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## LESSONS LEARNED (AND TO BE LEARNED): LEARNING METHODOLOGIES AND INTELLIGENCE ANALYSIS TOOLS

This paper is focused on the effective interaction between intelligence and learned lessons methodology as a specific form of knowledge management for action in an organisation. Learning lessons is also proposed as a process included in the analytical and forecast capabilities by means of past exploitation. Although firstly based on the principles of military doctrine it may be applied to different areas of activity in public and private fields. A systematic study of cases in a timeline and the ways of learning should be applied to the continuous improvement of processes in all levels of a learning organization, including the own identity based on shared experience. It also reviews the concepts of projection, extrapolation and forecasting and their differences as proactive forms of intelligence. A final reflection is written on the increasing opportunity of specialization for intelligence analysts to the design and implementation of Units of Analysis and exploitation of Learned Lessons in public and private organisations to improve their competitiveness.

*Learned Lessons, Intelligence, Applied Knowledge, History of War, Intelligence Analysis, Information Exploitation, Knowledge Management, Learning Organisations*



## I. PAST AND FUTURE: IMPLICATIONS FOR INTELLIGENCE

The generation of new knowledge, tacit (know-how) or explicit (recorded and documented), underpins the learning process of all organisations. It has also been the compounded, traditional foundation of scientific evolution and revolution, as stated by Kuhn. A proactive learning process which, broadly speaking, is centred on three key functions: observing and compiling experiences, actions for changing how things are done and incorporation and fluid communication of these changes introduced into an organisation so that measurable benefits are obtained from such proactive learning. The art or science, depending on your viewpoint, of learning from past experience in an organised, regulated and pragmatic manner may be regarded as a relatively modern contribution. Its systematic and procedural nature certainly is. Far from constituting a modern practice, the interpretation and exploitation of lessons is embedded at the very core of History. If the above reflection were centred on military history, we would see that the compiling, organising and proactive application of experience gained through warfare has been inextricably linked to how the global history of conflict has evolved and the subsequent creation of a doctrine at each historical moment. In its context, and in each multiplicity of causes, circumstances, explanations and dimensions.

The purpose of this article is to offer a series of key points centred on a possible lessons learned methodology, acting as a guideline for analysis and forecasting, within so-called learning organisations<sup>1</sup>. In other words, those structures which base a large

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<sup>1</sup> SENGE, Peter, *The Fifth Discipline: The Art & Practice of The Learning Organization*, N. York [etc.]. Random House, 2006.

proportion of their proactive knowledge on the exploitation of continuous and shared learning at all levels within their structure. Through the tried and tested lessons offered by Centres for Army Lessons Learned, we would reach an initial proposal which could be applied to other ambits and organisations, both public and private, not purely military; thus promoting the application of hindsight for strategic purposes<sup>2</sup>.

To what extent is learning from past events an asset which can be exploited, reused or extrapolated in present or future situations? The systematic accumulation of cases is the foundation of the CALL (*Center for Army Lessons Learned*) institutions dedicated to drawing lessons learned for future purposes, by way of observed and systematised experiences which develop a synergy of historical, analytical and documentary capacities centred on that refined knowledge<sup>3</sup>. It is a fact that the answer has not always obtained consensus among experts. Brilliant military historians, such as Hew Strachan, have dedicated significant works to assessing the usefulness of military history and its “universal didactic application”<sup>4</sup>. From Clausewitz's original and critical conception (“On Historical Examples”) through to the treatises of Liddell Hart or Fuller, we arrive at modern authors such as Gary Sheffield<sup>5</sup> or Vincent Desportes<sup>6</sup> who put into perspective lessons learned from History when offering past models as seemingly pertinent examples for prospective decision making. More specifically, for the study of intelligence more than the history of war, recent syntheses such as those carried out by Timothy Walton have, through their choice of historical examples, vindicated the importance of retrospective study and its direct application to intelligence learning<sup>7</sup>. Studying the past is the first step towards identifying behaviour patterns along a diachronic timeline<sup>8</sup>. It is thus possible to perceive similar phenomena and their manifestations in each slice of time. Such knowledge even gives rise to specific informative products, such as Area Handbooks or Guidebooks from soldiers in hostile territory<sup>9</sup>. With History, we are able to select the

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2 NAVARRO BONILLA, Diego, *Inteligencia y análisis retrospectivo: lecciones de Historia y lecturas recomendadas*, Valencia, Tirant lo Blanch, 2012. In press.

3 CHUA A. and LAM Wing, “Center for army lessons learned: knowledge application process in the military”, *International Journal of Knowledge Management*, vol. 2, no. 2 April-June 2006, 69-82.

4 STRACHAN, Hew, *Ejércitos europeos y conducción de la guerra*, Madrid, Ejército, 1985, 27-38.

5 SHEFFIELD Gary, “Military Past, Military Present, Military Future: The Usefulness of Military History”, *Rusi Journal*, vol. 153, no. 3, 2008, 102-107.

6 DESPORTES Vincent, *Décider dans l'incertitude*, 2nd ed., Paris, Économica, 2007, 49-58.

7 WALTON Timothy, *Challenges in Intelligence Analysis: Lessons from 1300 BCE to the Present*, Cambridge University Press, 2010.

8 NAVARRO BONILLA Diego, “Historia de la Inteligencia”, in GONZÁLEZ CUSSAC José Luis (coord.), *Inteligencia*, Valencia, Tirant lo Blanch, 2012, 215-280.

9 For instance, during the war in Iraq, a bestseller was born through the republication of *Instructions for American Servicemen in Iraq during World War II*, United States Army, 1943. University Of Chicago Press, 2007.

most relevant facts. But, above all, “reorganise” them and assess the extent to which they may be used as an effective basis for future actions. With History, we also build a special mental capacity for overcoming difficulties and enhancing our adaptability and flexibility in regard to solutions, or “resiliency”, through the proactive use of case studies<sup>10</sup>. It thus contributes, though only partially, to the innovation which every organisation - especially armed forces - must carry out to address the shifting environments and contexts of war, affording their members a dynamic, open and flexible organisational configuration aimed at proactive, continuous adaptability. The interest in and irrefutable usefulness of studying history for intelligence purposes is less centred on identifying solutions from the past and more on building an innovative, open mind capable of understanding events from multiple perspectives. History thus fires the imagination, so vital for all good intelligence analysts; an issue which we shall address by following the accurate reflections of Stephen Marrin based on his study of the works of John Lewis Gaddis<sup>11</sup>.

Therein lies the core value of the retrospective analysis of events as far as a professional intelligence analyst is concerned: not so much in creating a list of perfectly adaptable solutions as whether we have a book of prescriptive responses or master formulas for situations that may arise (the “school solution” that John Keegan talks about)<sup>12</sup>. It is more to do with a special intellectual configuration of an analyst who builds up examples, observations and lessons in order to increase his capacity for analogy and linkage and thus achieve greater creativity for a flexible approach to solutions, rather than their rigid and direct application. The more examples he has and the greater his understanding of past events, the more “sensibility” he will have for interrelating and finding solutions. The study of military history, and of the intelligence employed at any given moment, acts as a source of inspiration and multiplying factor for the creative and innovative capacities, more so through analogy than direct application, of an analyst facing similar, or even dissimilar situations. This is the dynamic and creative “intelligent study of the past” so accurately proposed by José Luis Gómez Blanes through his comparative study of the works of Sumida (*Decoding Clausewitz*), Duggan (*Strategic Intuition*), Jones (*The Art of War in the Western World*) and Rommel (*Infantry Attacks*)<sup>13</sup>.

There is no need to debate that the acknowledgement of history - including military history - as a source of useful experiences and lessons is based on many 16th and 17th century *Re Militari* and *Re Politica* passages and treatises which vindicated the study of Classical literature for lesson learning purposes. Fray Juan de Santa María wrote in his *Christian policie: published for the good of kings and princes, and such as are in authoritie*

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<sup>10</sup> MURRAY, Williamson, *Military adaptation in war with fear of change*, Cambridge University Press, 2011.

<sup>11</sup> MARRIN, Stephen, “Adding value to the intelligence product”, in JOHNSON, Loch (ed.), *Handbook of Intelligence Studies*, N. York, Routledge, 2007, pp. 199-210. MARRIN, Stephen, *Improving Intelligence Analysis: Bridging The Gap Between Scholarship And Practice*, New York, Routledge, 2011.

<sup>12</sup> KEEGAN, John, *El rostro de la batalla*, Madrid, Ejército, 1990, 31.

<sup>13</sup> GÓMEZ BLANES, José Luis, “La auténtica revolución militar”, *Ejército*, 850, Jan-Feb. 2012, 24-30.

*under them*, (Lisbon, Antonio Álvarez, 1621) that it was very necessary “so kings may be alerted to the present and foresee the future, as he who does not neglect the past will rarely be caught unawares by the future; and he who delves into the past shall discover the newness of the present and even the truths that flatterers hide”.

The many aptitudes and capacities of any minister who strived to be judicious, competent and even respected had to include searching the past to find the warning, the teachings, the lesson learned that made them prudent and forewarned and thus clear away the present fog of ignorance. These days, many such historical teachings are frequently recovered through treatises, memoirs and breviaries that are applied to the business world, politics or any sphere of activity. It is thus easy to find on the shelves of newly released publications examples of recovered and exploited teachings in such diverse works as Cardinal Mazzarino's breviary for good political governance<sup>14</sup> or the identification of good practices in the innovative management of the Society of Jesus<sup>15</sup>, not to mention the everlasting Sun Tzu and his *Art of War*, constantly republished and repeatedly applied to business, sport and even personal relationships.

The perfect soldier, just like the perfect prince, had to prove his prudence, balance and foresight, whereby the systematic study of the good advice and bad moments of the past was an indispensable key for achieving excellence in leadership and in managing *res publica*. At least, obviously, from a theoretical point of view, as there was no shortage of criticism and observations towards too much reading and too little doing.

In the 18th century, the military revolution of the two previous centuries paved the way for a unique, enlightened scientific view on waging war. The study of the past gained ever greater momentum, with a pragmatic intentionality, not simply for scholarship's sake or a vain accumulation of data. Learning from past errors was promoted to the field of maxim and doctrine. It thus enabled the creation of major documentary projects centred on the so-called Depots of War, associated with the nascent General Staffs of Europe<sup>16</sup>. Such *Depots of Military Knowledge* were veritable libraries and specialised document collection hubs which began to appear in the late 18th century. They provided professional military officers with huge amounts of bibliographical data to allow the past to be merged with present teachings. To this day, learning from success and mistakes, in a sort of mass accumulation of examples, continues to build a highly effective marriage between history, documentation sciences and procedural analysis. This

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14 MAZZARINO Giulio, *Breviary For Politicians*, prefacio Umberto Eco, Barcelona, Random House Mondadori, 2007. There is also a version translated by Alejandra de Riquer, Barcelona, Acanalado, 2007.

15 LOWNY Chris, *El liderazgo al estilo de los jesuitas: las mejores prácticas de una compañía de 450 años que cambió el mundo*, Barcelona, Verticales de bolsillo, 2008.

16 NAVARRO BONILLA Diego, “Antecedentes históricos en la organización de la información y la documentación aplicada a la seguridad y la defensa de los estados”, *Anales de Documentación*, 10, 2007, 281-296.

systematic and continued compiling of useful examples was associated with the capacities of intelligence departments and services who renewed the Latin maxim that history teaches about life and experience. Delving into the origins of the asymmetry in combat, retrieving valid examples of how to exploit the geographical features of a given territory or acquiring greater knowledge on counter-insurgency operations in a given period and theatre of operations still enables many modern contributions<sup>17</sup>. It still has to be established whether, as Victor Davis Hanson argues, each conflict, each battle and each confrontation is actually just another chapter in a universal story of the means, characteristics and ways in which conflict has occurred throughout history. In other words, a *predictable continuum* in the history of warfare, in which only collateral elements would have evolved; but not the foundations regarded as permanent. With all due respect to the recently-deceased British historian John Keegan, who considered battles to be the minimum unit of study for military history, requiring its specific context, its particular features, its “face”, even while rejecting any “universal Higher Logic of War”.<sup>18</sup>

In contrast, knowledge of past wars establish parameters of what we can legitimately expect from new conflicts. The scale of logistics and the nature of technology changes, but themes, emotions, and rhetoric have remained constant over the centuries, and thus generally predictable [...] The instant communications of the twenty-first century may now compress decision making in ways undreamed of in the past. Contemporary generals must be skilled at giving news conferences that can influence the views of millions worldwide. Yet these are really just new wrinkles on the old creased face of war. The improvised explosive device versus the up-armoured Humvee is simply an updated take on the catapult versus the stonewall, or the harquebus versus the mailed knight. The long history of war suggests no static primacy of the defensive or the offensive. No law dictates one sort of weapon system over another, but just temporary advantages gained by particular strategies and technologies that go unanswered for a time by less adept adversaries<sup>19</sup>.

The learning of models, prototypes or patterns in order to incorporate them into better ways of creating value within an organisation draws from many other disciplines and areas of study and knowledge; facilitating critical, transversal and multidimensional thinking until an “omni-understanding” (often illusory) is reached through multiple viewpoints: “Proactive Intelligence aims to act upon or shape reality to avoid possible risks or threats”<sup>20</sup>.

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17 BECKETT Ian F.W. and John Pimiott, *Counter-Insurgency: lessons from History*, Pen & Sword, 2011. BENSANEL Nora and OLIKER Olga, *Security Force Assistance in Afghanistan: Identifying Lessons for future efforts*, Santa Monica, Rand Corporation, 2011.

18 KEEGAN, John, *El rostro de la batalla*, Madrid, Ejército, 1990, 32-33.

19 HANSON Víctor Davis, *Guerra: el origen de todo*, Madrid, Turner, 2011, 34-40.

20 SERRA DEL PINO Jordi, “Inteligencia proactiva”, *Inteligencia y seguridad: revista de análisis y prospectiva*, 10, 2011, 55-74.



“Though General Staffs have always tried to foresee the nature of future conflicts, the birth of the United States' TRADOC and the extension of this model to the armed forces of other countries led to the systematisation of foresight studies, intent on defining future scenarios for military deployment. They attempt to broaden the analysis of past conflicts (the main source of military thinking) with the help of other social sciences (demography, economics, geopolitics, etc.) in order to predict the nature of future combat as well as design and organise the type of armed forces best suited to them”<sup>21</sup>.

Despite the limited academic interest, sometimes even aversion, shown for decades by Military History in many countries, it is important to stress the enormous transcendence which this specialisation of History can offer to intelligence research:

The courses currently offered on Afghanistan and Iraq study the US geopolitical interests in regard to oil and the post-traumatic stress disorder suffered by veterans, instead of the heroism of the Marines at Faluya or the key factors behind General David Petraeus' success in quelling the radical Islamist insurgency in Baghdad. With these three examples, contemporary academics wish to teach lessons that are relevant today by focusing on the social aspects of wars involving the US which have traditionally been neglected. Yet they overlook the fact that today's students can be taught valuable lessons by learning why the Americans landed and fought in Normandy<sup>22</sup>.

A further connection inherent to this definition of lessons learned is their presence in military training programmes. It is not by chance that the study of military history has always been on the curriculum at academies. Back in 1957, Leopoldo R. Ornstein, Professor of Military History at the Argentine War College, highlighted in his treatise the studying, analysing and exploiting of lessons learned:

“The experience to be gained by studying Military History shall never come from contrived deductions, but from firm evidence which constitutes irrefutable truths. Must truths must be sought and to find them requires research into the causes in all phenomena under analysis, particularly in that which detracts from the sacred rules [...] It is in the contradictions which so frequently appear in war where the rich store of experiences lies hidden. This is what forces us to tackle, unswervingly, the comparative analysis of differentiation”<sup>23</sup>.

Must is said about the classic concept of revolution in military affairs. In reality, throughout the centuries we have been witness to decisive transformations in the methods for conducting, addressing and understanding war and its most basic aspects.

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21 FRÍAS SÁNCHEZ Carlos Javier, “Iraq y Afganistán: conflictos del pasado, ¿ejércitos del pasado?”, *Ejército*, 847, oct. 2011, 18.

22 HANSON Víctor Davis, *Matanza y cultura*, Madrid, Turner; Mexico, Fondo de Cultura Económica, 2006.

23 ORSTEIN Leopoldo, *El estudio de la Historia militar: bases para una metodología*, Buenos Aires, Círculo Militar, 1957, 345.



Whether because of the technological advances employed in each period, the real-time changes in communications or the training given to the ever more professional officers; or a combination thereof. The study of each military revolution resembles a progressive and accumulative *puzzle* and a continuous generation of overlapping types of war. The characteristics of conflict in History determined the transition from one military revolution to another, until we reached today's "asymmetrical warfare" studied by, among others, British General Rupert Smith in his decisive work *The Utility of Force*. Other experts, such as Van Creveld<sup>24</sup> or Anthony McIvor, have carefully analysed the changing nature of contemporary warfare and set the foundations of today's armed conflict paradigm<sup>25</sup>. This is how we progress from a transformation or revolution in military affairs, first studied by Michael Roberts, John Keegan or Geoffrey Parker<sup>26</sup> in the case of the Modern Age, to the contemporary Revolution in Military Affairs. This leads on to the Revolution in Intelligence (*RIA: Revolution in Intelligence Affaires*) first proposed by Deborah Barger<sup>27</sup> and, more recently, by William Lahneman<sup>28</sup>. And the next stage would be a further type of transformation described by Carmen A. Medina:<sup>29</sup> i.e., that specifically aimed at processes which fully engage the analyst's mind; making the analysis of intelligence and of critical lateral thinking an innovative solution, as argued by David T. Moore<sup>30</sup>. Be it revolution or transformation, as suggested by Len Scott and R. Gerald Hughes, we are facing an inevitable paradigm. Here, the intelligence factor, well exploited, integrally conceived and imaginatively updated, offers its greatest capacities as a preventive tool<sup>31</sup>. This is corroborated by the explicit statements in national security strategies (the Spanish national security strategy was approved in 2011).

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24 CREVELD Martin Van, *The changing Face of War: lessons of combat, from the Marne to Iraq*, N. York, Presidio Press, 2006.

25 MCIVOR Anthony, (ed.), *Rethinking the principles of war*, Annapolis, Naval Institute Press, 2005.

26 PARKER Geoffrey, *La revolución militar: innovación militar y apogeo de Occidente 1500-1800*, Madrid, Alianza, 2002.

27 BARGER Deborah, *Toward a Revolution in Intelligence Affairs*, Santa Monica, Rand Corporation, 2005.

28 LAHNEMAN William, *Keeping U.S Intelligence Effective: The Need for a Revolution in Intelligence Affairs*, Maryland, Scarecrow, 2011.

29 MEDINA Carmen A., "What to Do When Traditional Models fail: The Coming Revolution in Intelligence Analysis", *Studies in Intelligence*, Vol. 46, no. 3, 2002, 23-28.

30 MOORE, David T., *Sensemaking: A structure for an Intelligence Revolution*, Washington, National Defense Intelligence College, 2011.

31 SCOTT Len and HUGHES R. Gerald, "Intelligence, Crisis and Security: Lessons from History?", *Intelligence and National Security*, vol. 21 no. 5, 2006, 653-674. SCOTT Len and HUGHES R. Gerald, "Intelligence in the Twenty-First Century: Change and Continuity or Crisis and Transformation", *Intelligence and National Security*, vol. 24 no. 1, 2009, 6-25.

However, that *puzzle* contains pieces that are repeated and which are inherent to all periods. I consider information to be one of these essential, decisive and defining constants<sup>32</sup>. The excellence of new paradigms, a fresh approach both new and old problems, is always sought. The degree of innovation and change introduced by transformations or revolutions is not a factor. Because the validity of studying the context, the location in space and time and the extraction of new knowledge will remain in force. A clear example is sociocultural intelligence<sup>33</sup>. Having in-depth knowledge of the multiple historical factors that have been involved in configuring a language, an identity or a set of values and beliefs helps to enhance the process of identifying and exploiting lessons learned for the forces deployed.

## 2. CONCEPT, DOCTRINE AND DEFINITIONS

Within this context of changes and adaptations to the dynamics imposed by the shifting nature of the risks and threats to global security, methods, procedures and ways to enhance the quality of intelligence as an irreplaceable preventive tool are being taken up. One such method is the analysis of lessons learned.

As defined by the Spanish Army Training and Doctrine Command, a lesson learned is: “Knowledge which has been corroborated and sanctioned to the appropriate degree, drawn from the analysis of experiences in operations and exercises and which may be used to improve the organisation, preparation and deployment of the Army”<sup>34</sup>.

Whereas NATO defines them as: “people, things and activities related to the act of learning from experience to achieve improvements. The idea of LL in an organization is that through a formal approach to learning, individuals and the organization can reduce the risk of repeating mistakes and improve the chance that successes are repeated. In the military context, this means reduced operational risk, lower cost and improved operational effectiveness”<sup>35</sup>.

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32 JACKSON Peter and SCOTT Len, “The Study of Intelligence in Theory and Practice”, *Intelligence and National Security*, vol. 19, no. 2, 2004, 294-322.

33 PATTON Kerry, *Sociocultural Intelligence: A New Discipline in Intelligence Studies*, London, N. York, Continuum, 2010. DAVIS Karen D. (ed.), *Cultural Intelligence and Leadership: an introduction for Canadian Forces Leaders*, Kingston (Ontario), Canadian Defence Academy Press, 2009, IX.

34 Spain. Army. Training and Doctrine Command. Procedures for Lessons Learned. Technical Instruction 02/07.

35 NATO Joint Analysis and Lessons Learned Centre, *The NATO Lessons Learned Handbook*, 2nd ed., 2011; [http://www.jallc.nato.int/newsmedia/docs/Lessons\\_Learned\\_Handbook\\_2nd\\_edition.pdf](http://www.jallc.nato.int/newsmedia/docs/Lessons_Learned_Handbook_2nd_edition.pdf). Consultation date: 24.01.2012.

The systematic examination of the information available on a given subject includes the evolution of its characteristics, basic aspects, modifications, constants and analogies. Having such basic knowledge and keeping it updated is essential for developing a detailed viewpoint and improving forecasts and estimations.

The origin of a lesson learned lies in the positive assessment and assimilation of a lesson, whether it is favourable or not to the objectives of the organisation. If the lesson is positive, it should remain valid. If the lesson is unfavourable, it should be avoided and new methods or practices should be proposed. When can a Best Practice be said to have become a lesson learned? A best practice is an activity, a method or simply a way to resolve an issue through analysis; allowing it to be replicated in similar circumstances. A best practice, integrated into an organisation's tacit knowledge, should be turned into explicit knowledge through its documentation and incorporation into the organisation's list of positive experiences. It also requires updating, validation and verification. It must be regularly subjected to a learned-experience audit process to ensure that it indeed remains valid and its incorporation into the organisation's learning process effectively and quantifiably yields tangible or intangible benefits. In short, what proved useful once or N number of times for a specific circumstance does not guarantee it will always prove successful in the future.

Neither Intelligence analysis itself, nor an analyst as a professional specialised profile, should include among their tools the exploitation of such a knowledge base acquired over time concerning those subject matters which are of interest to the organisation. They should efficiently pursue its application to a short, medium or long-term future. It means converting this observed, accumulated, integrated, assessed and interpreted experience into a repository of useful, pertinent cases that are applicable to a future timeline. Because the analysis of intelligence and the analysis of lesson learned converge at a point leading to the common goal of generating new knowledge that reduces an organisation's uncertainty and improves its rate of continuous and shared learning.

A lesson comes from detailed observation of an event, an outcome or a method, which in turn provides isolated pieces of information. The observation of such events, regarded as unique learning objects (the common attack pattern of pirate skiffs in Puntland or the various types of IEDs on the roads of Helmand, Afghanistan, against those of Herat) paves the way for systematic compilation, treatment, assessment and interrelation. For each unique incident, a matrix is generated based on the breakdown of its defining parts, characteristics and traits. It involves applying a procedure for describing an observed event in detail by means of metadata, which act as information fields (to use the terminology employed by Documentary Sciences). The NATO Doctrine proposes a set of metadata for each observed event, acquiring standardisation through a markup language, a facility for inter-organisation knowledge resource integration. These include: **Date** of the observation, **Place**, position or location, **Name** of the operation, exercise or experiment, **Source** of origin: direct observation, interview, survey, **Impact**: critical, desirable, useful, **Frequency** of occurrence: frequent, occasional, rare, **Levels**: political, strategic, operational, tactic, etc. The list is even more extensive. Once again, the capacities accumulated by documentalists in the use and application of doc-

ument markup languages based on standards such as XML, mean that this professional profile becomes one of the most pertinent for conducting numerous tasks involving information management and organisation in the field of security and defence. Such standardisation is also a key factor for defining better semantic web projects or generating ontologies that improve an organisation's informational capacities<sup>36</sup>.

The tools employed by lessons learned analysts include advanced statistics, scenario simulation and mathematical models. Yet the added value of the work done by a lessons learned analyst lies in his or her capacity to put forward recommendations, changes and actions which fit the new teaching: innovation.

If the analyst is part of a structure which has incorporated the need to share knowledge through flexible, participatory networked models, a higher level of synergy is reached, based on cooperation through learning. Thus, collaborative networked tools such as wikis have shown their usefulness in exploiting lessons learned generated by intelligence analysts, as pointed out by Kristan J. Wheaton, of Mercyhurst University<sup>37</sup>.

To sum up, in my opinion a lesson learned is a desirable outcome of the systematic transformation of an observed experience into an effective, applicable solution. This is achieved through a process of retrospective analogy and comparison with similar cases as well as validation and projection to the future to gain new knowledge, which in turn enhances the quality of multiple processes within an organisation. A lesson learned reduces risk and uncertainty and the cost of inefficiency, thereby increasing efficiency. It is a sort of scientific learning from the past, recent or remote, based on systematic methods aimed at the future and at ongoing improvement. However, interest therein is not confined to the ambit of efficacy and efficiency. Indeed, it penetrates the internal cohesion of its members and even the pride of sharing an effective mark of identity that reveals its success through a shared past, exploited time and again.

### 3. FRAMEWORK AND PHASES OF A METHOD FOR ANALYSING LESSONS LEARNED

The exploitation of lessons learned is a method focused on identifying and selecting observations and cases. Below, critical analysis should enable the extraction of the lesson learned and the basis of its unique future usefulness. Specific events must be chosen and which are similar at different moments. They are then placed on an evolution timeline to allow them to be studied simultaneously and determine their degree of analogy or disparity. Once the relevance of the analogy has been confirmed, it can be incorporated into the doctrine or exemplary standards that guide decisionmaking

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36 SENSO, José Antonio, "Gestión del conocimiento y tecnologías semánticas en inteligencia y defensa", *Inteligencia y Seguridad: Revista de Análisis y Prospectiva*, no. 10, 2011, 29-53.

37 WHEATON Kristan J., *The Warning Solution: Intelligent Analysis in the Age of Information Overload*, Afcea, 2001.

in similar circumstances. Yet the search for historical analogies often brings up contrary effects and differing results: quoting Clausewitz when he put military history as a repository of teaching into perspective: “There are matters where a whole dozen of cases brought forward would prove nothing, if, for instance, they are facts of frequent occurrence. Therefore a dozen other cases with an opposite result might just as easily be brought forward”. So, what to do?

The search for the causes, the context of the circumstances - analogous or differing - contributes decisively towards understanding the phenomenon and deducing the corresponding experience, as affirmed by Ornstein. A comparative study of the likeness and differences of similar cases over time should reveal the following result:

- A. “those cases in which identical procedures were employed in similar situations produced the same results in different periods.
- B. Those cases in which “despite the likeness of situations and procedures, totally opposite outcomes were arrived at”.

In both, we can obtain lessons learned, positive and negative.

Critical comparative analysis is a method based on the systematic study of what was suitable at a given time to conclude whether it can be projected to the present or future and to what degree of relevance. Checking and contrasting the examples analysed is essential for determining the “possible future efficiency of a procedure verified on a single occasion”. And it is because this “must be subjected to repeated experiments proving that, under identical conditions, it also produced the same results in similar cases”. Such theoretical and intellectual verification is necessarily left to rest on the desk of military history until a new conflict arises, “since, in past contests, there are numerous examples which reveal such coincidences, though logically upholding the differences deriving from the diversity of periods, causes and concurrent circumstances”<sup>38</sup>. It is precisely these concurrent circumstances, grouped together in the “situational context”, which a lessons learned analyst must be able to identify and assess accurately. Because they are factors which alter and evolve an issue in one direction or another.

Nor must we forget that case study is a method widely used for research purposes in social sciences, particularly applicable to intelligence analysis. In order to thin out common patterns and help make inferences, as proposed by Sarah Miller and Randolph Pherson (2011) when they offered a rigorous twelve-chapter methodology which proves useful for analysts, covering from the assassination of Benazir Bhutto through to the rioting in Belgrade<sup>39</sup>. The techniques that analyse such cases range from the analysis of compared hypotheses - identified in a classic work by Robert Clark<sup>40</sup> - to

38 ORSTEIN Leopoldo, “op cit.” 331.

39 BEEBE Sarah Miller and PHERSON Randolph H., *Cases in Intelligence Analysis: Structured Analytic Techniques in Action*, CQ Press, 2011.

40 CLARK Robert M., *Intelligence Analysis: a Target-Centric Approach*, 3rd ed., Washington, CQPress, 2009.



the identification of simple scenarios or the *pre-mortem* analysis of Heuer and Pheson<sup>41</sup>. Hans Prunckun has also defended this *case study* methodology as part of the set of methods, techniques and knowledge required of an intelligence analyst:

Case studies are studies of single issues or problems and can be manifested in a person, a group, an incident, or an event. It is a systemic way of examining a problem extending beyond the use of a limited number of variables by providing an in-depth investigation into the target phenomena. Case studies can be single or multiple cases and need not be solely qualitative. Instead, they can use a quantitative paradigm or a mixed approach. This type of research design is well suited to strategic intelligence projects (see, for example, the case study into the 1986 Libyan air raid by the U.S. Air Force in retaliation of terrorist bombing in Europe targeting American Interests<sup>42</sup>.

Through the explicit proposals in the official NATO doctrine, the functions, skills and requirements needed by an official expert in learned lessons are determined<sup>43</sup>. Thus, his or her specialised training is updated in the courses currently offered within SWEDINT. For instance, the *NATO Lessons Learned Staff Officer Course* attempts to achieve these general learning goals:

#### **NATO Lessons Learned Staff Officer Course**

<http://www.forsvarsmakten.se/en/Swedish-Armed-Forces-International-Centre/Courses-at-SWEDINT/NATO-LL-SOC/>

Training official experts to manage a Lesson Learned process in the organisation; applying the training, process, tools and exchange of information. The course also teaches knowledge on organisational learning, observation, procurement, basic analysis and approval techniques, assignment and implementation of identified lessons before being validated as lessons learned.

1. Introducing the principles of knowledge management and organisational learning, as well as the role of lessons learned in such principles and the theory of innovation and use of scenarios.
2. The NATO Lessons Learned process: Principles, examples, tools, techniques and applications.
3. Elements supporting the capacities of lessons learned: developing an understanding of the support elements by way of doctrine, organisation, training, material, leadership, personnel and interoperability which allows the execution of the lessons learned process.
4. Examples of application and practical projects.

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41 HEUER Richards J. and PHERSON Randolph H., *Structured Analysis Techniques for Intelligence Analysis*, Washington, CQ Press, 2010.

42 PRUNCKUN Hank, *Handbook of Scientific Methods of Inquiry for Intelligence Analysis*, Maryland, Scarecrow, 2010, 57.

43 Lessons Learned Policy. Bi-Strategic Command (Bi-SC) Directive 80-6. Lessons Learned. Allied Command Operations (ACO) Directive 80-1.



<b>LESSONS LEARNED PROCESS PROPOSAL (adapted from the NATO-JALLC manual)</b>		
<b>PHASE</b>	<b>Task</b>	
1. Observation and compiling of experiences and practices	Collecting observed experiences and making them available to the organisation. Defining the content of each observation generically. A readily available standardised format is used. The result is a shared repository of experiences that may potentially become Lessons Learned.	
2. Analysis	Systematic study, detailed description (metadata) and breakdown of the observed experience to obtain a solution to a similar problem. Design and creation of a learning matrix. The task assigned to the central Intelligence Unit of the organisation/analysts. The head of the department/area where the experience originated study the experience jointly.	
3. Sanctioning as a Lesson Learned	3.1 Assessment 3.2 Extraction of a solution proposal 3.3 Validating/ Sanctioning the Lesson Learned	Transformation of experiences and practices into lessons learned. The experience is contrasted and it is confirmed not to be a result of chance by validating and assessing its relevance. This should all lead to a solution to the problem or exploitable synthesis for a future occasion which must be approved and which sanctions the Lesson Learned. This analysed, systematised and assessed experience will become the Lesson Learned once it has been sanctioned; i.e., when approved proposals for the analysed problems have been derived.
4. Dissemination	The lesson learned is published and made available to the organisation following the corresponding standardised format.	

5. Monitoring and auditing	<p>Verification that:</p> <ol style="list-style-type: none"> <li>a. The lesson learned has been correctly disseminated throughout the bodies involved.</li> <li>b. The result is based on efficiency and efficacy criteria, having the information and classification resources available with quality criteria.</li> <li>c. All phases of the cycle are developed under verifiable parameters and indicators.</li> <li>d. The indicators for gauging the success of the learning are applied to improve the results of the organisation.</li> </ol>
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#### 4. ORGANISATION APPLICATIONS: PROFILES AND PROFESSIONAL SPECIALISATION

The 2nd International Intelligence Conference (Carlos III University-Rey Juan Carlos University, Madrid, 22-24 November 2010) allowed an academic discussion forum to be held in Spain focused on intelligence as a scientific discipline; on “intelligence culture as an element for reflection and cooperation”. One of the conclusions focused on the need to contemplate the history of intelligence from a perspective relevant to the objective of this article:

The study of the history of its practice and of intelligence services must not only be regarded as an exercise of scholarly knowledge of the past. It must also allow us to understand the origin and nature of today's intelligence services, gain greater insight into our present and create a set of lessons learned that acts as a guideline for its practice and projects future interventions. The advancement of historical studies requires the international undertaking of a systematic repertory of the multiple sources of interest for such studies.

At this point, we should take a look at the definition and functions of such centres which, in the best tradition of 19th century military knowledge depots, are an updated version of analysis and knowledge generation environments for action and decisionmaking. In Lisbon, the *Joint Analysis and Lessons Learned Centre* (JALLC) has been operating for many years. In October 2010, it published its *Lessons Learned Handbook*, a work of reference for understanding the essential aspects of its activity based on learning from experience. And how this becomes a lever for change in manifestly outdated or inefficient models or practices.

The JALLC performs its functions in regard to joint analysis of operations, exercises and experiences in order to maintain a continuous supply of lessons learned and special-

ised knowledge within the Atlantic Alliance<sup>44</sup>. It has managed to create its own doctrine based on NATO's so-called lessons learned process. Analytical capacities are added to document management thanks to the *NATO Lessons Learned Database*, a truly interesting repository for identifying, exploiting and reusing positively sanctioned lessons from operations involving Allied armed forces. This database offers users a powerful tool based on analysis and readily available organised, described and archived results.

These lessons learned derive from undertaken, executed and resolved actions, through exercises, operations or experiments, which achieved certain results. Such results would be positive or suited to the initial approaches, otherwise negative and completely off-track. Between the two limits set by the extremes of success or failure, numerous intermediate stages arise whereby the experience shifts, offering and invaluable, informative flow of practices, methods and solutions. This reality, which has a long tradition of analysis and study in the military ambit, may serve as a foundation for its application to other areas of activity. Take the business world, for instance, in which learning from mistakes and success requires a precise model, well-founded methodology and a willingness to contemplate the accumulation of lessons as an essential exercise for generating new knowledge and making progressive, comprehensive and dynamic learning an attractive factor for decisionmaking based on time models.

Can the process for incorporating lessons learned into my organisation be collated, organised, analysed, regulated or calculated? It can and it must. Moreover, aware of the value afforded by the dynamisation of professional profiles which can be re-adapted to knowledge exploitation environments within public or private organisations, the following question arises: Who can run a Lessons Learned Analysis programme? What profile from within an organisation can form part of this work methodology? Anyone within an organisation, providing that their work contributes - through observations and critical input - towards the understanding of specific actions in order to offer lessons through analogy, study and improvement. Active participation creates corporate networking that provides - in an ongoing, natural manner - a set of experiences which, once the identification process has been initiated, can become lessons learned. It is ultimately about showing that they indeed add value to the organisation by offering employees its own vision of successful cases. But this must be done by planning and systematising the exploitation of past events, the observations thereof and their transformation into Lessons Learned as a specific category of knowledge resources available to the organisation's strategic management.

The traditional “employee suggestion box” has been systematised at many companies, aimed at greater employee participation leading to a more transversal, horizontal and collaborative organisation. Their comments, proposals and observations have often reduced costs in the different areas of the value and business chains, thereby

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44 *Joint Analysis Handbook*, 3rd ed. Monsanto, Lisbon, Portugal, Joint Analysis and Lessons Learned Centre 2007; [http://www.jallc.nato.int/newsmedia/docs/Joint\\_Analysis\\_Handbook\\_3rd\\_edition.pdf](http://www.jallc.nato.int/newsmedia/docs/Joint_Analysis_Handbook_3rd_edition.pdf). Consultation date: 21.01.2012.

revalidating the trend towards the transversal exploitation of the capacities of an organisation in which all its constituent parts have their own voice and importance.

I propose that each organisation should have its own lessons learned plan. Alongside the vital document safekeeping plan, the disaster prevention plan, or the strategic communication plan, lessons learned should be incorporated into the so-called intelligent plans. In all of these, information, its protection and proactive exploitation for improving the organisation's competitive and innovative position make up an informational asset of the highest order.

Thus, all employees become sensors of good and bad practices and would feed back - in a standardised manner and in a fully controlled language - their knowledge, their observations and criticisms oriented towards continual improvement. The lessons learned repository would thus be enriched through contributions from all concerned, regardless of their position within the organisation, thereby making it more flexible and participatory. The incorporation of Semantic Web capacities would surpass the mere accumulation of experiences by offering a highly interesting result based on continual learning and the creation of new meanings for each lesson in its context and interrelation with others.

The management and exploitation of lessons learned would be entrusted to the organisation's intelligence departments. In all of this plan, the archive professional or documentalist, capable of offering numerous solutions to tasks relating to the management, organisation and exploitation of information, must play a vital role. To convert the repository, as well as all tacit and explicit knowledge resources handled by the institution, into a result which has added value. Uploading into the integrated system all satisfactorily resolved experiences may be somewhat reminiscent of the large files belonging to chess players. There, the systematic study of the moves, the circumstances and the way in which they were resolved offers an accumulation of lessons learned that is of great importance for fine tuning the next move.

The tasks of lessons learned analysts, as workers dealing with retrospective, specialised and sectorial knowledge in very specific areas within an organisation, respond to a very precise systematisation which achieves a high degree of efficiency and efficacy when the results of their work are applied to higher processes of decisionmaking and proactive exploitation.

## **5. ANALYSIS AND FORESIGHT: CONCERNING THE CONCEPT OF PROJECTION AND EXTRAPOLATION**

To what extent can an observed, identified and analysed past event, even one that has been incorporated into our repository of lessons learned, offer up an accurate solution to a present or future problem? This reflection leads directly on to prediction and foresight techniques, under the umbrella of the so-called future studies. In this

respect, it is appropriate to recall the reflection on the concepts of extrapolation, projection and prediction made by Robert M. Clark in his treatise<sup>45</sup>. As he stressed, “the value of a prediction lies in the assessment of the forces that will shape future events and the state of the target model”. Along with extrapolation, the other two foresight approaches are projection and prediction.

An extrapolation is an affirmation of what is expected to occur, based solely on observations of the past. Initially, one might think that the systematic study of the history of intelligence, the patient observation of events and their formalised study would offer a rough framework of what may occur. Yet, as Clark points out, pure and simple extrapolation is the most basic predictive method, and also the most conservative. As well as the most limited and risky. It is generally useful in the short-term. Whereas it is assumed that the forces (the concurrent circumstances mentioned above) acting upon the target do not change suddenly, but gradually and with inertia. Something which, naturally, always requires many interpretations.

Projection, on the other hand, is more reliable: it encompasses a more extensive period and is based on one essential principle: the forces that have thus far been acting upon a past event will irreversibly change in the near or distant future. Projection includes two analytical techniques, both qualitative: synoptic/analytic and probabilistic reasoning. It is here where the generation of alternatives and of scenarios regarding the future evolution of an event becomes a fundamental task for the work of an analyst. And also where the application of influence tree and influence network techniques makes sense, along with correlation, regression, likelihood estimates and sensitivity analysis.

Finally, foresight attempts to provide predictive answers regarding the evolution of a future occurrence. Particularly taking into account the dynamic forces (not static forces such as inertia) which, inadvertently, act upon the model. That is: the determining factors which will somehow modify the reality of an event. Foresight, as we often say, paints futures. Moreover, foresight requires analytical tools and professional profiles (analysts) that understand a problem through differing and complementary disciplines; and from a transversal, critical and non-linear perspective. Having reached this point, it does not seem superfluous to include three final reflections by Clark in regard to foresight: 1. It does not predict the future, but it can reduce uncertainty to statistically reasonable levels. 2. Foresight will fail if it does not incorporate transversal elements (demography, values, cultural ways and beliefs, technology or economics), and 3. “Alternative futures” are defined by human judgement, creativity and imagination.

## CONCLUSIONS

1. A lesson learned is a type of knowledge generated as a result of a methodology based on systematic observation of past events for continual improvement and learning purposes. It is not merely a scholarly accumulation of useful examples, nor simply a guarantee of rigid and applicable solutions. Its proven validity

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45 CLARK Robert M., “op cit.”.

forces it to be inevitably oriented towards action, in terms of changes to the way things are done and the improvement of many processes within an organisation. It thus becomes a lever for innovation and creativity for improvement through knowledge and analysis.

2. It is likewise a fundamental part of information and knowledge management subsystems incorporated into the intellectual capital of the organisation and unequivocally help to strengthen its organisational learning. Creating them and, above all, sharing them internally and defending them (communicating them) makes an organisation stronger.
3. All organisations, regardless of their structure (hierarchical, horizontal, networked), their purpose, their information flows or functions, increase their levels of improvement, innovation, competitiveness and positioning by designing and executing their own lessons learned plan incorporating analysis experts.
4. The link between lessons learned analysis and intelligence analysis places their professionals in a privileged position for undertaking numerous tasks that make retrospective study a competitive improvement via systematic learning of their successes and mistakes.
5. The traditional use of tacit and explicit knowledge within an organisation leads to a synergy of areas and actions based on information. Thus, the interaction between an organisation's archives (custodian and guarantor of its institutional history, its rights and its position), the department of competitive intelligence and lessons learned experts boost the capacities for continual shared improvement of the types of generated, accumulated, organised, assessed, analysed and exploited knowledge.
6. I regard as a commitment to the future the incorporation of units of lessons learned analysis into public and private organisations to achieve their purposes and goals, based on the continuous, standardised and updated recording of their experiences transformed into knowledge of proven usefulness.
7. The synergy between plans and information subsystems within a single organisation strengthens its level of competitiveness and innovation, at the same time as it affords greater flexibility and capacity to adapt to the risks, threats and opportunities that arise. The lessons learned plan should be one of the most active subsystems in those objectives relating to organisational "resilience" and adaptability.
8. Finally, a learning organisation that develops its own lessons learned subsystem reinforces its corporate identity by underlining the value of common experience and the improvement of the entity as a whole, not only through the successes enjoyed by all its members, but rather, and even more importantly, through mistakes in order to achieve continual, shared improvement. All departments, divisions and units that make up an organisation thus find in the



management of lessons learned an element that further unifies the organisation's culture and values. Lessons learned reinforce identity and the pride of making improvements through continuous effort and specialised knowledge. Something which institutional communication departments can also use for their corporate brand reinforcement objectives.

## BIBLIOGRAPHY

- ALLIED COMMAND OPERATIONS (ACO) Directive 80-1. Lessons Learned Policy.
- BARGER Deborah, *Toward a Revolution in Intelligence Affairs*, Santa Monica, Rand Corporation, 2005.
- BEEBE Sarah Miller and PHERSON Randolph H., *Cases in Intelligence Analysis: Structured Analytic Techniques in Action*, CQ Press, 2011.
- BECKETT Ian F.W. and John PIMIOTT, *Counter-Insurgency: lessons from History*, Pen & Sword, 2011. BENSANEL Nora and OLIKER Olga, *Security Force Assistance in Afghanistan: Identifying Lessons for future efforts*, Santa Monica, Rand Corporation, 2011.
- BI-STRATEGIC COMMAND (Bi-SC) Directive 80-6. Lessons Learned.
- CHUA A. and LAM Wing, "Center for army lessons learned: knowledge application process in the military", *International Journal of Knowledge Management*, vol. 2, no. 2 April-June 2006, p. 69-82.
- CLARK Robert M., *Intelligence Analysis: a Target-Centric Approach*, 3rd ed., Washington, CQPress, 2009.
- CREVELD Martin Van, *The changing Face of War: lessons of combat, from the Marne to Iraq*, N. York, Presidio Press, 2006.
- DAVIS Karen D. (ed.), *Cultural Intelligence and Leadership: an introduction for Canadian Forces Leaders*, Kingston (Ontario), Canadian Defence Academy Press, 2009.
- DESPORTES Vincent, *Décider dans l'incertitude*, 2nd ed., Paris, Economica, 2007, p. 49-58.
- FRÍAS SÁNCHEZ Carlos Javier, "Iraq y Afganistán: conflictos del pasado, ¿ejércitos del pasado?", *Ejército*, 847, oct. 2011, p. 18.
- GÓMEZ BLANES, José Luis, "La auténtica revolución militar", *Ejército*, 850, Jan-Feb. 2012, p. 24-30.
- HANSON Victor Davis, *Matanza y cultura*, Madrid, Turner; Mexico, Fondo de Cultura Económica, 2006.

- HANSON Victor Davis, *Guerra: el origen de todo*, Madrid, Turner, 2011, p. 34-40.
- HEUER Richards J. and PHERSON Randolph H., *Structured Analysis Techniques for Intelligence Analysis*, Washington, CQ Press, 2010.
- JACKSON Peter and SCOTT Len, "The Study of Intelligence in Theory and Practice", *Intelligence and National Security*, vol. 19, no. 2, 2004, p. 294-322.
- JOINT Analysis and Lessons Learned Centre. *Joint Analysis Handbook*, 3rd ed. *Mon-santo, Lisbon, Portugal, 2007*; [http://www.jallc.nato.int/newsmedia/docs/Joint\\_Analysis\\_Handbook\\_3rd\\_edition.pdf](http://www.jallc.nato.int/newsmedia/docs/Joint_Analysis_Handbook_3rd_edition.pdf). Consultation date: 21.01.2012.
- KEEGAN , John, *El rostro de la batalla*, Madrid, Ejército, 1990.
- LAHNEMAN William, *Keeping U.S Intelligence Effective: The Need for a Revolution in Intelligence Affairs*, Maryland, Scarecrow, 2011.
- LOWNEY Chris, *El liderazgo al estilo de los jesuitas: las mejores prácticas de una compañía de 450 años que cambió el mundo*, Barcelona, Verticales de bolsillo, 2008.
- TRAINING AND DOCTRINE COMMAND. Spain. Army. Procedures for Lessons Learned. Technical Instruction 02/07.
- MARRIN, Stephen, "Adding value to the intelligence product", in JOHNSON, Loch (ed.), *Handbook of Intelligence Studies*, N. York, Routledge, 2007, p. 199-210.
- MARRIN, Stephen, *Improving Intelligence Analysis: Bridging The Gap Between Scholarship And Practice*, New York, Routledge, 2011.
- MAZZARINO Giulio, *Breviario para políticos*, prefacio Umberto Eco, Barcelona, Random House Mondadori, 2007. There is also a version translated by Alejandra de Riquer, Barcelona, Acantilado, 2007.
- MCIVOR Anthony, (ed.), *Rethinking the principles of war*, Annapolis, Naval Institute Press, 2005.
- MEDINA Carmen A., "What to Do When Traditional Models fail: The Coming Revolution in Intelligence Analysis", *Studies in Intelligence*, Vol. 46, no. 3, 2002, p. 23-28.
- MOORE, David T., *Sensemaking: A structure for an Intelligence Revolution*, Washington, National Defense Intelligence College, 2011.
- MURRAY, Williamson, *Military adaptation in war with fear of change*, Cambridge University Press, 2011.
- NATO Joint Analysis and Lessons Learned Centre, *The NATO Lessons Learned Handbook*, 2nd ed., 2011; [http://www.jallc.nato.int/newsmedia/docs/Lessons\\_Learned\\_Handbook\\_2nd\\_edition.pdf](http://www.jallc.nato.int/newsmedia/docs/Lessons_Learned_Handbook_2nd_edition.pdf). Consultation date: 24.01.2012.

- NAVARRO BONILLA Diego, “Antecedentes históricos en la organización de la información y la documentación aplicada a la seguridad y la defensa de los estados”, *Anales de Documentación*, 10, 2007, p. 281-296.
- NAVARRO BONILLA, Diego, *Inteligencia y análisis retrospectivo: lecciones de Historia y lecturas recomendadas*, Valencia, Tirant lo Blanch, 2012. In press.
- NAVARRO BONILLA Diego, “Historia de la Inteligencia”, in GONZÁLEZ CUSAC José Luis (coord.), *Inteligencia*, Valencia, Tirant lo Blanch, 2012, p. 215-280.
- ORSTEIN Leopoldo, *El estudio de la Historia militar: bases para una metodología*, Buenos Aires, Círculo Militar, 1957.
- PARKER Geoffrey, *La revolución militar: innovación militar y apogeo de Occidente 1500-1800*, Madrid, Alianza, 2002.
- PATTON Kerry, *Sociocultural Intelligence: A New Discipline in Intelligence Studies*, London, N. York, Continuum, 2010.
- PRUNCKUN Hank, *Handbook of Scientific Methods of Inquiry for Intelligence Analysis*, Maryland, Scarecrow, 2010.
- SCOTT Len and HUGHES R. Gerald, “Intelligence, Crisis and Security: Lessons from History?”, *Intelligence and National Security*, vol. 21 no. 5, 2006, p. 653-674.
- SCOTT Len and HUGHES R. Gerald, “Intelligence in the Twenty-First Century: Change and Continuity or Crisis and Transformation”, *Intelligence and National Security*, vol. 24 no. 1, 2009, p. 6-25.
- SENGE, Peter, *The Fifth Discipline: The Art & Practice of The Learning Organization*, N. York [etc.]. Random House, 2006.
- SENSO, José Antonio, “Gestión del conocimiento y tecnologías semánticas en inteligencia y defensa”, *Inteligencia y Seguridad: Revista de Análisis y Prospectiva*, no. 10, 2011, p. 29-53.
- SERRA del Pino Jordi, “Inteligencia proactiva”, *Inteligencia y seguridad: revista de análisis y prospectiva*, 10, 2011, p. 55-74.
- SHEFFIELD Gary, “Military Past, Military Present, Military Future: The Usefulness of Military History”, *Rusi Journal*, vol. 153, no. 3, 2008, p. 102-107.
- STRACHAN, Hew, *Ejércitos europeos y conducción de la guerra*, Madrid, Ejército, 1985, p. 27-38.
- WALTON Timothy, *Challenges in Intelligence Analysis: Lessons from 1300 BCE to the Present*, Cambridge University Press, 2010.
- WHEATON Kristan J., *The Warning Solution: Intelligent Analysis in the Age of Information Overload*, Afcea, 2001.

