moderate and closer to the vocabulary used by government administrations.

The progressive development of semantics for the topic contributed to a comprehension of the facts that was more appropriate to the changing times. The function of “vigilance” was very useful to the French contributors, and enabled the shift to the successive concept of economic intelligence inten-

ded as information assessed, interpreted, and put to use, also in terms of offence, by companies.

P. Baumard underlined the progress made by the United States in the topic in many ways: with an intense proliferation of texts, with an American economic intelligence community structured around the former members of intelligence services working together in the SCIP association, and with the renewed interest being taken by universities on this issue and journalists who make less confusion between “business intelligence” and spying. In France as well, the reasoning advanced by C. Harbulot proved to be decisive in the implementation of plans for action that would be submitted at the highest levels of government.

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La guerra civile dello Yemen. Emblema dei conflitti moderni

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I suoi interessi di ricerca spaziano dagli studi sul terrorismo all'analisi dei sistemi complessi, passando attraverso la fenomenologia della guerra e la geopolitica strictu sensu, con particolare riferimento alle sue diramazioni nell'ambito del cambiamento climatico.

Abstract

Nelle regioni sudoccidentali della penisola arabica, affacciato sul Mar Rosso e sul Golfo di Aden, v'è un paese, lo Yemen, che da quasi quattro anni è oppresso dalla guerra. Una crisi silenziosa e invisibile, aggravata da una delle peggiori catastrofi umanitarie della storia recente. Questo conflitto s'inserisce appieno nel pensiero di quanti, dalla fine dell'era bipolare, hanno concorso alla ridefinizione dell'intera fenomenologia della guerra in chiave post-clausewitziana. La trattatistica atta a descrivere le peculiarità della guerra non convenzionale e dei conflitti asimmetrici offre una valida lente interpretativa attraverso cui osservare, analizzare e spiegare la guerra civile dello Yemen, che può esser definita, a ragione veduta, l'emblema dei conflitti moderni.

Abstract

In the southwestern regions of the Arabian Peninsula, overlooking the Red Sea and the Gulf of Aden, there is a country that has been oppressed by war for almost four years. Its name is Yemen. A silent and invisible crisis, aggravated by one of the worst humanitarian disasters in recent history. This conflict fully reflects the thought and the theories of those who have contributed, after the end of Bipolarism, to a paradigm shift in the whole phenomenology of war, from the Clausewitzian paradigm to modern warfare. The scientific literature designed to expound the features of unconventional warfare and asymmetric engagement offers a valid

interpretative lens through which observe, analyze and explain Yemeni civil war, which can be advisedly defined the emblem of modern warfare.

Keywords

Medio Oriente, guerra civile dello Yemen, nuove guerre, guerra non convenzionale, guerra asimmetrica, stato fallito.

Middle East, Yemeni civil war, new wars, asymmetric warfare, modern warfare, failed state.

1. Introduzione

Dopo quasi quattro anni di guerra civile, allo Yemen sono state attribuite le etichette più disparate, da “incubo strategico” (Cordesman, 2016) a “Stato del caos” (Salisbury, 2018), da “incubo umanitario” (Orkaby, 2017) al più classico *stato fallito*. Il conflitto che ivi perdura è descritto in termini di *crisi silenziosa*, *guerra dimenticata* e, ancora, *guerra invisibile*.

Dietro la ricchezza terminologica offerta dal panorama delle analisi, risiede un quadro geopolitico estremamente complesso, composto da istituzioni legittime sull’orlo del collasso, frammentazione e polarizzazione delle unità combattenti, disfacimento delle strutture economiche, composizioni etniche disomogenee e conflittuali, sentimenti e obiettivi politici di matrice secessionista, organizzazioni terroristiche afferenti alla galassia del fondamentalismo radicale islamico e ingerenza di numerose potenze straniere, tanto da rendere questo piccolo paese posto all’estremità sudoccidentale della penisola araba un caso esemplificativo, se non l’emblema, dei conflitti moderni così come descritti, tra gli altri, da Luttwak (1990), van Creveld (1991), Keegan (1993), Kaldor (1999), Beck (1999), Liang Qiao e Xiangusui Wang (1999), Heisbourg (1999), Janigro (2002), Smith (2005), Ferguson (2006) e Singer (2006).

Una sintesi approssimativa, quantunque riduttiva, delle loro riflessioni, volte a ripensare l’intera fenomenologia della guerra in un mondo multipolare e globalizzato, vede i conflitti moderni slittare dall’ortodossia clausewitziana all’eterodossia delle “nuove guerre” (Kaldor, 1999), combattute perlopiù da attori substatuali (movimenti nazionalisti o indipendentisti, milizie, organizzazioni terroristiche ecc.), sovrastatali (coalizioni internazionali, missioni ONU ecc.) o privati (compagnie di sicurezza private, signori della guerra ecc.), quantunque il ruolo degli stati rimanga centrale, sovente celato dietro le insegne di soggetti terzi e riservato a posizioni di procura.

Le strategie e le tattiche impiegate da questa pletora di attori per raggiungere i loro propositi rispecchiano un dispiegamento di uomini, mezzi, risorse e capacità belliche profondamente asimmetrico. Gli squilibri esistenti tra le parti belligeranti obbligano i deboli a combattere attraverso gli schemi e i

principi della guerriglia, allargando i tempi e gli spazi relativi alla conduzione delle attività militari (Breccia, 2013). La linea di demarcazione tra civili e militari si assottiglia fin quasi a scomparire (Smith, 2009) e il cosiddetto *civilian casualty ratio* aumenta in percentuali drammatiche, determinando l'insorgere di vere e proprie catastrofi umanitarie che accompagnano il conflitto fino alla sua conclusione, e spesso anche oltre. L'origine dei conflitti moderni va ricercata "nella crisi di sovranità dello Stato-nazione [...] la quale, a sua volta, va posta in relazione con quel complesso insieme di fenomeni (economici, politici, sociali e culturali) che va sotto il nome di globalizzazione e che costituisce uno dei tratti salienti dell'epoca odierna" (Coralluzzo, 2008, p. 16). I conflitti moderni tendono quindi a sorgere e dipanarsi nel contesto di una disgregazione istituzionale che erode il monopolio della coercizione fisica legittima; lo stato di diritto è cancellato e le strutture economiche, stante lo stato d'insolvenza del settore pubblico, la compromissione delle infrastrutture critiche, l'interruzione dei commerci e degli investimenti esteri, lasciano il posto a sistemi fondati sull'autosufficienza e il baratto. La prevalenza dei conflitti moderni ha luogo nelle frontiere di uno stato, si caratterizza per l'assenza di fronti e offensive militari organizzate, e la popolazione civile diviene talora bersaglio principale e consapevole delle operazioni belliche (Holsti, 1996).

Per di più, "a seguito della dispersione di conoscenze, tecnologie e risorse finanziarie prodotta dalla globalizzazione, la soglia d'accesso all'universo della guerra si è abbassata, fino a includervi gruppi privati, "signori della guerra", bande criminali e *networks* transnazionali del terrore specializzati nell'uso della violenza e annidati là dove il sistema internazionale sprigiona le più forti tensioni politiche, economiche, sociali, etniche, religiose e/o demografiche" (Coralluzzo, 2008, p. 18). La privatizzazione della violenza determina la formazione di unità combattenti decentralizzate, prive di ogni controllo e disposte a tutto pur di prevalere, finanche impiegare bambini soldato, compiere atti di terrorismo e gettarsi nel commercio illegale di uomini, sostanze stupefacenti e opere d'arte.

Gli Stati colpiti da conflitti armati d'impronta moderna sprofondano in una condizione predatoria cronica alimentata dalla spoliazione del territorio e dallo svolgimento di attività illecite (saccheggio, estorsione, contrabbando, commercio illegale, tassazione dell'assistenza umanitaria ecc.). In questo senso, più che una continuazione della politica con altri mezzi, la guerra sembra quasi diventare una "persecuzione dell'economia con altri mezzi" (Carbone, 2005), uno strumento per il conseguimento di vantaggi personali e particolari.

La guerra civile dello Yemen s'inserisce appieno nel pensiero di quanti, dalla fine dell'era bipolare, hanno concorso alla ridefinizione dell'inte-

ra fenomenologia della guerra in chiave post-clausewitziana. La trattatistica atta a descrivere le peculiarità della guerra non convenzionale e dei conflitti asimmetrici offre una valida lente interpretativa attraverso cui osservare, analizzare e spiegare questo conflitto, che può esser definito, a ragione veduta, l'emblema dei conflitti moderni.

2. La guerra civile dello Yemen tra passato e presente

Le origini della guerra civile che tuttora divampa nello Yemen risalgono al 2004, quando un gruppo zaidista¹ noto come *Anṣār Allāh* (in italiano: *Partigiani di Dio*) o *al-Shabāb al-mu'min* (in italiano: *Gioventù credente*), dopo essersi pronunciato a sfavore dell'invasione irachena da parte degli Stati Uniti, innescò un duro scontro con il governo filoamericano retto allora dal presidente Alī Abd Allāh Ṣāleḥ. Il primo comandante del gruppo, noto col nome di Ḥusayn al-Ḥūthī, guidò una rivolta contro le forze regolari yemenite, ma il 10 settembre 2004 venne ucciso e *Anṣār Allāh* divenne presto noto come Huthi, in onore del *mujāhidīn* caduto in battaglia.

Gli scontri proseguirono tra alti e bassi per diversi anni, finché nel gennaio del 2015, sebbene il loro ascendente sugli organi di stato fosse già ai massimi storici, insoddisfatti della politica federalista intrapresa dal presidente Abd Rabbih Maṣṣūr Hādī, i militanti Huthi s'impadronirono del complesso presidenziale, a Sana'a, annunciarono lo scioglimento del parlamento e formarono un Comitato Rivoluzionario atto a guidare la transizione politica verso un nuovo governo. Il 20 febbraio, un mese dopo la cattura, in circostanze poco chiare, Hādī riuscì a fuggire da Sana'a e rifugiarsi ad Aden, ex capitale della Repubblica Democratica Popolare dello Yemen, o Yemen del Sud.

Dopo aver pubblicamente condannato l'insurrezione, l'Arabia Saudita si pose alla testa di una coalizione formata da nove paesi arabi e senza troppo indugiare fornì appoggio diplomatico e militare alle forze armate del legittimo presidente, disponendo un'aggressiva campagna di bombardamenti aerei volti a frenare l'avanzata degli Huthi verso le regioni meridionali del paese. I ribelli sciiti, appoggiati dalle forze fedeli all'ex presidente Ṣāleḥ, ingaggiarono una cruenta battaglia terrestre contro l'esercito yemenita e si spinsero fino alle porte di Aden, faticosamente difesa dalle forze della coalizione dopo mesi di durissimi scontri. Nel mentre, una nuova minaccia incombeva da est. Al-Qaeda nella Penisola Arabica (AQAP), Jama'at Ansar al-Shari'a e branche straniere di al-Shabaab, organizzazioni terroristiche afferenti alla galassia del fondamentalismo radicale islamico, stavano prendendo il controllo

¹ Lo zaidismo è una variante dello sciismo islamico nata nel 740 d.C e diffusa principalmente nello Yemen.

di vari distretti nelle regioni centrali del paese, imponendo un ordinamento giuridico fondato sulla legge sharaitica e compromettendo ancor più l'unità istituzionale dello Yemen. Nel vuoto politico lasciato dal governo yemenita s'infiltrarono inoltre i militanti del *Southern Movement*, che attraverso il loro organo esecutivo, il *Southern Transitional Council*, riaccessero quei vecchi sentimenti secessionisti che animavano le regioni meridionali del paese sin dall'unificazione tra Repubblica Araba dello Yemen e Repubblica Democratica Popolare dello Yemen, avvenuta nel 1990 dopo la dissoluzione dell'Unione Sovietica e il crollo dei regimi comunisti. Il *Southern Transitional Council* detiene il controllo di numerosi governatorati lungo la costa meridionale e minaccia una nuova secessione del paese.

Secondo i dati forniti dall'Uppsala Conflict Data Program, sono quasi 20.000, dal 2009, le persone che hanno perso la vita per via del conflitto. La maggior parte dei decessi, attribuita all'azione delle forze aeree saudite, è localizzata a Sana'a, nelle regioni sudoccidentali del paese e lungo il litorale occidentale. A questi vanno aggiunti gli oltre 50.000 che sono periti per via della carestia cagionata dal conflitto. La comunità internazionale, attraverso varie iniziative diplomatiche promosse dall'ONU, dalla Lega Araba e dal Consiglio di cooperazione del Golfo, ha cercato più volte d'individuare una soluzione pacifica alla crisi, ma ogni proposta è caduta nel vuoto. Per di più, con la morte dell'ex presidente Şāleḥ, ucciso nel dicembre del 2017 dai ribelli Huthi per aver rotto la fragile alleanza che li legava, e l'uccisione, qualche mese più tardi, di Saleh Samad, esponente di spicco dell'autorità politica ribelle, da parte della coalizione a guida saudita, ogni possibile scenario di distensione pare essersi ulteriormente allontanato.

3. Disgregazione istituzionale e privatizzazione della guerra

Come accennato in precedenza, uno degli elementi più ricorrenti nella trattatistica atta a ripensare la fenomenologia della guerra in chiave moderna e post-clausewitziana è quello della disgregazione istituzionale. I conflitti d'impronta moderna dispiegano il loro strascico di morte e sofferenza in un contesto di frammentazione e disgregazione delle istituzioni pubbliche e governative (Beck, 1999). Lo stato, privo delle risorse economiche, infrastrutturali e umane necessarie al mantenimento e alla gestione dei suoi apparati, cade in uno stato d'insolvenza che ne logora la credibilità e il prestigio, perdendo finanche il monopolio della coercizione fisica legittima che prima ne consolidava la posizione in seno alla comunità internazionale e di fronte al popolo (Holsti, 1996). Gli organi pubblici non sono più in grado di coordinare i servizi essenziali, né di controllare il territorio nelle sue regioni più impervie e remote, dove il vuoto istituzionale viene gradualmente riempito

da attori substatuali di natura privata. Dal disfacimento delle strutture che sottendono all'erogazione dei servizi essenziali crescono tensioni sociali che rischiano di tramutarsi in fenomeni di insurrezione armata, e dietro le insegne di aspirazioni collettive, siano esse la democrazia o la costituzione di un regno islamico retto dal diritto sharaitico, lo spazio geografico e geopolitico si frantuma e scompone in unità differenti con interessi contrapposti. La privatizzazione del fenomeno bellico porta alla comparsa di gruppi paramilitari, milizie civili, compagnie militari private, organizzazioni terroristiche e forze regolari straniere che si contendono il territorio secondo tattiche e strategie di natura prevalentemente non convenzionale, senza fronti e offensive militari organizzate (Kaldor, 1999). Le istanze avanzate da questa pletera di attori hanno sovente natura strumentale e servono soltanto a giustificare il proseguo delle violenze e il mantenimento dell'operatività bellica. L'origine dei conflitti moderni va dunque ricercata nella crisi di sovranità dello Stato-nazione, risospinto verso il collasso da quel complesso insieme di fenomeni che rientrano nella sfera della globalizzazione. Essa "sfrega e sommuove le due grandi faglie tettoniche della 'integrazione economica' e della 'autodeterminazione politica' su cui sono stati costruiti il Novecento e la democrazia: l'autorità dello Stato ne esce corrosa o, nelle realtà più deboli e composite, sbriciolata" (Mortellaro, 1999, p. 29).

Il fenomeno della disgregazione istituzionale trova piena concretizzazione nel quadro politico dello Yemen. La rappresentazione cartografica del paese mostra un'unità istituzionale che nei fatti non esiste e in vece dello Stato sono comparsi attori substatuali e privati che ne sovrintendono ormai le funzioni. Le regioni nordoccidentali del paese sono in mano ai ribelli Huthi, che controllano la capitale amministrativa, Sana'a, e altre importanti città come Amrān, Dhamar e lo snodo portuale di Al-Hudaydah. Escludendo la fascia litorale che da Al-Hudaydah si allunga fino a Midi, vicino al confine saudita, gli Huthi sono attornati dalle forze del legittimo presidente Hādī, che ha trasferito il governo e le strutture amministrative dello Stato nella città di Aden. Nelle regioni centrorientali del paese, l'esercito yemenita è impegnato a fronteggiare le organizzazioni terroristiche di matrice fondamentalista che ancora detengono il controllo di vari centri urbani lungo il fiume Wadi al-Masilah e lungo la costa meridionale. Al fianco delle forze regolari combattono anche milizie civili e gruppi paramilitari come l'*Alleanza tribale dell'Hadhramaut*, che pur dichiarandosi allineata agli interessi del governo persegue obiettivi propri e si sostituisce agli organi di Stato nelle aree rurali delle regioni centrali. Un altro attore di peso è rappresentato dal *Southern Transitional Council*, spalleggiato dagli Emirati Arabi Uniti, nato negli anni della presidenza Šāleḥ per rivendicare l'autonomia del sud e promuovere la secessione. Allo scoppio delle ostilità, nel 2015, il gruppo ha stretto una fragile alleanza con le forze

del presidente Hādī, ma lo scorso gennaio, quand'ormai i rapporti mostravano evidenti segni di sfaldamento, i suoi militanti hanno preso il controllo di Aden, raggiungendo Palazzo al-Mashaiq e ricacciando le forze yemenite fuori dalla città. Il *Southern Transitional Council* controlla quasi tutte le province meridionali dello Yemen e contende ormai numerosi settori strategici sia ai ribelli Huthi che alle forze del presidente Hādī.

Prostrati dalla carestia endemica e affranchi da vincoli istituzionali, molte comunità costiere del litorale meridionale hanno costituito inoltre varie organizzazioni criminali, talune più complesse di altre, dedite ad attività di tipo piratesco nelle acque del Golfo di Aden, percorse quotidianamente dai bastimenti commerciali delle grandi compagnie marittime diretti verso il Canale di Suez. Accanto agli attori statuali e privati, va poi menzionato il ruolo che nel conflitto occupano le potenze straniere, talune impegnate sul campo a livello militare, talaltre occupate a proporre soluzioni diplomatiche per dirimere la crisi. L'Arabia Saudita, alla testa di una coalizione composta da nove paesi arabi, sostiene militarmente le forze regolari yemenite e ne sovrintende gli approvvigionamenti. Gli Emirati Arabi Uniti appoggiano il *Southern Transitional Council* fornendo addestramento e rifornimenti, mentre l'Iran, seppur assente *boots on the ground*, spalleggia con intensità variabile i ribelli Huthi, dando peraltro addito a coloro che evocano lo spettro di una *proxy war* (in italiano: guerra per procura) tra iraniani e sauditi.

Come emerge dall'analisi, il tessuto politico dello Yemen è frantumato e dissociato. L'erosione della sovranità nazionale yemenita ha aperto le porte a fenomeni di natura insurrezionale, terroristica, secessionistica e criminale. Secondo il *Fragile States Index*, redatto dai ricercatori di *The Fund For Peace*, lo Yemen raggiunge un quoziente di fragilità istituzionale pari a 112,7 punti, che lo colloca in terza posizione a livello globale, appena dopo la Somalia e il Sud Sudan.

4. Guerra asimmetrica e post-eroismo

Nei conflitti moderni, la frantumazione del classico ordinamento istituzionale apre la porta all'ascesa di attori statuali e privati, in contrasto con il potere costituito e talora spalleggiati da potenze straniere. Pochi sono i tratti che accomunano questo sciame di belligeranti, e certo maggiori sono quelli che li differenziano, tanto che gli studiosi fanno sovente riferimento al termine *asimmetria* per descriverne il rapporto. Il divario riguarda numerosi aspetti di ordine economico, politico e militare, ad esempio in termini di risorse finanziarie, risonanza mediatica e *capabilities* belliche. Mentre l'esercito regolare di una potenza sovrana può fare affidamento su armamenti

all'avanguardia, dottrine strategiche consolidate e personale addestrato, un gruppo paramilitare o una milizia civile annovera tra i suoi ranghi uomini prestati alla guerra, equipaggiati con logori artefatti del secolo passato e privi di una gerarchia efficiente.

Per combattere, e sopperire a un'evidente disparità di forze, i deboli sono spinti a impiegare tattiche e strategie di natura non convenzionale proprie della guerriglia, agendo "come un'influenza, un'idea, una cosa intangibile, come un gas" (Lawrence, 1926, p. 220). Le parole del colonnello Lawrence evidenziano l'importanza della mobilità come fattore per il successo in una campagna di guerriglia: "Ogni esercito è simile a una pianta, immobile, con radici salde, nutrito attraverso lunghi canali che salgono sino alla cima. Ma noi avremmo potuto essere come l'aria, un soffio d'aria, dovunque ci piacesse. I nostri regni erano vivi nell'immaginazione di ognuno, e poiché non ci occorreva nulla di concreto per vivere, avremmo anche potuto non esporre nulla di concreto alle armi nemiche. Un soldato regolare, pensavo, padrone solo del pezzo di terra su cui è accovacciato, capace di sottomettere solo ciò contro cui può puntare il fucile, un simile soldato, privato d'un bersaglio, si sarebbe sentito abbandonato" (Lawrence, 1926, p. 220).

Se le forze regolari fanno affidamento su strategie e tattiche "dirette", volte a sfruttare la forza d'urto dei propri reparti per sconfiggere rapidamente l'avversario in una battaglia campale, gli irregolari sfruttano la conoscenza del territorio per nascondersi dal nemico, ne prosciugano l'energia attraverso azioni fulminee e improvvise, dilazionano le operazioni militari per erodere le risorse della sua onerosa macchina bellica e profitto di una superiorità locale e momentanea, estendono la dimensione geografica dello scontro per attaccare e sfuggire alla reazione nemica, e si avvalgono sovente del terrore per seminare il panico e indebolire la resistenza psicologica degli avversari (Breccia, 2013).

L'abbassamento della soglia d'accesso al fenomeno bellico determina quindi una privatizzazione della guerra che si osserva talora in una "combinazione inedita di modernità e barbarie, di guerre stellari e carneficine fin troppo umane, di duelli all'arma bianca e di missili teleguidati che come dardi divini viaggiano verso il bersaglio" (Janigro, 2002, p. 3).

Oltre alla disparità di forze, le asimmetrie che contraddistinguono i beligeranti in un conflitto moderno riguardano la connotazione politica, il ruolo dell'opinione pubblica e le risorse finanziarie. Della prima, si pone l'accento sul rispetto verso le norme di carattere morale e giuridico, vincolante nel caso di attori statuali e perlopiù assente nel caso di forze irregolari. Al contrario della guerra convenzionale, condizionata dallo *ius ad bellum* (in italiano: diritto di guerra) e dallo *ius in bello* (l'insieme delle norme che indirizzano la condotta delle operazioni militari), la guerriglia non esige alcuna moralità

e, anzi, trae dall'immoralità e dalla criminalità consistenti vantaggi strategici. L'impiego a fini politici di tattiche terroristiche esprime meglio di ogni altro comportamento quest'inclinazione all'abuso della legge. Il divario che separa le parti belligeranti in termini politici viene poi enfatizzato dall'opinione pubblica, che se vigila con premura e interesse sempre maggiore sulla politica estera degli Stati sovrani, determinandone, talora, il successo o il fallimento, è generalmente assente nel caso di forze irregolari, che pertanto non devono rispondere a nessuno della propria condotta. Nei conflitti moderni, i belligeranti sono infine contrassegnati da lampanti asimmetrie economiche e finanziarie, che spingono i forti a sovraestendere la portata delle operazioni militari e costringono i deboli a servirsi di un'economia criminale favorita dalla frantumazione delle istituzioni di vigilanza e mossa da traffici illegali, estorsioni e rapimenti.

Anche in questo caso, la guerra civile dello Yemen rispecchia le teorie formulate dalla trattatistica. Mentre l'aviazione saudita bombarda le postazioni ribelli con missili teleguidati e la Reale forza terrestre sovrintende alle operazioni militari dell'esercito regolare con personale competente e strumentazioni avanzate, i militanti Huthi combattono con risorse di gran lunga inferiori, adottano strategie non convenzionali e fanno proprie tattiche militari di natura criminale come il reclutamento coatto di bambini soldato, le detenzioni arbitrarie e la tortura. A riportare i fatti è un gruppo di esperti riuniti dall'Alto commissariato delle Nazioni Unite per i diritti umani². Nel report, teso a misurare l'impatto di eventuali violazioni commesse dalle parti belligeranti, gli analisti sostengono che tutti gli attori coinvolti nel conflitto si siano macchiati di crimini di guerra negli ultimi quattro anni. L'assenza di un solido tessuto istituzionale ha consentito l'emergere di reti criminali transnazionali che si estendono dal Corno d'Africa all'Oman e vantano solidi legami con gli attori substatuali che hanno preso parte al conflitto. Traffico di esseri umani, lavoro forzato e schiavitù sono attività floride e remunerative, indispensabili alle parti belligeranti per mantenere l'operatività militare. I gruppi paramilitari e le milizie civili attive nelle aree rurali del paese, come l'*Alleanza tribale dell'Hadhramaut*, e le organizzazioni terroristiche afferenti alla galassia del fondamentalismo radicale islamico hanno risorse ancora minori, e per supplire alle lacune adottano una combinazione di tattiche, talune proprie della guerriglia classica (elusione, evanescenza, dilazione spaziotemporale), talaltre congruenti a un modo d'intendere la guerra più barbaro e meschino, come il terrorismo, l'uccisione a fini politici e propagandistici

²United Nations High Commissioner for Human Rights, *Situation of human rights in Yemen, including violations and abuses since September 2014*, 17 August 2018, A/HRC/39/43.

della popolazione civile, l'organizzazione di attacchi suicidi e il reclutamento coatto di minori.

L'asimmetria esistente tra le parti belligeranti si osserva anche in riferimento al ruolo dell'opinione pubblica. Stati Uniti, Francia, Regno Unito e Canada, che forniscono appoggio strategico e logistico alla coalizione saudita, identificano nell'opinione pubblica un pilastro dirimente della propria politica estera, tanto da circoscrivere le attività belliche alla sola dimensione logistica e aerea per sottrarsi alla possibilità che i propri soldati rimangano uccisi sul campo di battaglia, rendendo dunque il conflitto una cosiddetta *guerra post-eroica* (Luttwak, 1994) o *casualty free*, tipica delle società borghesi formatesi nella seconda metà del XX secolo, "economie delle vite dei propri figli, non più disponibili ad affrontare i rischi connessi a un impiego efficace della forza militare e, perciò, propense a ricorrere alle tecnologie più sofisticate pur di imporre la propria superiorità senza (quasi) combattere" (Coralluzzo, 2008, p. 28). Viceversa, gli altri attori coinvolti nel conflitto non sono egualmente condizionati dall'opinione pubblica, privata delle sue tradizionali funzioni di controllo e supervisione, e possono dunque mantenere condotte immorali o criminali senza che ad essi vengano attribuite negligenze o responsabilità per le azioni commesse.

5. Dinamiche della violenza

Uno degli aspetti più drammatici che differenzia i conflitti moderni dalle guerre di matrice westfaliana è il "prepotente ritorno sulla scena internazionale della violenza *privata*" (Ruzza, 2008, p. 203). L'iperterrorismo di al-Qaeda e i fenomeni insurrezionali che hanno accompagnato la vita politica dei paesi afroasiatici negli ultimi decenni sono la dimostrazione lampante di come gli attori non-statali abbiano le capacità e soprattutto la volontà di adoperare lo strumento bellico come e contro gli stati sovrani. Oltre a modificare la tipologia di unità combattenti, la privatizzazione della guerra, lo sfaldamento istituzionale dei paesi soggetti a forti tensioni sociali o etnico-culturali e la presenza di evidenti asimmetrie tra le parti belligeranti genera un'alterazione strutturale dello scopo che muove le attività belliche: non più la disfatta degli avversari volta a conseguire una resa definitiva, ma il controllo *ad infinitum* del territorio attraverso la mobilitazione popolare (Kaldor, 1999).

Da tale presupposto derivano dinamiche della violenza profondamente diverse rispetto a quelle che solevano caratterizzare le vecchie guerre: gli attori non-statali, radicati sul territorio e condizionati da precipue impostazioni socioculturali, eludono gli scontri frontali e conducono attività militari disperse, affidandosi alla mobilità e al fattore sorpresa. La necessità d'infiltrarsi tra la gente come pesci nell'acqua, per dirla con Mao Zedong, e di reclutare

nuovi militanti impone agli attori non-statali di mobilitare la popolazione conquistandone cuore e mente o istituendo un regime fondato sul terrore. La rivendicazione del potere sulla base di una particolare identità (religiosa, politica o etnico-culturale) sospinge poi i belligeranti verso l'adozione di politiche discriminatorie e lesive dei diritti umani, volte a omogeneizzare il territorio secondo una visione particolaristica e selettiva della specie. La rappresentazione del conflitto su base identitaria porta quindi a compiere atti di genocidio, organizzare campagne di pulizia etnica, commettere stupri di massa e distruggere i simboli delle culture aliene. L'offuscamento della tradizionale distinzione tra militare e civile genera un aumento del numero di vittime collaterali, un incremento massiccio dei rifugiati e dei flussi emigratori verso i paesi confinanti, e dunque una dilatazione della violenza nello spazio, che porta il conflitto a estendersi oltre i confini naturali e istituzionali del paese. I civili, per ragioni di natura strategica, vengono coinvolti "non accidentalmente o marginalmente o anonimamente di lontano, come nel caso dei bombardamenti strategici, ma come immediati partecipanti, bersagli e vittime" (Van Creveld, 1991, p. 203).

Date le dinamiche che contraddistinguono la violenza nei conflitti moderni, le ostilità sono sovente accompagnate da prorompenti catastrofi umanitarie che toccano tutti i segmenti della società e impongono un intervento attivo da parte delle potenze estere, atto talora a contenere talaltra a dirimere il conflitto.

Sebbene il numero complessivo di vittime cagionate dalla guerra civile nello Yemen, all'incirca 20.000 secondo i dati forniti dall'Uppsala Conflict Data Program, sia molto inferiore rispetto ad altri conflitti tuttora in corso in Medio Oriente o nell'Africa subsahariana, la situazione umanitaria rasenta la catastrofe. Il 60% della popolazione, circa 17 milioni di persone, patisce la fame, l'insicurezza alimentare ha raggiunto livelli emergenziali (Sharp, 2017), e un numero ancora maggiore, 22.2 milioni, pari al 75% della popolazione, ha urgente bisogno di assistenza umanitaria. Circa 200.000 yemeniti sono fuggiti verso i paesi confinanti, principalmente in Oman e in Arabia Saudita, e più di due milioni hanno abbandonato le proprie dimore per cercare rifugio all'interno del paese. L'89% dei rifugiati interni (*Internally Displaced Persons* – IDPs) mantiene questa condizione da più di un anno³. A causa delle precarie condizioni igienico-sanitarie, si è inoltre riaffacciata sulla scena una pesante epidemia di colera che dall'aprile del 2017 ha fatto registrare 1.115.379 casi sospetti con 2.310 vittime accertate e un tasso di letalità

³ I dati, forniti dall'Alto commissariato delle Nazioni Unite per i rifugiati (UNHCR), sono disponibili al sito: <https://reliefweb.int/sites/reliefweb.int/files/resources/Yemen%20Update%2016%20-%2031%20August%202018.pdf>

(*case fatality rate*) pari allo 0,21% del totale. L'epidemia colpisce il 96% dei governatorati e il 92% dei distretti, con un'intensità maggiore nelle regioni nordoccidentali del paese controllate dai ribelli Huthi⁴. Le forze dell'ordine non riescono a garantire adeguate condizioni di sicurezza agli operatori umanitari, che in alcuni casi sono costretti a interrompere le attività o evacuare verso porti sicuri nei paesi limitrofi.

Per quanto concerne la possibile commissione di crimini di guerra, le Nazioni Unite e le più importanti organizzazioni non-governative sono concordi nell'additare tutti gli attori coinvolti nel conflitto. Le campagne aeree condotte dalla coalizione saudita hanno colpito zone densamente popolate e bersagli non militari con una frequenza preoccupante, provocando la morte di migliaia di civili e la distruzione di strutture mediche e umanitarie. Gli attori non-statali impegnati nelle operazioni terrestri fanno uso di bambini soldato e, sebbene una legge del 1991 ne impedisca il reclutamento, anche le forze del legittimo presidente Hādī assoldano minori tra i propri ranghi, intaccando le fondamenta già corrose dello Stato di diritto nel paese. Gli insorti, com'anche i militanti delle organizzazioni terroristiche e dei gruppi paramilitari attivi nelle regioni centrali, privi delle risorse per fronteggiare con efficacia le operazioni militari condotte dalla coalizione saudita, impiegano tattiche non convenzionali proprie della guerriglia, si nascondono all'interno o nei pressi di stabilimenti sensibili (ospedali, centri di assistenza umanitaria, mercati) per sfruttare la popolazione civile come scudo umano contro le incursioni aeree e impiegano l'arma del terrore a fini di reclutamento, nonché per polarizzare il tessuto sociale in vista di un'ulteriore *escalation* del conflitto atta a protrarre le ostilità. Secondo i dati forniti dal Global Terrorism Database dello Start (National Consortium for the Study of Terrorism and Responses to Terrorism), nello Yemen si sono verificati oltre 2.500 casi di terrorismo dal 2014, perpetrati dalle frange estremiste di tutte le parti belligeranti.

6. La guerra come prosecuzione dell'economia con altri mezzi

Il quarto elemento che differenzia i conflitti moderni dalle vecchie guerre è la presenza di un'economia criminale predatoria che alimenta le ostilità e ne rappresenta talora il fine, privatizzando di fatto il conflitto.

Il ciclo cumulativo che lega la guerra all'economia criminale è reso con efficacia da Singer (2006): "Se si ha abbastanza denaro, chiunque è in grado di dotarsi di un esercito forte e ben equipaggiato. Se si è disposti a ricorrere

⁴I dati, forniti dall'Organizzazione Mondiale della Sanità, sono riportati in un bollettino settimanale disponibile al sito: <http://www.emro.who.int/yem/yemeninfocus/situation-reports.html>

al crimine, chiunque è in grado di produrre abbastanza denaro”. La natura predatoria dell’economia che alimenta i conflitti moderni modifica la natura stessa del fenomeno bellico, che da strumento nelle mani degli organi di stato e di governo, inteso e condotto per motivazioni e fini di natura politica, “continuazione della politica con altri mezzi” per dirla con il generale von Clausewitz, diventa una prosecuzione dell’economia con altri mezzi (Carbone, 2005), volto al raggiungimento di obiettivi personali ed esclusivi, una cortina di violenza sollevata per nascondere “abusi e illegalità che in tempo di pace sarebbero puniti come crimini, ma che, sotto la copertura della guerra, possono essere ampiamente e impunemente sfruttati per iniziative economicamente remunerative” (Coralluzzo, 2008, p. 19).

V’è chi, tra coloro che si sono occupati di ridefinire la fenomenologia dei conflitti moderni, considera le variabili d’impronta economica le più dirimenti nella valutazione di una potenziale minaccia bellica. Gran parte dei conflitti interni scoppiati nel mondo afroasiatico riguarda la presenza e lo sfruttamento di risorse facilmente esportabili come oro, diamanti, rame, cobalto, zinco, petrolio, coltan e legnami pregiati. Laddove le condizioni politiche e socioeconomiche del paese esportatore non permettano una gestione adeguata dei giacimenti, v’è il concreto rischio di cadere nella cosiddetta “trappola delle risorse naturali”. Nei paesi ad alto reddito le regole del gioco politico sono congrue al livello complessivo di sviluppo, sicché l’improvvisa scoperta di un giacimento petrolifero, come successo in Norvegia, non determina lo sgretolamento delle istituzioni pubbliche. Viceversa, in “una società a basso reddito, ricca di risorse, multietnica e governata da un regime autoritario oppure da un sistema democratico distorto, frettolosamente insediati a seguito di una competizione elettorale sprovvista di pesi e contrappesi, probabilmente sfrutterà le sue occasioni in modo sbagliato, e ciò le impedirà di crescere” (Collier, 2007, p. 64).

Spesso la cattiva gestione delle risorse naturali trattiene il paese in una condizione economica stagnante a carattere permanente, ma in alcuni casi essa determina la comparsa di tensioni politiche e sociali insanabili e travolgenti, diventando, come in Angola, Sierra Leone e Congo, la genesi di un conflitto violento tra le parti.

Prima della guerra civile, l’economia dello Yemen ruotava attorno all’estrazione di petrolio e gas dal sottosuolo, risorse naturali in via di esaurimento. I profitti derivanti dall’esportazione di combustibili fossili rappresentavano il 25% del prodotto interno lordo e il 65% delle entrate statali. Al fine di diversificare l’instabile economia del paese, il governo stava dando seguito a un programma di riforme strutturali lungamente caldeggiato dal Fondo Monetario Internazionale, volto a potenziare i settori non petroliferi, ma l’inizio delle ostilità ha compromesso questi sforzi e l’economia dello Yemen è spro-

fondata nel baratro. La guerra ha deteriorato le esportazioni del paese, ostacolato l'importazione di approvvigionamenti energetici e alimentari, accelerato l'inflazione e messo sotto pressione il tasso di cambio. La distruzione delle infrastrutture critiche e l'occupazione militare delle vie carovaniere, oltre a bloccare l'erogazione dei servizi primari, ha interrotto i flussi commerciali, isolando interi governatorati e sospingendo le economie locali verso una condizione di semi-autarchia e baratto. Il settore privato è rapidamente scomparso e l'amministrazione pubblica, quel che resta di essa, non è provvista della liquidità necessaria allo svolgimento delle sue funzioni. Dopo la conquista di Sana'a, i ribelli Huthi hanno preso il controllo degli organi di stato, deprestando i palazzi del potere e destinando tutte le risorse disponibili all'acquisto di forniture militari sul mercato nero, comprese le riserve straniere detenute nelle casse della Banca centrale, pari a circa 5,2 miliardi di dollari americani. Oggi lo Yemen figura come punto di origine e di transito per il traffico di esseri umani. Gli uomini vengono venduti come schiavi per il lavoro forzato, mentre donne e bambini finiscono nei circuiti transnazionali della schiavitù sessuale. Moltissimi minori vengono reclutati in maniera coatta da tutte le forze belligeranti presenti sul terreno, equipaggiati con vecchi fucili sovietici e spediti in prima linea o piazzati ai check-point per riscuotere mazzette e pedaggi illegali. I pescatori del sud, immiseriti dalla disgregazione del tessuto sociale ed economico del paese, s'imbarcano sovente in attività di pirateria nelle acque del Golfo di Aden, arrivando talora a rapire il personale nautico dei bastimenti commerciali per chiedere il riscatto. Rapimenti e riscatti rappresentano attività estremamente remunerative e a profittarne sono anche gli attori substatuali attivi nelle regioni centrali del paese, dove ormai è molto difficile trovare giornalisti e cooperanti. Quando non v'è nessuno disposto a pagare un riscatto, i prigionieri vengono venduti come schiavi sul mercato nero o sfruttati a fini propagandistici. Oltre al traffico di esseri umani, per finanziare la propria operatività bellica, gruppi paramilitari e milizie civili fanno affidamento su un ampio ventaglio di attività criminali, come la tassazione umanitaria, le commesse provenienti dalle diaspore all'estero, le estorsioni ai danni della popolazione civile e il commercio di sostanze stupefacenti.

7. Conclusioni

Come emerge dall'analisi incrociata degli studi condotti sulla natura dei moderni conflitti armati e della guerra civile dello Yemen, la teoria politologica degli autori inclini a descrivere in chiave non convenzionale la moderna fenomenologia della guerra trova pieno riscontro fattuale e si dimostra una valida bussola per dirigere e convogliare gli sforzi analitici nella giusta traiettoria.

Come prescritto dalla trattatistica, il conflitto yemenita si dipana in un contesto di disgregazione istituzionale che determina l'insorgere di numerose forze belligeranti. Le violenze sono perpetrate da attori perlopiù privati a fini di arricchimento personale e istituzionale, e le asimmetrie in campo giocano un ruolo dirimente nel rapporto tra attori forti e attori deboli. L'intero conflitto appare non più come una continuazione della politica con altri mezzi, ma come una prosecuzione dell'economia con altri mezzi, e al suo interno trovano posto reti e traffici criminali di ogni sorta, che superano i confini del paese e intersecano la rotta del crimine organizzato a livello internazionale. Nel conflitto è scomparsa ogni distinzione tra militare e civile, la popolazione è spesso vittima consapevole delle operazioni belliche e alle ostilità si accompagna una catastrofe umanitaria di proporzioni drammatiche, a cui le organizzazioni sovrastatali cercano di ovviare senza grande successo. Le potenze straniere giocano un ruolo indiretto e ambiguo, talora volto a spalleggiare gruppi d'interesse affine, talaltra a dirimere il conflitto per via diplomatica, ma sempre condizionate dall'umore dell'opinione pubblica e indotte, nel caso dell'Iran e degli Emirati Arabi Uniti, a mantenere ruoli di procura.

In virtù delle osservazioni svolte e delle considerazioni addotte, possiamo concludere che la guerra civile dello Yemen manifesta invero una natura emblematica dei conflitti moderni, e che il *corpus* dei saggi atti a ridefinirne la struttura in chiave post-clausewitziana trova in essa un *case study* perfettamente calzante.

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Predictive Policing: prevedere i furti in abitazione nella città di Ancona (IT) attraverso il Software del Risk Terrain Modeling (RTMDx)

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Abstract

In recent years, with the intent to shed a light on contextual factors that correlate with the presence of specific crime categories, there has been a growing interest in the development of techniques that use spatial analysis programs to identify the areas in which crime occurs. One of these is certainly the methodology called 'Risk Terrain Modelling' (RTM) (Caplan et al., 2010), oriented to a strategic analysis of the context within which future offences could happen, integrating conceptual elements coming from the environmental criminology such as the 'criminogenic triggers', to identify the areas of greatest concentration and diffusion of crime. In this regard, the present study aimed to investigate the predictive efficacy of the RTM through a real case study: the burglaries in the city of Ancona. In support of the pre-existing literature, the results of this research showed that the places where drug dealing, prostitution and finally the ATMs are concentrated make it possible to forecast up to 72.5% of burglaries in the first four months of 2018, identifying 87% of the prospectively vulnerable urban areas. Furthermore, this study shows that even in a confined space, the same risk factors can be combined in different ways, giving rise to areas of variable risk over time. In addition, these results provide a rather effective set of information to be potentially used by both the local community and the police forces to develop countermeasures aimed at tackling urban crime including burglaries, robberies, drug dealing and so on. A similar approach could also provide operators, policy-makers and local administrators with significant support to understand and counterattack other forms of criminal behaviour committed by gangs or antisocial groups. In fact, it would guarantee the

application of the RTM as a tool for a better predictive policing strategy aimed at both a deeper crime analysis level and a risk assessment that could be fundamental to forecast the areas with the highest risk of criminal conducts in the entire city.

Abstract

Negli ultimi anni, con l'intento di far luce sui fattori contestuali che si correlano positivamente alla presenza di specifiche categorie di reati, vi è stato un crescente interesse nello sviluppo di tecniche che utilizzino programmi di analisi spaziale per identificare le aree in cui la criminalità si manifesta maggiormente. Una di queste è sicuramente la metodologia denominata '*Risk Terrain Modelling*' (RTM) (Caplan et al., 2010), orientata ad un'analisi strategica del contesto entro cui si potrebbero verificare i futuri reati, integrando al suo interno elementi concettuali provenienti dalla criminologia ambientale, come ad esempio quelli di '*criminogenic triggers*' (elementi scatenanti), per individuarne le aree di maggiore concentrazione e diffusione. A questo proposito, il presente studio si è proposto di approfondire l'efficacia predittiva del RTM attraverso un *case study*: i furti in abitazione nella città di Ancona. Affiancandosi all'evidenza empirica della preesistente letteratura, i risultati di questa ricerca dimostrano che i luoghi dove si concentra lo spaccio di droga, la prostituzione ed infine i bancomat renderebbero possibile prevedere fino al 72,5% dei furti abitativi nei primi quattro mesi del 2018, identificando l'87% delle aree urbane comunali prospettivamente vulnerabili. Inoltre, questo studio dimostra che, anche in uno spazio ristretto, gli stessi fattori di rischio possono combinarsi in modi diversi, dando luogo ad aree di rischio variabile nel corso del tempo. In aggiunta, questi risultati forniscono una base informativa piuttosto efficace da mettere al servizio sia della comunità locale sia delle strategie di polizia mirate a breve e lungo termine contro l'illecito urbano legato sia ai furti in abitazione che alla criminalità in genere. Un approccio simile potrebbe anche fornire agli operatori, ai responsabili delle politiche e agli amministratori locali un supporto significativo per comprendere e contrastare anche altre forme di comportamento criminale da parte di bande o gruppi antisociali. Infatti, garantirebbe l'applicazione del RTM sotto forma di *predictive policing* inteso come una strategia di prevenzione del crimine e/o tattica di polizia che utilizza informazioni e sviluppa analisi avanzate per la previsione delle zone a più alta densità criminale in ambito cittadino.

Keywords

RTM, GIS, Risk, Prevention, Crime, Ancona.

1. Introduzione

Negli ultimi anni vi è stato un crescente interesse nello sviluppo di tecniche che utilizzino programmi di analisi spaziale per identificare le aree in cui la criminalità si manifesta maggiormente. L'approccio più frequente è stato senza dubbio quello della mappatura geodetica, basata sui punti con la maggiore densità criminale, il cui scopo è quello di indirizzare l'attenzione della polizia verso i luoghi più a rischio, così da svolgere un'azione mirata-

mente contenitiva il crimine ed indirettamente dissuasiva per eventuali futuri trasgressori (Kennedy, Caplan & Piza, 2010). Sherman (1995), esaminando approfonditamente questo metodo, ha concluso che i fattori maggiormente rilevanti per comprendere i trend criminali sono l'esordio, la ricorrenza, la frequenza, l'eventuale desistenza ed intermittenza, i quali, seppure con modalità contestualmente diverse, appaiono influenzare proprio l'onset ('manifestazione') della criminalità. Questa prospettiva, che unisce ed integra le numerose teorie criminologiche quali la '*Routine Activity Theory*', la '*Rational Choice Theory*' e le varie teorie sugli approcci criminali, ha costituito per anni il punto di riferimento della '*crime analysis*' (analisi del crimine) (Kennedy, Caplan & Piza, 2010). Tuttavia, mentre la mappatura degli '*hot-spots*' (punti caldi) ha permesso di analizzare la variegata concentrazione del crimine a livello urbano, essa ha parallelamente distolto l'attenzione della stessa dai contesti sociali in cui si verifica il crimine (Kennedy, Caplan & Piza, 2010). In altre parole, i pronostici sulla concentrazione degli eventi criminali venivano basati su ciò che era precedentemente accaduto nelle località d'interesse, piuttosto che sulle caratteristiche criminologiche e/o fisiche dei luoghi coinvolti (Kennedy, Caplan & Piza, 2010). Questo modo di interpretare i trend criminali ha consequenzialmente distaccato l'analisi del crimine sugli effetti che i diversi fattori possono avere sulla disorganizzazione sociale (delle comunità coinvolte dallo studio) dall'effettiva distribuzione degli eventi criminali sul territorio (Kennedy, Caplan & Piza, 2010). Tuttavia, da quando sono stati resi disponibili sia dati geodetici migliori sia tecniche di mappatura più sofisticate, gli approcci basati esclusivamente sulla mappatura della densità criminale urbana sono stati superati in favore di strategie empiriche rilevate su dati statistici in grado di prevedere dove il crimine potrà emergere in futuro.

Quindi, mentre una parte della ricerca è stata condotta sulla struttura della comunità e su come questa vada ad influenzare i trend criminali (Taylor, 2000, p. 32; Sampson & Raudenbush, 1999; Eck et al, 2005, p. 23; Brantingham & Brantingham, 1995), un'altra si è dedicata all'applicazione di un metodo analitico più indicativo rispetto alle consuete analisi dei modelli criminali realizzati dalle forze dell'ordine. Questa parte della ricerca, infatti, ha analizzato i contesti ambientali entro cui sembrerebbe verificarsi più frequentemente una condizione di 'emergenza criminale' in modo da collegare l'analisi degli '*hot-spots*' ad un quadro più ampio di '*crime analysis*' (analisi criminale). Più precisamente, si è tentato di far luce sui fattori contestuali che, statisticamente parlando, si correlano positivamente alla presenza di specifiche categorie di reati. Questo obiettivo è stato perseguito attraverso l'applicazione di una metodologia denominata '*Risk Terrain Modeling*' (RTM) (Caplan et al., 2010), orientata ad un'analisi strategica del contesto entro cui si potrebbero verificare i futuri reati, integrando al suo interno elementi con-

cettuali provenienti dalla criminologia ambientale, come ad esempio quelli di ‘*criminogenic triggers*’ (elementi scatenanti), per individuarne le aree di maggiore concentrazione e diffusione (Brantingham e Brantingham, 1981).

Così, prendendo in considerazione i reati registrati tra gennaio e aprile nel triennio 2015-2017, questa ricerca ha voluto applicare l’algoritmo del *Risk Terrain Modeling* (RTM) per prevedere le più probabili aree di rischio per i furti in abitazione che potrebbero essere rilevati nei primi quattro mesi del 2018 ad Ancona. Più precisamente, tale obiettivo è stato perseguito attraverso l’applicazione del software RTMDx in qualità di strumento informatico che automatizza l’individuazione delle aree urbane più pericolose sulla base della presenza (o assenza) di determinate caratteristiche socio-ambientali che le renderebbero più attraenti agli occhi degli autori di reato (cfr. pag. 7). In altre parole, esso si basa sull’automatica identificazione e valutazione dei fattori ambientali criminogeni in grado di influenzare il rischio relativo della categoria di reato dei ‘furti in abitazione’. Tali informazioni sono state poi utilizzate per prevedere la posizione più probabile degli eventi criminali futuri, realizzando così un vero e proprio *predictive policing*.

2. Polizia predittiva e RTM

Il *predictive policing* (polizia predittiva) è una strategia di prevenzione del crimine che utilizza informazioni e sviluppa analisi avanzate per la previsione delle zone a più alta densità criminale in ambito cittadino (Uchida, 2009). Questa tipologia di prevenzione degli atti criminali attinge a piene mani alla criminologia ambientale, ovvero l’evoluzione ultima delle teorie criminologiche razionali, che studia come i target criminali si muovano nello spazio e nel tempo, riservando particolare attenzione alla distribuzione geografica del crimine e al ritmo delle attività giornaliere (Vezzadini, 2006). Tale teoria sostiene che gli eventi criminali hanno luogo al ricorrere di determinati fattori spazio-temporali, ovvero alla convergenza di delinquenti, vittime o obiettivi in contesti specifici, in un tempo e in uno spazio definiti (Brantingham & Brantingham, 1995). Da questo background teorico che postula, dunque, l’esistenza di schemi ricorrenti nella commissione di determinati atti criminali, deriva la possibilità, inedita per le forze dell’ordine, di interrompere il meccanismo causale del crimine, anticipandolo: se un modello esiste, infatti, è possibile sapere tempestivamente quando, dove e come saranno commessi i crimini (Di Nicola et al, 2014). Ciò, di conseguenza, incide sul funzionamento concreto della polizia predittiva: anni di dati e informazioni sugli eventi criminali vengono raccolti e catalogati in banche dati integrate e successivamente inseriti in un software che li analizza, col fine ultimo di trasformare tali informazioni dapprima in conoscenza sul dove e quando sia più

probabile che avvenga un crimine e, conseguentemente, in una guida per la prevenzione (Beck & McCue, 2009; Di Nicola et al, 2014). Infatti, attraverso l'analisi dei dati relativi ai luoghi di maggiore concentrazione dei crimini avvenuti in passato (*hot spots*) individuati dal software e l'utilizzo di modelli predittivi (modelli statistici, moduli di *data mining*), le forze dell'ordine possono organizzare in maniera più efficiente le risorse a propria disposizione, distribuendosi in modo più mirato sul territorio cittadino (Di Nicola et al, 2014). In questo modo, possono essere presenti nelle zone in cui è previsto che si verifichi un reato quel giorno e in quella fascia oraria. Di conseguenza, hanno la possibilità di condurre interventi mirati e specifici. Il tipo di operazione che la polizia potrà in essere potrà variare a seconda della finalità cui mira, se la semplice deterrenza o, piuttosto, la soluzione definitiva di una questione criminale (Di Nicola et al, 2014).

Un esempio di polizia predittiva è il lavoro realizzato dal *Jill Dando Institute of Security and Crime Science* nella città di Trafford (Manchester, UK). Il progetto, sviluppato dai ricercatori del Jill Dando Institute of Security and Crime Science di Londra (UK), in collaborazione con la polizia locale di Trafford, ha avuto come obiettivo iniziale la riduzione della crescente ondata di furti in abitazione (Fielding & Jones, 2012a, b). Il progetto ha rappresentato l'adattamento pratico di vari studi scientifici (Bowers & Johnson, 2005), che, dopo aver analizzato come la multi-vittimizzazione si ripeteva nel tempo e nello spazio, proponevano di collocare in maniera più efficiente, nelle settimane immediatamente successive al reato, le forze di polizia nelle zone in cui sarebbero stati probabilmente commessi furti in abitazione, al fine di impedire la *repeat victimization* (RV; 'multivittimizzazione') e la *near repeat victimization* (NRV; 'multivittimizzazione del vicino') (Fielding & Jones, 2012a, b). Il programma posto in essere a Trafford ha previsto in una fase iniziale la mappatura delle abitazioni che in precedenza avevano subito un furto e delle *buffer zones* ('zone contigue'), cui sono stati associati diversi colori, a seconda del rischio calcolato di multi-vittimizzazione (Fielding & Jones, 2012a, b). Successivamente, le aree così individuate sono state prese in considerazione dalla polizia per una distribuzione predittiva degli interventi e delle risorse con l'obiettivo di potenziare la loro presenza all'interno delle aree più a rischio, così da scoraggiare la recidiva dei furti in abitazione (Fielding & Jones, 2012a, b). Per l'elaborazione dei dati relativi ai furti domestici e per la loro visualizzazione geografica, i ricercatori si sono avvalsi del *near repeat calculator*, un software in grado di identificare i casi statisticamente più rilevanti di multi-vittimizzazione e di fornire le mappe con l'indicazione spazio-temporale dei crimini avvenuti in seguito al furto in abitazione originario (Chainey, 2012). Tale approccio è stato originariamente adottato per un periodo di 12 mesi nel biennio 2010/2011 ed ha ottenuto risultati che

dimostrano una chiara riduzione dei furti domestici: si è riscontrata, infatti, una diminuzione del 26% dei furti in abitazione rispetto ai mesi antecedenti alla realizzazione del progetto (Fielding & Jones, 2012a, b). Inoltre, un altro grande risultato conseguito da tale programma di *predictive policing*, considerato anche l'attuale contesto economico, è stato l'aver consentito un utilizzo più efficiente ed efficace delle risorse a disposizione delle autorità.

Un ulteriore lavoro che ha chiaramente messo in luce i potenziali benefici derivanti da un approccio di tipo predittivo è quello realizzato da Gale nel 2013. Questo studio si è avvalso del *Risk Terrain Modeling* (RTM) per esaminare i furti in abitazione nella città di Lawrence Township, nel New Jersey (US). Più precisamente, utilizzando la metodologia RTM, si è evidenziato che un'alta concentrazione di fermate degli autobus e di segnalazioni di persone e/o di veicoli sospetti presentavano associazioni statisticamente significative con le aree maggiormente colpite (Gale, 2013). Pertanto, adottando questi parametri come linee guida per una più mirata azione preventiva nei sei mesi successivi, si è rivelato che nel 95% dei casi le zone che racchiudevano almeno uno di questi fattori di rischio ambientale sono state colpite da furti in abitazione (Gale, 2013).

Questi dati hanno trovato ulteriore conferma in un lavoro realizzato da Dugato e colleghi (2015) sui fattori criminogeni potenzialmente implicati nei furti in abitazione registrati nelle città di Bari, Milano e Roma. Ciò che è emerso è l'esistenza di tre *clusters* (gruppi) di fattori di rischio associati, statisticamente parlando, in modo diverso alle aree maggiormente colpite dai furti domestici: a) forte influenza (alta densità abitativa, alta densità di furti in abitazione nell'anno precedente, alti valori immobiliari); b) media influenza (alta percentuale popolazione +70 anni, presenza di negozi 'Compro Oro', presenza di edilizia residenziale pubblica); c) bassa-nulla influenza (alta percentuale di stranieri residenti, bassa densità abitativa, bassa percentuale di votanti, bassi valori immobiliari, presenza di campi nomadi, presenza di sedi dei servizi per le Tossicodipendenze) (Dugato et al; 2015). Attraverso l'applicazione dell'algoritmo del RTM, sono state realizzate alcune *heatmaps* (mappe di calore) della città identificanti le possibili aree che, sulla base della presenza vs assenza dei suddetti fattori, sarebbero potute essere colpite dai furti abitativi nei 12 mesi postumi. I risultati conclusivi permisero di predire, con un'accuratezza oscillante fra il 30% ed il 47%, quasi la metà dei reati che si verificarono effettivamente nell'arco temporale pattuito (Dugato et al, 2015).

Alla luce della rilevante evidenza empirica in merito all'efficacia di un *predictive policing* incentrato sull'identificazione predittiva dei fattori socio-ambientali scatenanti alcuni fenomeni criminali urbani, questa ricerca vuole proporre una nuova ed ulteriore applicazione del *Risk Terrain Modeling* (RTM) in una realtà finora inesplorata come quella Marchigiana e, più

precisamente, Anconetana. Inoltre, in seguito al necessario processo analitico-statistico e ai risultati a cui questo *case study* ha condotto, tale lavoro si propone di fornire alcune linee guida potenzialmente condivisibili con la comunità di riferimento e con le autorità per la pubblica sicurezza al fine di implementare nuove misure preventive che possano, idealmente, condurre ad una riduzione dei furti abitativi nel panorama locale. Tuttavia, prima di procedere alla presentazione del *case study* anconetano, è di primaria importanza introdurre brevemente il software utilizzato in tale sede: l'RTMDx.

3. RTMDx

Il *Risk Terrain Modeling Utility Software* (RTMDx) è stato sviluppato nel 2013 dalla *Rutgers Center for Public Security* (New York) con lo specifico intento di facilitare ed automatizzare il metodo empirico di valutazione del rischio territoriale (RTM) (Anyinam, 2015). Questo permette di valutare automaticamente un insieme di fattori che potrebbero essere geograficamente associati al fenomeno criminale studiato, in questo caso i furti in abitazione. Più precisamente esso seleziona matematicamente (e velocemente) i fattori ambientali più rilevanti a livello statistico pesandone il valore di rischio così da produrre un modello finale che, in pratica, delinea un quadro dei luoghi dove, in modo predittivo, sembra essere stato rilevato un rischio maggiore di possibili condotte criminali future. In altre parole, l'RTMDx, basandosi su di una evidenza scientifico-empirica convalidata in 46 paesi del mondo, è capace di mappare in modo rapido e preciso le aree urbane con i più alti livelli di rischio per una certa categoria di illecito, permettendo così lo sviluppo di modelli predittivi potenzialmente inseribili nell'operato strategico per una più mirata sicurezza urbana.

Tecnicamente, il presente software permette l'iniziale creazione di una *fishnet* (griglia digitale) della città dove, per ciascuna cella (di dimensione variabile), si valuta quali fattori ambientali (fra quelli selezionati e codificati) sono presenti e quanti reati sono registrati in quella data zona nell'arco temporale pattuito. Così tanto più quei fattori tendono a ripetersi in luoghi con un'alta concentrazione di reati tanto più, in chiave predittiva, il loro 'potenziale di rischio' tende ad aumentare. Di conseguenza, per ciascuno di quei fattori socio-ambientali viene identificato un valore di rischio relativo (R.R.V.), il quale può essere generalmente definito come il rapporto fra la probabilità che un furto avvenga in un'area contenente un dato fattore di rischio rispetto alla probabilità che quello stesso evento (furto) si verifichi in un'area non esposta a quel fattore. In seguito, i '*risk factors*' più significativi a livello statistico (cioè quelli con i valori di rischio relativo più alti) sono estrapolati ed intersecati ad una '*grid map*' (mappa a griglia) della *study area* (area

di studio) in modo che ciascuna cella derivante racchiuda al suo interno, per ogni fattore di rischio, una variabile dicotomica indicante la sua presenza (valore 1) o assenza (valore 0) in quella specifica area della città. Il risultato è una mappa predittiva dove ogni cella, sulla base di quanti fattori di rischio (di quelli considerati) sono presenti, mostra un colore di tonalità differente esibendo così punteggi di rischio totale variabili (R.R.V.). Questi ultimi, derivanti dalla sommatoria dei valori R.R.V. di ciascun fattore 'criminogeno' rilevato internamente ad ogni cella, oscillano fra lo 0 e lo 0,99 (meno della media con un rischio previsto nullo/basso), fra l'1 e l'1,5 (nella media con un rischio previsto intermedio) o fra l'1,51 ed il 3+ (maggiore di +2 deviazioni standard con un rischio previsto alto/molto alto).

4. Case study

La scelta di avvalersi di un algoritmo quale l'RTM per l'esecuzione di un progetto socio-criminologico rivolto al contrasto dei furti in abitazione poggia, pertanto, su due importanti elementi: 1) la sua profonda capacità di integrare una vasta gamma di dati all'interno di un quadro socio-ambientale precipuamente orientato alla valutazione del rischio criminale e alla sua prevenzione; 2) la comprovata evidenza empirica relativa alla sua precisione predittiva rispetto a futuri reati, equivalente a circa il 40% di media (in altre parole quasi 1 reato ogni 2 può essere previsto) (Barnum et al, 2016; Kennedy et al, 2010; Caplan et al, 2017). In aggiunta, la scelta della categoria di reato dei 'furti domestici' è dipesa dalla profonda rilevanza che questi ultimi hanno sui trend statistici rilevati a livello regionale e provinciale; costituendo di fatto, assieme alle frodi informatiche, una delle uniche categorie di illecito attualmente in crescita (ISTAT, 2017). Ciò sembra essere avvenuto nonostante i significativi provvedimenti realizzati dalle autorità per la pubblica sicurezza, sottolineando pertanto la necessità di capire le potenziali cause alla base di questa particolare resilienza, le quali potrebbero essere ritrovate anche all'interno di uno scenario socio-ambientale mutevole, scatenante e fino a questo momento poco esplorato scientificamente. Pertanto, questa ricerca si è proposta innanzitutto di verificare se all'interno delle aree comunali maggiormente colpite dai furti in abitazione sono presenti quei fattori socio-ambientali che, sulla base della ricerca (inter)nazionale, sembrano essere maggiormente associati statisticamente ai suddetti reati quali: punti per lo spaccio di droga, aree di prostituzione, i bancomat, le stazioni, gli snodi di strade ad alta percorribilità ed i negozi compro-oro. Successivamente, dopo aver individuato quali fra questi sei fattori criminogeni sono quelli più positivamente correlati ai luoghi coinvolti dai reati, questa ricerca ha proposto una valutazione predittiva rivolta all'individuazione delle sub-aree urbane

che potrebbero rischiare maggiormente di essere vittimizzate dagli autori dei furti abitativi nei primi quattro mesi del 2018.

5. Metodologia

5.1 Materiali

Il *Risk Terrain Modeling* (RTM) è un costrutto precipuamente rivolto all'individuazione dei luoghi che, in funzione di accurate caratteristiche criminogene, risultano essere potenzialmente più opportuni per eventuali agiti delinquenziali (Kennedy, Caplan & Piza, 2010; Caplan et al, 2017). A questo proposito, il software RTMDx, il quale automatizza a livello informatico il costrutto RTM, è stato integrato all'interno del sistema informativo territoriale (SIT) QuantumGIS (QGIS) per valutare la relazione fra: a) i sei fattori socio-ambientali che, sulla base della ricerca (inter)nazionale, sembrano essere probabili fattori di rischio per eventuali furti domestici quali punti per lo spaccio di droga, aree di prostituzione, i bancomat, le stazioni, gli snodi di strade ad alta percorribilità ed i negozi compro-oro (Moreto, 2010; Dugato et al, 2015) e b) le aree urbane (pubbliche) che, fra gennaio e aprile nel triennio 2015-2017, hanno registrato il maggior numero di furti in abitazione.

Alla luce di questi obiettivi, i materiali richiesti per la realizzazione del *case study* sono stati:

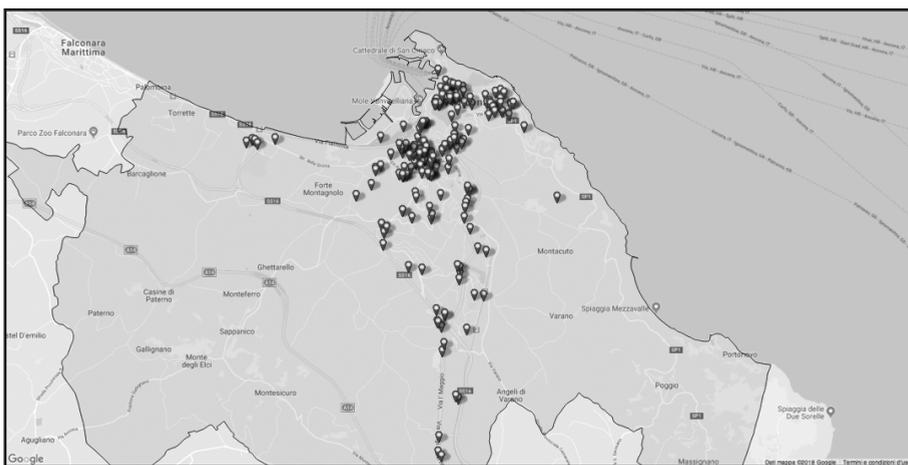
- 1) **QuantumGIS 2.18**: creazione di mappe dei furti abitativi ad Ancona, la compilazione di dati geografici pre-esistenti e la gestione di informazioni socio-criminologiche ottenute attraverso l'accesso al database della Banca Dati Interforze (database ministeriale contenente dati precisi ed aggiornati sui reati criminali registrati dalla Polizia di Stato, Carabinieri, Guardia di Finanza, Polizia Locale e altre autorità per la pubblica sicurezza);
- 2) **Programma statistico-informatico S.P.S.S.**: esecuzione automatica di complesse analisi statistiche dei 'big data' ottenuti in fase di raccolta dati;
- 3) **Software RTMDx**: applicazione del costrutto del *Risk Terrain Modeling* (RTM) per inserire e verificare i suddetti 'big data' all'interno del contesto ambientale anconetano.

5.2 Raccolta dei dati

I dati necessari per l'esecuzione dell'analisi progettuale sono stati recuperati in diversi modi: 1) attraverso la loro estrapolazione e selezione dalle numerose fonti online aperte (es. ISTAT, i *web-datasets* del comune di Ancona, l'Annuario Statistico Regionale delle Marche ed altri ancora); 2) tramite

l'accesso alla Banca Dati Interforze del Ministero Degli Interni (contenente i crimini registrati dalle autorità) a cui è stato richiesto un permesso di accesso per ragioni accademico-scientifiche, accordato anche alla luce della precedente collaborazione professionale e di ricerca avuta con il Generale di Corpo D'Armata dei Carabinieri nonché co-autore Rosario Aiosa, il quale ha funto da referente; e 3) tramite l'accesso alle tabelle descrittive dell'Agenzia del Territorio in merito alla popolazione residente, disoccupati e stranieri. Tutti i dati 2) estrapolati, specialmente quelli non ancora geo-codificati (cioè tradotti in punti geografici dotati di una latitudine e longitudine precisa), sono stati interamente tramutati in file .CSV e quindi importati sotto forma di 'file a testo delimitato' all'interno del *Quantum Geographical Information System* (QGIS) come nuovi 'layer' geodetici. Di conseguenza, ciò ha permesso la creazione di una prima mappa di diffusione identificante la distribuzione dei furti domestici registrati nei mesi che vanno da gennaio ad aprile nel triennio 2015-2017 (cfr. figura 1). Al contrario, i dati 1) e 3) sono serviti a costruire un 'framework' (cornice) socio-culturale di riferimento entro cui è stato possibile contestualizzare l'intera analisi progettuale.

Figura 1: Mappa dei furti in abitazione registrati ogni 100mila abitanti (da gennaio ad aprile) tra il 2015 e il 2017 nel comune di Ancona.



6. Analisi dei dati

In seguito alla costituzione della prima mappa di diffusione identificante le aree in cui, da gennaio ad aprile tra il 2015 e il 2017 si sono distribuiti i furti abitativi nel comune di Ancona, il software RTMDx ha permesso di identificare, attraverso l'esecuzione automatizzata di regressioni lineari multiple, quali fattori di rischio fra i sei precedentemente selezionati sembrano essere maggiormente associati ai luoghi in cui si sono concentrati i furti domestici

rilevati. Ciò è avvenuto attraverso la creazione di una prima *fishnet* (griglia digitale) della città dove, per ciascuna cella (100m x 100m), si è valutato quali fattori ambientali fossero presenti e quanti furti in abitazione erano stati registrati in quella data zona. Così tanto più quei fattori tendevano a ripetersi in luoghi con un'alta concentrazione di furti abitativi tanto più, in chiave predittiva, il loro 'potenziale di rischio' tendeva ad aumentare. Di conseguenza, per ciascuno di quei sei fattori socio-ambientali è stato identificato un valore di rischio relativo (R.R.V.), il quale può essere generalmente definito come il rapporto fra la probabilità che un furto avvenga in un'area contenente un dato fattore di rischio rispetto alla probabilità che quello stesso evento (furto) si verifichi in un'area non esposta a quel fattore (cfr. tabella 1).

Tabella 1: Valori di Rischio Relativo (R.R.V.) dei fattori socio-ambientali selezionati.

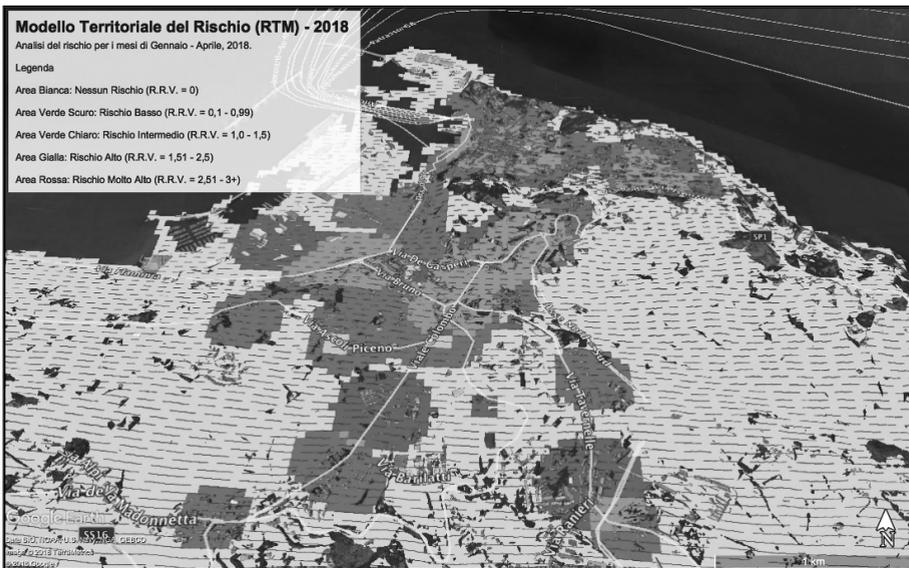
Fattori di rischio	Valore di Rischio Relativo (R.R.V.)
Stazioni	0,874
Negozi Compro Oro	0,325
Punti per lo spaccio di droga	19,005
Aree di prostituzione	6,254
Snodi di strade ad alta percorribilità	1,379
Bancomat	3,518

Osservando la tabella 1 si nota che un posto influenzato da punti per lo spaccio di droga (R.R.V. = 19,005) ha un tasso di furti domestici atteso che è circa tre volte più alto rispetto ad un luogo influenzato da eventuali aree di prostituzione (R.R.V. = 6,254), il quale ha a sua volta un rischio doppio di furti in abitazione rispetto ad un'area influenzata dalla presenza di un bancomat (R.R.V. = 3,518).

In seguito a questa iniziale analisi, i '*risk factors*' più significativi a livello statistico (cioè quelli con i valori di rischio relativo più alti) quali i punti per lo spaccio di droga (R.R.V.= 19,005), le aree di prostituzione (R.R.V.= 6,254) ed i bancomat (R.R.V.= 3,518) sono stati, assieme agli altri fattori di rischio rimanenti (con un R.R.V. < 3), estrapolati ed intersecati ad una '*grid map*' (mappa a griglia) di Ancona in modo che ciascuna cella derivante (delle dimensioni di 100m X 100m) racchiudesse al suo interno, per ogni fattore di rischio, una variabile dicotomica indicante la sua presenza (valore 1) o assenza (valore 0) in quella specifica area della città. Il risultato è stato una mappa predittiva di Ancona nel 2018 dove ogni cella, sulla base di quanti fattori di

rischio (dei sei considerati) erano presenti, mostrava un colore di tonalità differente esibendo così punteggi di rischio totale variabili (R.R.V.). Questi ultimi, derivanti dalla sommatoria dei valori R.R.V. di ciascun fattore ‘criminogeno’ rilevato internamente ad ogni cella, oscillavano fra lo 0 e lo 0,99 (meno della media, colore bianco o verde scuro, con un rischio nullo/basso), fra l’1 e l’1,5 (nella media, colore verde chiaro, con un rischio intermedio) o fra l’1,51 ed il 3+ (maggiore di +2 deviazioni standard, colore giallo/rosso, con un rischio alto/molto alto) (cfr. figura 2).

Figura 2: Modello Territoriale del Rischio (RTM) per i furti domestici previsti nel 2018 nei mesi di gennaio-aprile ad Ancona.



Successivamente, nel tentativo di valutare la qualità predittiva dello strumento utilizzato, è stata prodotta un’altra mappa di densità identificante, sulla base dei dati criminali noti, le aree urbane di Ancona in cui si è effettivamente concentrata la maggior parte dei furti abitativi nell’anno corrente (aggiornato al 30 aprile 2018). In seguito, la mappa predittiva di Ancona (fig. 2) e quella di densità appena creata sono state sovrapposte per verificare se le zone identificate dal software RTMDx sarebbero andate a coincidere con le aree che nel 2018 hanno effettivamente evidenziato una significativa esposizione ai furti in abitazione rilevati dalle autorità. Questo tipo di valutazione è stata effettuata realizzando una comparazione fra la mappa dei furti domestici registrati nel 2018 e la mappa predittiva di Ancona realizzata tramite l’RTMDx (cfr. figura 3).

Figura 3: Mappa di contrasto fra i furti abitativi registrati nel 2018 (gennaio-aprile) e la mappa predittiva di Ancona realizzata tramite l'RTMDx (ISTAT, 2018).



Come si può evincere dalla figura 3, i dati emersi a seguito di tale comparazione hanno rivelato che, nel corso dei primi quattro mesi del 2018, le zone definite a ‘medio/alto rischio’ (colore verde chiaro, giallo e rosso) hanno racchiuso il 72,5% dei furti in abitazione effettivamente rilevati dalle autorità (138 su 191), identificando inoltre l’87% delle aree urbane del comune di Ancona dove si è verificato almeno un furto nell’arco temporale previsto dall’analisi. Più precisamente, le zone definite a rischio ‘molto alto’ hanno racchiuso il 14,5% dei furti domestici registrati (n’29/191), il rischio ‘alto’ il 26% (n’49/191), quello ‘intermedio’ il 32% (n’61/191), seguiti dalle zone a rischio ‘basso’ col 19% (n’36/191) e da quelle a rischio ‘nulla’ col 8,5% (n’16/191) (cfr. tabella 2).

Tabella 2: Statistiche sulle aree di rischio.

Area di rischio	Livello rischio	Numero di celle coinvolte	Percentuale reati sul totale	Numero reati sul totale
Bianca	Nessuno	6204	8,5%	16
Verde scuro	Basso	1502	19%	36
Verde chiaro	Intermedio	468	32%	61
Gialla	Alto	196	26%	49
Rossa	Molto alto	93	14,5%	29

A questo proposito va notato che, nonostante le aree con un rischio intermedio/alto/molto-alto di furti abbiano racchiuso un numero di celle totale (757) che è significativamente minore rispetto a quello delle aree a rischio basso/nullo (7706), queste hanno, contrariamente, racchiuso circa 3 reati su 4 evidenziando così una precisione geodetica piuttosto importante.

7. Discussione e conclusione

Questo studio ha identificato, ad un micro-livello, i correlati statistici principali dei furti in abitazione ad Ancona, applicando con successo il costruito RTM per predire i furti domestici dei primi quattro mesi del 2018. I suddetti correlati sono risultati essere significativamente consistenti sia con la letteratura preesistente che con le ricerche condotte sull'argomento a livello (inter) nazionale. Infatti, i punti per lo spaccio di droga, le aree di prostituzione ed i bancomat sembrano essere i fattori maggiormente associati (a livello geostatistico) ai furti abitativi registrati, dimostrando pertanto una loro possibile influenza sui tassi d'incidenza criminale (Moreto, 2010; Bernasco, 2010; Bernasco, 2006; Clare et al, 2009). Ciò potrebbe suggerire che le frequenti spiegazioni alla base dei furti domestici, quali la disorganizzazione sociale e/o la deprivazione ambientale, hanno una particolare pertinenza esplicativa, andando così a confermare i costrutti teorici fondamentali alla base della criminologia ambientale (Andresen, 2014). Più precisamente, in riferimento a questo studio, un luogo influenzato da punti per lo spaccio di droga ha presentato un tasso di furti abitativi atteso che è circa tre volte più alto rispetto ad un luogo influenzato da eventuali aree di prostituzione, il quale ha a sua volta un rischio doppio di furti in abitazione rispetto ad un'area influenzata dalla presenza di un bancomat. Ovviamente la diversa concentrazione dei suddetti fattori all'interno delle varie aree analizzate ha comportato delle variazioni nei punteggi di rischio relativo, i quali sono sempre stati comunque correttamente individuati e soppesati dal software RTMDx in chiave predittiva. In tal senso, l'RTMDx ha predetto con successo il 72,5% dei furti in abitazione registrati nei primi quattro mesi del 2018, identificando l'87% delle aree urbane comunali prospettivamente vulnerabili. Tuttavia, la semplice predizione dei luoghi più vulnerabili non è sufficiente per sviluppare delle contromisure preventive efficaci. Per questa ragione l'RTMDx ha messo in luce il fatto che, anche in aree urbane ristrette con analoghi valori di R.R.V., i fattori di rischio possono combinarsi in modi diversi. A questo proposito, il software utilizzato ha permesso l'identificazione di queste diverse combinazioni, aprendo così la strada a potenziali interventi di natura socio-ambientale. Per esempio, nelle zone caratterizzate maggiormente dall'attività di spaccio, una maggiore presenza delle autorità potrebbe fungere da deterrente, in modo indiretto, per

eventuali tentativi di furto futuri. In secondo luogo si potrebbe, nelle suddette aree, sviluppare delle politiche socio-ambientali correttive che mirino alla costruzione di contro-narrative valorizzanti le aree urbane più svantaggiate a livello socio-economico o perlomeno al lancio di campagne sensibilizzanti l'opinione pubblica in merito a possibili pericoli e nuove misure per una maggiore sicurezza urbana (e.g. programmi per contrastare l'abbandono scolastico, disoccupazione e disagio sociale in generale). Inoltre, questo studio potrebbe essere molto utile anche alle autorità locali; infatti, considerando le similarità ambientali e culturali fra numerosi comuni italiani, un simile approccio analitico potrebbe fornire un significativo valore aggiunto al già importante lavoro dei professionisti della sicurezza e degli amministratori locali operanti in comuni d'altre regioni. Al meglio della nostra conoscenza, questo è forse il primo lavoro che si occupa di prevedere i furti domestici nel comune di Ancona. Seppure i risultati dimostrano che effettuare delle previsioni accurate è possibile, il presente studio ha evidenziato un limite che dovrà essere rivisto e corretto in futuro e cioè la disponibilità di dati consistenti al 100%. Quest'ultimo è stato uno dei principali ostacoli incontrati nonostante la fornitura di *datasets* da parte del Ministero del Interno. Infatti, i dati spesso non sono di dominio pubblico o, nel caso in cui siano disponibili, frequentemente mancano di sufficiente precisione geodetica (e.g. mancanti di latitudine e longitudine precise). Pertanto l'analisi ha presentato, in misura parziale, la mancanza di alcuni dati (e.g. il numero dei furti abitativi ufficialmente registrati, mancanti di una precisa *locations* geodetica, è leggermente più alto di quello riportato nella presente ricerca) che potrebbe aver influenzato, anche se entro margini accettabili, i risultati ottenuti. In conclusione, questa ricerca si erge a riprova di una scienza potenzialmente supportante il lavoro delle forze dell'ordine, il cui fine ultimo rimane quello di garantire una nuova ma fondamentale collaborazione rivolta ad un solo obiettivo: la prevenzione del crimine.

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III. PERSPECTIVES ON RESILIENCE

Theoretical studies and practical approach on measuring urban resilience: the Mariana (MG) case study

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Nota autore

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Abstract

Faced with a world in which the number of people living in the city is increasing, the theme of urban resilience becomes central. However, we are faced with numerous definitions that contribute to making a general evaluation process difficult, creating different models based on different interpretations of the term. In this study, different models of urban resilience evaluation will be presented and confronted, the ones produced by scholars or private organizations. Starting from this comparison, one of the model, the one of Cutter et al. (2008), will be used for analysing the case of Mariana (MG). The dam collapse, one of the worst environmental disaster in Brazil, caused damages in two States, along the course of Rio Doce, spreading pollutant for over 600 km. A final evaluation is carried out considering 6 different dimensions – ecological, social, economic, institutional, infrastructural and community – each of them divided into multiple variables.

Keywords

Urban resilience, complex systems, practical measurement, urban resilience index.

1. Introduction

On 5 November 2015, the rupture of a dam near Mariana, Minas Gerais, generated a chain of events that led to one of the worst ecological disasters that have ever occurred in Brazil. The district of Bento Rodrigues was wiped out, but the negative repercussions caused by pollution were spread along

the entire course of the Rio Doce, affecting the neighbouring State, Espírito Santo, more than 600 km away. Flora and fauna were deeply affected, as well as the river communities.

The disaster affected an estimated 2 million people, according to *Justiça Global*, but here the focus will be only on Mariana, the closest and most directly affected by the mud and water. The theme of the city and its resilience is a complex problem, which we are learning to face today, finding ourselves living in an era in which large urban complexes start to exist as metropolises and megacities. According to UN Habitat forecasts, there is a trend in continuous growth in the number of inhabitants in cities since the '50s. Urban resilience therefore becomes an issue whose research and study become essential for the analysis of future situations, in a perspective that sees the centre of attention a growing interest in risk, disaster and how it is possible to recover and prevent.

The attention that the concept resilience has received over the time is remarkable, but this combined with the lack of a universally recognized definition made it difficult to use tools for its evaluation. In this study will be presented and confronted different models used by scholars or private companies/organizations to measure urban resilience; the Mariana case will be then analysed using the more suitable index and the urban resilience evaluate.

2. Urban resilience

The presence of multiple definitions that could be connected to the term resilience makes it clear right away how this term is widely used, since it could be encountered in dozens of different definitions, applied to countless disciplines, such as sociology or psychology, just to name a few. The versatility in the application has meant that there are various definitions, but this has also triggered criticism from the academic community, making resilience an object that is difficult to measure or concretely use (Matyas & Pelling, 2012; Vale, 2014; Weichselgartner and Kelman 2014). The term resilience was first introduced by Thomas Young in 1807, but, in more recent times, Holling was the one who decided to choose this word by reinterpreting and adapting it to another field: *ecological systems resilience is a measure of the persistence of systems and of their ability to absorb change and disturbance and still maintain the same relationships between populations or state variables* (1973).

The concept of urban resilience develops from the term resilience but adds a more specific component, limiting its application to a very specific environment. What do we refer to when talking about urban resilience? Surely we refer to the part relating to the aggregation of human beings in complex systems of housing and lifestyles. The four components that could define

what are the main characteristics of a city can be encountered in Meerow et al. (2016): networks of governance, materials and energy, infrastructures and socioeconomic dynamics.

A significant distinction that must be introduced before continuing is about the differences between territorial, environmental and urban resilience. The territorial resilience is linked to a more limited context, in which the emotions of the individual come into play, where the sense of belonging to a place emerges (Giuliani, 2003), which can come from individuals or communities. The bond that is created is not merely physical, but is mediated by aspects related to an intangible dimension, such as cultural or religious beliefs (Michelson, 1976; Virden and Walker, 1999; Mazumdar and Mazumdar, 2004). Therefore what makes these territories important is the “experience-in-place” that is linked to them (Manzo, 2005). Studies on this perspective have been carried out by scholars such as Cuba & Hummon (1993), which showed that attachment can be developed at different levels, from the home to the city dimension.

As for the environmental resilience, related to the ecological resilience of which Holling was the forerunner, from its definition we can see how the system considered is a complex one, within which there is not a single equilibrium, and where the transition from one state to another is expected rather than the return to a previous situation.

Finally, as far as urban resilience is concerned, the characteristics highlighted above are the starting point from which deduce two important features: the recognition of the city as a complex system, where there is no single equilibrium but continuous re-adjustment among its part, and the possibility of individuals to develop links with territories or even smaller environments, such as cities.

Numerous definitions of urban resilience have been made in these recent years, with slightly differences between one another. In this case, it has been preferred to refer to the definition provided by Meerow et al.: *Urban resilience refers to the ability of an urban system and its constituent socio-ecological and socio-technical networks across temporal and spatial scales-to maintain or rapid return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform the current or future adaptive capacity* (2016). The definition appears to be extremely accurate, containing the concept of urban as a complex system, the notion of non-equilibrium, positive concept of resilience, adaptation and timescale of action.

When we talk about a complex system we refer to a system inside which there are many components, but as Ilmola (2016) points out, this is not enough, because it is necessary that these elements interact with each other, influencing one another in a continuous process of re-adjustment that leads

to an adaptive process, where there is no single balance. The interactions in complex systems take place within it but also towards the environment around them, between members close to each other and all the parties can influence and can be influenced by others, the interactions do not have to be physical but there may be transfers of information or energy: these are the elements considered fundamental to define a complex system (Ilmola 2016, Yamagata and Maruyama 2016). A sub-category of complex systems are complex adaptive systems, where interactive and adaptive agents are present (Morel and Ramanujam 1999), whose intervention contributes to maintaining the dynamism of the system. Given the high number of these agents, the system does not have a single balance but an unstable one because *small changes in behavior can produce small, medium or large changes in the next set of outcomes* (Ilmola 2016).

The definition by Meerow et al. (2016), therefore, highlights how the vision linked to resilience has evolved, abandoning a more engineering vision, linked to the return to the initial condition, relating everything to the presence of a single balance. Now, however, what is proposed is a concept that is far from being static, where there is no equilibrium and the agents, through their actions, contribute to create a situation in constant change, which is re-adjusted at every change.

2.1 Theoretical models

As mentioned in the previous paragraph, one of the criticisms made by scholars is the high number of definitions that contribute to making difficult the creation of a single framework for evaluating or operationalizing resilience. Here some indices or theoretical models of urban resilience evaluation elaborated by some scholars will be presented.

Model by Xu and Xue (2017)

The model taken into consideration comes from a fairly recent study, with a more engineering approach. The study focuses on the CUPSs: *multi-layer structure integrated into three-dimensional space have been constructed in many cities* (Xu and Xue, 2017). Beyond that, however, there is not much room left for an analysis of the society, the infrastructural aspects of a city remain the main topic. The model uses as reference definition: *resilience is a kind of ability to resist risks*, (Xu and Xue, 2017), where no mention is made about multiple equilibria or a complex system. The analysed dimensions are 6, each subdivided into further categories: governance and management, for the role played by decision-makers in pre- and post-emergency situations; physical infrastructures and their stratification; crowd clusters and their weaknesses; the natural environment surrounding the cities, which the latter

influences and is influenced; accessibility to traffic; economic development. The model consists of 46 indicators, and the final evaluation is given using quantitative and qualitative data, interviewing decision makers and consulting pre-existing data.

Model by Cimellaro (2016)

This model, unlike the previous one, uses a definition that is oriented towards an adaptive view of resilience, moving away from the idea of a single equilibrium, even though has an engineering approach. In the book “*Urban Resilience for Emergency Response and Recovery*” (2016) a list of existing indicators is presented (Mileti, 1999; Renschler et al., 2010; Cutter et al., 2003, 2008, 2014; Burton, 2015; Norris et al., 2008; Morrow, 2008; Tierney, 2009; Colten et al., 2008; Center, 2002; World Bank, 2015; Berke and Campanella, 2006; Vale and Campanella, 2005; Murphy, 2007; Godschalk, 2003, 2007; Enarson, 2007; Burby et al., 2000; Sylves, 2007). The index developed has 5 main themes: social, economic, community, institutional and environmental. Each of these dimensions is then divided into categories for a better analysis. The information can be obtained from pre-existing data, but Cimellaro underlines how a high number of indicators can be misleading and instead suggests a selection of some indicators depending on the research area (2016).

Model by Cutter et al. (2008)

Here it is briefly introduced the model which we will use later on for our case study. The definition that the authors used in their research is this one: *resilience is the ability of a social system to respond and recover from disasters and includes those inherent conditions that allow the system to absorb impacts and cope with an event, as well as post-event, adaptive processes that facilitate the ability of the social system to re-organize, change, and learn in response to a threat* (Cutter et al., 2008). The index has six dimensions: ecological, social, economic, institutional, infrastructural, community competence. The variables are only mere indications, and it is not established whether a qualitative or quantitative approach is better because *despite these varied conceptualizations for describing and assessing resilience, none [...] have progressed to the operational stages where they effectively measure or monitor resilience at the local level* (Cutter et al., 2008).

Model by Sharifi e Yamagata (2016)

Even in this index model, presented in the book “*Urban Resilience*” (Yamagata and Maruyana ed., 2016), the authors adopt an adaptive view of resilience, where cities are defined as socio-ecological systems, and the adaptive approach is identifiable by some characteristics, which are considered fun-

damental for strengthening urban resilience: robustness, stability, flexibility, resourcefulness, coordination capacity, redundancy, diversity, foresight capacity, independence, connectivity and interdependence, collaboration capacity, agility, adaptability, self-organization, creativity and innovation, efficiency, and equity (Sharifi and Yamagata, 2016). This index is divided into 5 main areas: economic, social, government and institutions, infrastructures, materials and environmental resources, each divided into different criteria. For the final evaluation, resilience matrices should be used, as proposed by Fox-Lent et al. (2015), using both qualitative and quantitative indicators.

Model by Suárez et al. (2016)

The last model taken into consideration is the one of Suárez et al., which identify 5 factors of urban resilience: diversity, modularity, tightness of feedbacks, social cohesion, and innovation. This model uses very accurate information, and proposes an assessment of progress based on Local Agenda 21, while ranking Spanish cities in accordance to it and the progress they made.

2.2 Models elaborated by private companies and organizations

In addition to the models developed by scholars, there are some models developed by private organizations or companies, which will be briefly introduced here.

City Index Resilience

Project created by Arup, a company of consultants and technicians specialized in design, architecture and engineering, supported by the Rockefeller Foundation. The CRI is part of the *100 Resilient Cities*, which aims to assess resilience and its progress. The definition of resilience adopted is as follows: *Urban Resilience is the capacity of individuals, communities, institutions, businesses, and systems within the city to survive, adapt, and grow to the point of chronic stresses and acute shocks they experience* (City Index Resilience, 2015). Seven key qualities are identified for a resilient system: *reflective*, constantly evolving, with its members applying the things learned in the past to future situations; *robust*, able to not be damaged in the event of a disaster; *redundant*, diversity; *resourceful*, being able to satisfy our needs no matter the condition; *flexible*; *inclusive*; *integrated*, the components of the system interact with each other (City Index Resilience, 2015). The dimensions taken into consideration are 4 -*Health and well-being, Economy and society, Infrastructure and environment, and Leadership and strategy*- each divided into three components, for a total of 52 indicators. By collecting data on the field, through interviews, group discussions and workshops, the index is compiled,

creating a quantitative and qualitative profile; but only 5 cities were used as a test (Conception, Liverpool, 55 Arusha, Hong Kong, Shimla).

New Zealand Resilience Organization

Another measurement index is the one of the New Zealand Resilience Organization, which focuses more on the community aspects, but the approach can be also applied to cities (Ilmola, 2016). The definition of reference for this project is that of McManus (2008): *resilience is a function of an organization's overall situation awareness, management of keystone vulnerabilities and adaptive capacity in a complex, dynamic and interconnected environment*. All scientific documentation has been produced by John Vargo, Erica Seville and Amy V. Lee from University of Canterbury. The analysed dimensions are 3, *networks, leadership & culture, change ready*, divided into 13 indicators. Data are collected via questionnaires.

Global X-Network

Global X-Network is an international group of researchers, which has recently revised its studies for the assessment of urban resilience (Ilmola, 2016). The starting definition used evaluates the analysis of resilience over time, and presents the 4 A: *awareness, adaptation, agility and active learning*. The analysed dimensions are 4: *operations, structure, planning, and resources*, each divided into 3 or 4 factors. The data are derived from pre-existing macro-parameters.

Resilience Alliance

Multidisciplinary research organization, it does not deal directly with urban resilience, but studies complex socio-ecological systems (Ilmola, 2016), and has not produced an index but a reference framework. The definition of reference is the one proposed by Holling in 1973. The research mainly takes place through workshops and historical statistics, since the idea behind this study is to understand how the system will evolve and how fast this change will take place.

2.3 Comparison between theoretical and private companies and organizations models

The indices for measuring urban resilience are not many, and some have not even been created for that purpose. Looking at those from the private organizations, it is possible to see that only one is born with the clear intention of evaluating urban resilience, while others can be adapted to this. The data used for the studies are in prevalence the ones already existing with the exclusion of the City Resilience Index and the New Zealand Resilience Or-

ganization, which opt for an approach mostly related to questionnaires and interviews. The framework proposed by Cutter et al., does not appear to be so rigorous and for this reason it allows total freedom, since the indicators have not been established, permitting it to be remodelled.

3. Method

The choice of Cutter et al. model is due to the fact that it presents 6 different dimensions – environmental, social, economic, institutional, infrastructural and community – each of them relevant when it comes to evaluating a city. The presence of social and community aspects, then, distinguished it, compared to other models, which are more related to infrastructure and engineering field.

The research was developed starting from a single case study, the Mariana disaster, with the intention of implementing the study of urban resilience, using the index as a starting point, where the dimensions are maintained while modifying the variables in order to make them universally applicable, suitable for other future researches.

The approach taken, the one considering the city as a Complex Adaptive System, in which there is no single equilibrium and each component of the system influences the others, has therefore impacted how the resilience will be assessed at the end of this work. Every single dimension will be analysed individually, even though it is clear that each one of them can influence the others with its trend; for this reason it is therefore preferred starting analysing the variables separately, and only later to carry out a total evaluation to see what the general trend is.

The collection of data and materials took place through secondary resources, through institutional sources, research institutes and scientific literature. While on the one hand this did not allow access to the places and direct testimonies of those involved, on the other hand it allowed to analyse different variables without the factor of perception of the individuals.

4. Case study

The case study analysed here is the one of Mariana, an event that shook Brazil and turned out to be one of the most serious environmental disasters ever occurred on the national territory. Although the Fundão dam broke out three years ago, the consequences of the disaster are still visible today, not only in the nearest areas but also hundreds of kilometres away.

Near Bento Rodrigues, a district of Mariana, stood a complex of three containment dams owned by Samarco S/A, a mining company controlled by Vale and BHP Billiton. Germano, Fundão and Santarém were the three dams that were used in the palletisation process of metals waste, but only the rupture of Fundão is responsible for the pollution that ensued. On 5 November 2015, during the afternoon, a collapse in the structure of the containment dam caused the flooding of Bento Rodrigues, causing 19 victims and the destruction of almost every house there.

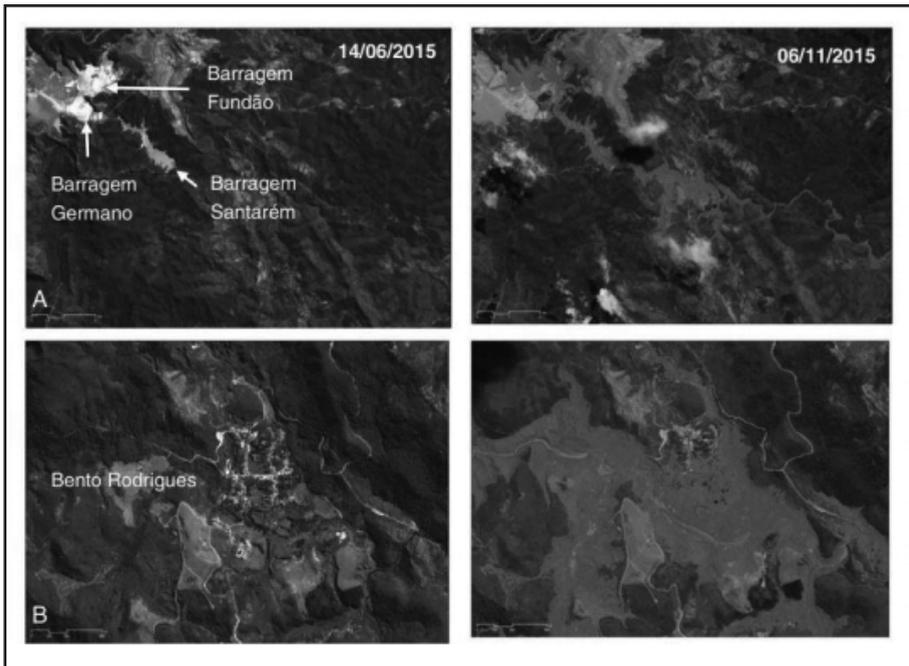


Fig. 1: Before and after the disaster Source: Agência Nacional de Águas, 2015.

How does the rupture of a single dam have caused one of the worst environmental damage in Brazilian history? Bento Rodrigues does not rise directly near the Rio Doce but, favoured by the sloping territory, the mud continued to move, until it reached Paracatu de Baixo and the rural districts of Mariana, and, almost 12 hours later, Barra Longa. The advance of that river of mud, however, did not stop there and was able to get into two rivers, Rio Gualaxo do Norte and the Rio Carmo, tributaries of the main one, filling them with the waste material.

The Rio Doce was therefore polluted by its tributaries. When the mud reached this river still it was not possible to stop the diffusion of waste materials: with a total length of 853 km divided into two States, Minas Gerais and

Espirito Santo, the Rio Doce waters, banks and bed had been contaminated. Due to its length, only on 22 November the residues reached the mouth of the river, at the beach of Regência, Linhares (ES) and then entered the ocean, a total of 17 days after the rupture of the dam.

Cities, small villages and indigenous communities along the river have been severely affected by this disaster; *Justiça Global*, an NGO focused on human rights, estimates that 2 million people have suffered repercussions from the rupture of the dam. The water present in the dam basin contained amines, an organic compound used in the mining industry for the palletisation process, which is basic, altering the pH of the water. The Superintendence of Water Resources Planning (*Superintendência de Planejamento de Recursos Hídricos*) found levels above the limits of Iron, Manganese, Arsenio, Cadmium, Mercury and Nickel.

Even the vegetation suffered serious damages, since the presence of mineral elements and amines is not only polluting for the water but also for the soil, as it is corrosive and toxic (da Silva, Carvalho Ferreira and Scotti, 2016). Along the river there is the State Park of Rio Doce, one of the conservation areas of the *Mata Atlântica*, a particular forest typical of South America. From data obtained by Pinto-Coelho (2016), 1,469 hectares of land have been lost along the river.

The animal species that populated the river also suffered some consequences. Already a few days after the break of the dam, tons of river fishes have been found dead in its waters. In addition to this, some species, relying on the river for their food, have seen their environment damaged and polluted.

The lack of access to water has proved to be a problem faced by many families, from those in the cities, to those that produced agricultural products for their livelihood. The indigenous community of the Krenak has seen in the pollution of the waters a brake to the traditional activities of the community, putting at risk their lifestyle.

Samarco itself had to block its activities, leaving its workers and all those small companies that depended on them without employment. The industries whose production relies on the use of water, such as the paper industry, for cellulose whitening processes, suspended their activities, as well as hydroelectric plants, worried about residuals damaging the turbines. Fishing activities have been interrupted, just as tourism has suffered a severe arrest.

Only in 2016 there was a development with the signature of the Treaty of Transition and Adjustment of Conduct (*Termo de Transação and de Ajustamento de Conduta*, TTAC), subscribed by the Brazilian Institute of Environment (*Instituto Brasileiro do Meio Ambiente*, IBAMA), the Chico Mendes Institute for the Conservation of Biodiversity (*Instituto Chico Mendes de Conservação da Biodiversidade*, ICMBIO), the National Water Agency

(*Agência Nacional de Águas*, ANA), the National Department of Mineral Production (*Departamento Nacional de Produção Mineral*, DNPM), the National Foundation of the Indians (*Fundação Nacional do Índio*, FUNAI), Minas Gerais State, the State Institute of Forests (*Instituto Estadual de Florestas*, IEF), the Mining Institute of Water Management (*Instituto Mineiro de Gestão de Águas*, IGAM), the State Foundation for the Environment and Water Resources (*Instituto Estadual de Meio Ambiente e Recursos Hídricos*, IEMA), the Institute of Agricultural and Forestry Defense of Espírito Santo (*Instituto de Defesa Agropecuária e Florestal do Espírito Santo*, IDAF), the State Water Resources Agency (*Agência Estadual de Recursos Hídricos*, AGERH), Samarco Mineração S/A, Vale S/A and BHP Billiton Brasil LTDA.

Another actor who subsequently came into the spotlight was the Renova Foundation, whose birth dates back to March 2016, and its aim is to follow the recovery and restoration activities, as well as the granting of compensation to those who had been involved in the disaster. Already in September of the same year the Mediated Compensation Program (*Programa de Indenização Mediada*, PIM) was launched, through which the victims could request compensation, decided unilaterally by the foundation and the mining companies, in exchange for renouncing to future legal actions. The Foundation has also engaged in environmental cleaning, water monitoring and flora restoration. In addition to this, it also follows the reconstruction of the infrastructure damaged by the mud.

5. Index and variables

As it has been said, the model that was chosen to be the base of this research is the one of Cutter et al. (2008), where the six dimensions were kept but changes were made to the variables.

In the ecological dimension, ample space was given to the environmental assessment that surrounds the city; to the risk factors; to pollution, which effects can last over time and to the legislative aspect to be referred to in case environmental crimes occur. The social dimension presents only two variables, focusing more on the demographic aspect since inequality will then be resumed in the community dimension. City economy and employment are the two variables in the economic dimension, which, in this specific case, are closely related since there is only one big company in one sector. The institutional dimension instead considers the presence of risk reduction programs, at every level, and focuses its attention on the civil protection system that has been established and on one aspect that weakens the institutions, corruption. From an infrastructural point of view the division of the city, between the industrial and the residential area, and who the municipality is connected

through the road system are the two variables considered. Finally, in the community dimension, 5 variables were selected: education at all level; health, considering infrastructures and availability of doctors; inequality; security and risk understanding by the population.

Main dimensions	Variables
Ecological	Environmental assessment Biodiversity Risk factors Laws for protection of the environment Pollution
Social	Demography Inequalities
Economic	City economy Employment
Institutional	Risk Reduction program <i>Defesa Civil</i> Corruption
Infrastructural	Transports Accommodations and industries
Community	Education Health Inequalities Security Risk comprehension

Tab. 1: Urban Resilience Index, adapted from the Cutter et al. (2008) index.

5.1 Ecological dimension

Environmental assessment

Regarding the environment where the municipality of Mariana rises, it is important to underline how geomorphology of the territory is a crucial factor that can influence positively or negatively, according to the conditions and the intensity of the crises. The city, in fact, stands on a territory which altitude varies between 500 and 1,400 meters, and in which are present numerous waterways. The city is located in an area characterized by the presence of the *Mata Atlântica*, in which there are a State park (*Parque Estadual do Itacol-*

mi), a municipal park (*Parque Municipal da Estância Ecológica do Cruzeiro*) and a protected area (*Área de Proteção Ambiental do Seminário Menor*).

Biodiversity

Brazil is one of the countries with the greatest biodiversity, which is endangered by human activities such as deforestation and over-exploitation of resources, from fishing to industrial pollution, to the introduction of invasive plants that have proceeded to supplant many of the local ones. The Ministry of *Meio Ambiental*, (MMA), compiling an index of biodiversity conservation, put Minas Gerais at the 21st place out of 27.

Risk Factors

In this variable we wanted to include all those features that could be a risk for the city life, considering external and internal factors, as environmental and industrial ones. The area is mountainous and rich in rivers, which create a problem of flooding, especially during the rainy season; this phenomenon is the opposite of drought, which equally affects the area, for example the year after the dam rupture was the lowest level ever reached by the Rio Doce. Another risk factor for the city is the presence of a large industry like the Samarco. Although the activity does not take place in the immediate vicinity of the urban centre, the damages caused by the events in 2015 are still visible, and, making a comparison with a similar dam incident, occurred in Itabirito (MG) in the 80s, a decade could be the time that could take to proceed in cleaning and restoring the environment.

Laws for Environment

The presence of laws by itself is not a very reliable variable because, in addition to their presence, the laws should be applied. Cavalcanti (2004) estimates that the country is moving at two speeds on this issue: modernity of legislation against a delay in the effective application, in order to the economic interests to prevail. One of the first laws issued in the 1960s concerned the protection of forests, followed later in 1999 by the one that introduced administrative and criminal offenses for illicit acts against the environment. Taking inspiration from the Clean Air Act and the National Pollutant Discharge System Permit Program created in North America in 1981, a system, called *Licenciatura Ambiental*, was introduced for licensing in projects involving exploitation of natural or dangerous resources. The process presents the involvement of a Council, in which all the parties involved should be represented, including civil society, and public hearings to promote collective participation, but Zhouri (2008) notes that there is a lack of transparency and communication. Councils may also arise at the municipal level, but if the

project involves a considerable risk, its approval must be given at other levels, State or federal, as happened in the case of Mariana.

Pollution

The dam complex has been assessed as high polluting potential, with the possibility of wide diffusion in the event of an accident; yet immediately after the collapse the measures to reduce the spread of pollutants have been ineffective, since it was impossible to block the mud via floating systems, without intervening on the river bed, in which metal residues were deposited, and their presence is harmful to humans, animals and crops. This pollution has not only occurred near Mariana but is widespread throughout the river, up to its mouth. In 2017, Greenpeace published a report in which are recorded the effects on the health of the inhabitants, such as depression, skin allergies, itching, respiratory allergies, rhinitis, insomnia, anxiety and headaches.

5.2 Social dimension

Demography

According to estimates of the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*, IBGE) in 2017 the municipality of Mariana should have reached 59,857 inhabitants, with a density of 45.40 inhabitants per m², twice the national one. The city population is young, considering that 75% of it is under 45 years of age (IBGE, 2010). Data from the United Nations Development Program have seen an increase in life expectancy, 77.4 years (latest data available 2010). Child mortality has fallen to 11.8 deaths per 1,000 children, as well as mortality for children up to 5 years reached 13.8 per 1,000 children, with a fertility rate of 1.7 children per woman. Population growth data, available from the IBGE for the entire region, show an annual growth rate of 1.4. As for the net migration rate, the only data available are those of UNICEF, which show that in the period 2010-2015 the rate was -0.19, so the number of immigrants is slightly lower than that of emigrants.

Brazil is a multi-ethnic society, so the 2010 IBGE census proposes a differentiation based on colour or race. In the municipality territory, the *parda*¹ population appears predominant, representing about 50% of the total, followed by whites and blacks. The *amarela*², almost 3% of the whole municipal

¹ “Pardo” is a term used by IBGE for identifying a colour skin/ethnic category in the Brazilian census. It is often used to refer to Brazilians of mixed ethnical ancestries, but there is no specific colour or background – a mix between white, afro, Asian and Native Brazilians.

² According to IBGE, *amarela* can be defined the population with Asian ancestry.

inhabitants, and Indian population, with only 186 members, are the minorities.

Inequalities

Inequalities are a major obstacle that is affecting Brazilian society. The main focus will be given in the community dimension, however it is important to highlight how, in the recent years, the progresses that had been made disappeared, while the Country is living a social and political crisis. Medeiros (2016) underlines how, reducing the numbers of people living in poverty, the inequalities between poor and rich people did not decreased, but instead increased.

5.3 Economic dimension

City Economy

The State of Minas Gerais is known for the extraction and processing of metals and precious stones; in the data released by Simonato, Magalhães and Domingues (2017) taken from the Financial Compensation for the Exploration of Mineral Resources (*Compensação Financeira pela Exploração de Recursos Minerais*, CFEM), referring to the year 2015, between January and October, Mariana was the first producer with a total extraction operations equal to 5,072,693,352 R\$. The workers related to mining activities were almost 6,000, making this sector the first for employment, but the halt of activities due to the rupture of the dam has blocked any activity, leaving many without jobs. The other commercial activities are of minor importance, and not even the tourism sector records large numbers, lacking of accommodation facilities in the city (Cymbalista and Cardoso, 2009).

Employment

As mentioned in the previous paragraph, the mining industry is the main industry in the area, it also follows that, since the activity was blocked, the situation has changed, leaving many unemployed. In 2017, from the data of the General Census of Employed and Unemployed (*Cadastro Geral de Empregados and Desempregados*, CAGED), it emerges that 23% of the population does not have a job; compared to the previous year's projection, 4 thousand more are unemployed.

5.4 Institutional dimension

Risk Reduction Programmes

Brazil is a federal republic, for this reason we must distinguish between initiatives undertaken at federal, state, regional and municipal levels. At the federal level, the National Week of Disaster Reduction (*Semana Nacional de Redução de Desastres*) is planned to increase the perception of citizens' risk, but is declined differently depending on the country. At the state level there are some plans: against the fires and the rains. At city level there is a SMS system to alert residents and the Facebook page of *Defesa Civil* where information on climate warnings and behaviours to be kept are posted. Internationally, there is a cooperation between Minas Gerais and the Aichi Province, Japan for exchanges of experience and materials, with seminars and interchange of specialists, researchers and operatives.

Defesa Civil

The responsibilities for disaster prevention, response and recovery are on multiple levels, since the obligations could be found for the State entities, the federal districts and the municipalities. At municipal level the COMPDEC (Municipal Coordination and Civil Defense Coordination) centralizes the operations of the SINPDEC (National System of Protection and *Defesa Civil*) and contributes to the planning, coordination and execution of programs and projects, identifying risks at the municipal level. The community is called to participate as it can be organized in Community Centers of Protection and *Defesa Civil* (*Núcleo Comunitário de Proteção and Defesa Civil*, NUPDEC) to assist the activities of the COMPDEC.

Corruption

Corruption has always proved to be an obstacle to growth, influencing negatively the lives of those who have to reside there. It was the corruption scandal that kicked off the political crisis that has hit the country in recent times. Transparency International positions Brazil in 96th position in 2017. The Federation of Industries of the São Paulo State calculates an annual loss from 1.38 to 2.3% of GDP due to corruption. Small towns are not excluded from this, in fact in 2016 the Secretary of Government and Institutional Relations of Mariana was arrested. At the municipal level, however, an attempt was made to give an image of transparency through the publication on the municipal website of acts relating to wages, services of suppliers and property. Parliamentary commissions have been created in order to investigate the disaster but, as it was discovered by different newspapers (G1, Uol Notícias), various members had received money for their electoral campaigns from the

Vale group; although legal, this behaviour undermines the trust that inhabitants can have on their institutions.

5.5 Infrastructural dimension

Transport

The railway network, in the Minas Gerais State, is managed by MRS Logística S/A, Centro-Atlântica S/A and Vale S/A, the mining company that owns part of the Samarco shares. A train station is present in Mariana but there is only one route to Ouro Preto, which is used mainly as a touristic attraction. The *Departamento de Edificações e Estradas de Rodagem* of Minas Gerais handles more than 27.000 km of roads in the State, and has jurisdiction on toll roads and State roads. The maintenance and the intervention are done all over the year, but more often during the rainy season, because sections of the roads are closed as a precaution or for landslides. Private bus companies guarantee daily services for other cities nearby.

Accommodation and Industries

The latest data on the housing situation in Mariana date back to the 2010 IBGE census, where particular permanent domicile³ or collective⁴ ones are registered. The vision is not complete because are missing all of those who live in buildings whose use has been modified, such as commercial ones, those outside the urban area and those who do not own a house. From the data emerge 14,242 houses, 100 collective houses, with an average of inhabitants by domicile of 3.40. After the rupture of the dam, however, there was a noticeable change since all those who had lost their homes had to be relocated: some enjoy Samarco's support by receiving money, housing and compensation, while others have to rely completely on the city social services. The most developed industry is the mining one, which however does not rise in the city but in its vicinity. There are no other industries with such polluting potential in the area.

³According to IBGE: "It is the domicile that was built in order to serve exclusively for housing and, at the reference date, was intended to serve as a dwelling for one or more people".

⁴According to IBGE: "It is an institution or establishment where the relationship between the persons resident or not, at the reference date, was restricted to rules of administrative subordination. Types of collective domicile are: asylums, orphanages, convents and the like; hotels, motels, campsites, pensions and the like; housing of workers or students, student republic (institution); penitentiary, prison or house of detention; and others (barracks, military posts, hospitalized hospitals and clinics)".

5.6 Community dimension

Education

In Mariana there are 71 schools, of which 44 are municipal, 13 are state and 14 are private; the number of teachers, excluding university ones, exceeds 900 units. IBGE records a steady decrease in enrolment in high schools and universities, while there is an increase in enrolment in compulsory schools, a trend recorded from 2009 to 2015, the latest data available. 10.2% of the population is illiterate (IBGE, 2010), but a plan has been presented at the municipal level to eliminate illiteracy.

Health

35 Health Assistance Establishments have been registered (*Estabelecimentos de Assistência a Saúde*) (IBGE, 2010), which classifies all public and private institutions and/or companies dedicated to the health of individuals. In 2016, the municipality took part in the federal program “*Mais Médicos*”, “More Doctors” to receive Brazilian or foreign doctors in order to provide basic assistance. After the dam collapse, cases of diarrhoea, skin allergies, depression, tremor, renal dysfunction or pneumonitis were recorded (Greepeace, 2017), which could be a consequence of the release of heavy metals into the environment (Duruibe, Ogwuegbu, Egwurugwu, 2007; Verma and Dwivedi, 2013; McCluggage, 1991), but it is still early to evaluate the phenomenon.

Inequalities

Here the theme of inequality is taken up again, being a problem that can influence a possible return to normality after the disaster. The theme of poverty reduction has always been one of the cornerstones of the government, as when Lula established in 2003 the *Bolsa Família* program with the aim of providing monthly payments to families who meet certain conditions, such as school attendance of children, vaccinations and growth monitoring of the children. The program is set up at the federal level but it is up to the municipalities to identify, monitor and manage the monthly distribution: if we look at the 2015 data, Minas Gerais received 1,968,423,470 R\$, of which 8,422,925 R\$ to Mariana, divided into 46,217 payments.

Security

Insecurity turn out to be a sensitive theme now in Brazil, since the last statistics produced by the Brazilian Forum of Public Security (*Fórum Brasileiro de Segurança Pública*) show that in 2016 the number of violent intentional deaths reached the extremely high number of 61.158 people. If we look at the data given by the Ministry of Health, with its System of Information on

Mortality (*Sistema de Informação sobre Mortalidade*), the average number of the homicides in Mariana is 27 per month, about 320 per year. To cope with insecurity, the prefecture has increased the number of patrolling agents during the whole day, trying to assure a 24/7 control.

Risk Comprehension

The Brazilian government is engaged in promoting the National Week of Disaster Reduction, which differs from one State to another, to present information and prevention activities. At the State level, in 2016, the program More Resilient Minas (*Programa Minas Mais Resiliente*, MMR) was launched, with courses aimed at the improvement of more than 500 *Defesa Civil* operators, including municipal coordinators, firefighters and policemen. The *Defesa Civil* is promoting campaigns to inform citizens, including through its website. Only after the dam rupture took place a drill simulating an evacuation, in November 2017, where 11 communities of the municipalities of Mariana and Barra Longa participated, alongside with the local *Defesa Civil* and representatives of Samarco and *Fundação Renova*. Also the *Fundação Renova*, through its publications and its radio channel, as well as giving information on the reconstructions, provides information on possible risks and how these can be dealt with by the community, providing contact telephone numbers in case of emergency.

6. Focus on case study

Now we will proceed to evaluate the various dimensions that have been presented in the previous paragraphs, analysing them individually.

In the case of the environmental dimension the resilience capacity was influenced negatively by some variables, such as geomorphology, pollution, biodiversity, lack of laws application. The conformation of the territory, mainly mountainous, puts the population at risk because of the danger of landslides; on the other hand, we need to add that in the area there are plenty of rivers and streams, therefore at risk of flooding during the rainy season. The position of Samarco dam complex, which was located 2.7 km from Bento Rodrigues, in an elevated spot compared to the district, has facilitated the process of the mud descent.

Recovery measures have been going on in the last years but pollution has endangered the survival of many species living there, animals and plants. The Renova Foundation is engaged in recovery and compensation activities

but there are many voices against it, such as the *Atingidos por Barragens*⁵ movement, which disputes how the protests have not been taken into consideration or how the renunciation of consultations with their own lawyer is requested for those wishing to access to reparation. Also with regard to the pollution caused by the residues present in the waters of the dam, the timing for cleaning proved to be extremely slow: just think that, in the case of 1998 in Andalusia, Spain, already three days after the dam collapse a cleaning plan had been presented to the authorities, and after 12 months about 7 tons of material had been removed (Ginige, 2002; WWF, 2002). Of course, a similar case may not be repeatable, but the progress that took place in the first year was much lower, since the TTAC was signed only in 2016.

The measures taken against the companies involved in the management of the dam complex have resulted in fines, but, as reported by *El País*, in August 2017 only one out of 68 fines imposed had been started to be pay, corresponding to 1% of the total over R\$ 550 million. Just to make a comparison with another disaster, when in 2010 the oil spill occurred in the Gulf of Mexico, BP Petroleum had been fined for a total of \$ 18.7 billion.

Considering the demographic dimension, the assessment is not so negative, finding ourselves faced with a growing young population, whose problems relating to the overcoming of poverty are tackled at federal and municipal level through support programs.

The dependence of Mariana from the extractive industries has proved to be disastrous, since in its vicinity there is only one, the Samarco, which on the one hand has allowed the creation of many occupations, but on the other hand has also led to an increase in unemployment, once the mining operations have been halted, with negative repercussions also from those companies that earned thanks to extraction-related activities. The blocking of activities meant the loss of income for many families, which all of a sudden have had to rely on the subsidies of the Renova Foundation or the municipal social system. The dependence on a single industry, which could take years to recover at pre-disaster levels, contributes in slowing down the normalization process for the inhabitants, exacerbating the precarious situation of the economic sphere, which in turn contributes to worsening the other dimensions here analysed.

For strengthening urban resilience the institutional level must be able to act and react in case of an emergency, but Mariana is facing problems such

⁵The *Movimento dos Atingidos por Barragens* (MAB) started in the late 70s, during the period of military dictatorships. The movement at national level started only at the end of the 80s, as a political and popular movement to defend the environment and the populations affected by disasters linked to the dams.

as the lack of local risk reduction plans and the negative impact of corruption. At national level, there are plans for specific threats and yet only line guides are provided, while drills have been totally absent. The municipal *Defesa Civil* has not been able to deal with the disaster, having to resort to the national and regional level, since the mud has been pushed beyond the city limits into other municipalities and State.

Regarding corruption, the problem seems to be widespread at every level of the administration, from the federal to the municipal one, as suggested by the arrest of 2016. The seriousness of the problem, however, cannot be addressed only through secondary sources because it does not reflect the real measure of the phenomenon. It is clear, though, that this kind of issue can undermine the trust of the citizens in their institutions.

At the infrastructural level, the situation of Mariana related to transports is not so bad, having a good paved road network, even if the situation becomes precarious in some periods, particularly in the rainy season, which could cause landslides or disruption of the roads. The railway line operates with limitation, mainly for tourist transport; private bus lines connect the city to other centres daily.

The housing situation appears to be mostly positive, although the analysed data are not able to fully record all kinds of housing, considering only two. The area of Bento Rodrigues that had been hit, where almost all the houses had been destroyed, will be rebuilt, but, in a different place, about 10 km away. The division of the city between the inhabited part and the industrial zone is clear-cut, the main company, the Samarco, has its activities kilometres away.

The last aspect to be taken into consideration is the community dimension, which can only receive a negative evaluation of all its variables. Although there are many schools in the area, and the number of teachers is considerable, the level of illiteracy remains high at the municipal level, although there is a program to reduce it, and there is a reduction in the number of enrolments to secondary schools and universities. In terms of health, as also seen here, there is no shortage of facilities, but rather of doctors, which are recruited joining a federal program. In the long run, also, there may be negative consequences for the health of the inhabitants, caused by the pollution from heavy metals; to date there are no accurate studies on the symptomatology that is taking place.

Inequalities remain a serious problem at national level, even though national interventions have been able to significantly reduce the number of people below the poverty line. In the case of Mariana, the program, which is managed at the municipal level, has seen an increase in the number of people who have access to it, and on the government website it is possible to

see how much and how many times the money were given to a every single person who benefited.

Security remains a sensitive issue that affects the entire nation; in a city like Mariana, which certainly does not have the numbers of the great metropolis, the homicide rate is 1 per 156 inhabitants, without mentioning other crimes. The idea of increasing the frequency of patrols could reduce the incidence of delinquency but it should not be forgotten how not acting on the causes could also not give the desired effects in the long run.

Finally, on understanding the risk, it should immediately be underlined that there had not been large-scale education initiatives by the *Defesa Civil* before the disaster, as well as no drills have been carried out for the areas potentially at risk, or at least not before the rupture of the dam. At national level there are information campaigns and one week a year dedicated to risk reduction but the topics covered and the initiatives undertaken vary from one State to another, sometimes leaving part of the territory uncovered. Only recently the Renova Foundation has started to campaign for risk prevention and promote educational projects, but it is still a private entity that acts on a small territory.

By giving a final assessment, we can only state how the shortcomings and delays that have been previously presented have negatively affected urban resilience. Certainly, in some fields, such as the legislative one, it is clear that an intervention that exceeds the city level is necessary, but we must also consider how even minor interventions can positively influence some variables. The Safer Cities program of UN-Habitat is one example of this: ensuring the increase of city security through targeted interventions, one of these is the spread of street lighting in Nairobi (Mueke, 2014). In addition, a crime prevention approach is proposed, which, as suggested by Palmary (2001) tackle the issue with a problem-solving method, trying to identify the causes.

Prevention plans have certainly been lacking, but it remains true that these should be supported by trained personnel. The preparation, however, must not be limited to operatives, but should also be directed towards all those who wish to become volunteers, becoming an investment in the event of future crises. Their attendance has multiple advantages: they are present in the territory and already have strong ties with the inhabitants; moreover, this experience could act as a moment of union between different members of society, which usually do not come into contact, therefore increasing social cohesion.

7. Conclusions

The final evaluation that emerges on Mariana is therefore generally negative, even if we find ourselves faced with one of the most serious cases of

pollution in Brazil, the recovery has not yet taken place. Dimensions such as community, environmental, institutional or economic ones have shown that are not able to adapt quickly to the new condition, nor be able to overcome problems in the short and medium term, although it remains clear that changes are always possible.

In this study the aim was not just to present a variation to the index of Cutter et al., but include a broader analysis, presenting and then investigating the various variables considered, on a case study in an area that appears little considered, South America and Brazil, by foreign scholars.

Many of the measures that have been presented and implemented by local and national institutions appears to be simple remedies, too late, when the disaster already occurred, and to a fairly small extent. It emerges above all how the lack of involvement of civil society, the lack of preparation to react to an event of this magnitude and the lack of education about potential risks, have been a weak link that could have been avoided. Even if they had accurate and updated prevention plans, training and informing the population could have ensured a faster response to the emergency, but a simple preparation or knowledge about risks and countermeasures were lacking before the rupture.

Clearly a complex system presents numerous obstacles, first of all the presence of a large number of agents involved, but a solution to this problem could be in operating on several dimensions and levels at the same time, since the modalities of influence -both positive and negative- between agents have been underlined. The crucial actors in the city, communities and institutions, working in synergy, could make long-term improvement possible, which would also influence other dimensions, contributing to positive results in the field of urban resilience.

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- Resilient Organizations. <https://www.resorgs.org.nz/>
- Samarco. <http://www.samarco.com/>
- Serviço Geológico do Brasil – CPRM. <http://www.cprm.gov.br/>
- Transparency International. <https://www.transparency.org/>
- UNICEF. <https://www.unicef.org/>
- UNISDR. <https://www.unisdr.org/>
- Vale S/A. <http://www.vale.com/brasil/EN/Pages/default.aspx>
- World Bank. <http://www.worldbank.org/>

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