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Franck Bulinge

Institut Supérieur du Commerce Paris

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French research applied to intelligence: the key role of information and communication sciences

Dr. Franck Bulinge

Institut Supérieur du Commerce Paris

Introduction

Western intelligence is at the core of an epistemic revolution that was highlighted by two singular events. The first one was the call for input issued in 2005 by the American association Mitre following the acknowledged failure of intelligence services after the 9/11 attacks. The second was the call for input issued by the French Ministry of Defense in November 2010, dealing with the "epistemic basics of intelligence and economic intelligence."¹ Coming as a confirmation of a lack of academic reflection in France in this field and of the need to let "intelligence science" emerge based on academic works, it naturally follows on from the 2008 white paper on defense and national security that highlighted the need to develop human and social sciences in order to address the strategic issues of the 21st century.

Such a context leads us to question the appropriateness and the relevance of research in human and social sciences dealing with intelligence. The purpose of this paper is to show that intelligence may be considered as a plural and interdisciplinary research topic.

It will first define intelligence and underline the multi-disciplinary character of human and social sciences. Then it will show that information and communication sciences have a key role to play within the framework of interdisciplinary research.

Empiricism and Decision Theory

Chopin, taking stock of the art of intelligence research, mentioned the absence of a specific theoretical definition of intelligence using the broad meaning of the term in French literature.² He suggested that existing definitions are not satisfactory and generally refer to technical concepts. This situation is not surprising if one considers that intelligence is first a practical matter before a theoretical topic. Henri defines it as an operative approach and indeed, existing definitions come directly from the world of intelligence itself and belong in the framework of decision theory, intelligence being described as a process, an organization and the resulting product at the same time.³

If one looks at the definition of intelligence in military handbooks, it is defined as "*all activities satisfying the need for information (orientation, research, exploitation, diffusion); and all the entities that are dedicated to these activities.*"⁴ According to PIA 02-200, intelligence is the "*result of a data and information exploitation process, the gathering of*

¹ MINDEF, *Cahier des clauses particulières n°10 352 du, marché relatif aux fondamentaux épistémologiques du renseignement et de l'intelligence économique*, Ministry of Defence, secrétariat général de l'administration (October 11, 2010).

² Chopin, O. (dir.), *Etudier le renseignement. Etat de l'art et perspectives de recherche*, Etudes de l'IRSEM, no 9, 2011.

³ B., *Le renseignement, un enjeu de pouvoir*, Economica; According to Bourdieu's "Theory of practice."

⁴ TTA150, *Manuel du sous-officier*, édition 2008, CEERAT, EMAT/COFAT.

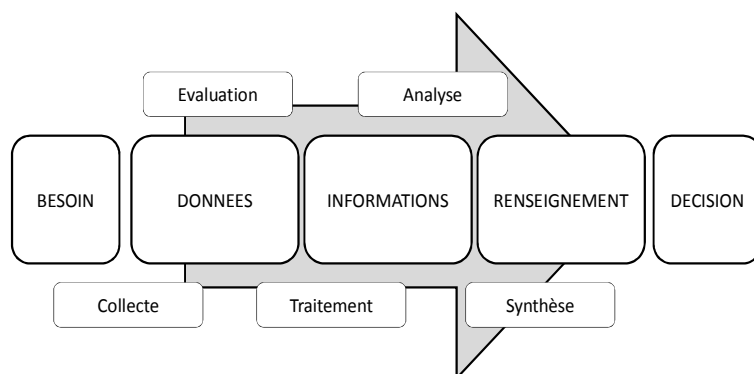
which was designed and initiated in order to meet a decision-making need."⁵ It is introduced as finalized knowledge which, used smartly, would offer an advantage over the enemy because of its confidential nature (what we know and what he does not know that we know).

These definitions, nevertheless, do not disguise a poor theoretical content more readily based on maxims than on a structured set of scientific knowledge. The will to conceptually clarify the situation sometimes leads to a lack of precision in the authors' works, as most of them come from the intelligence "family". For instance, according to Beau, intelligence "*transforms facts in more or less elaborate data during a complex process ranging from their observation to their communication.*" Some use metaphors: "*Genuine intelligence results from evidence that have fermented, even briefly, in one or more intelligence quality actions. This is what makes the difference between grape juice and wine.*"⁶

Over time and under the influence of American works reproduced in inter-Allied documents (especially the NATO Standardization Agreements), the French military intelligence doctrine improved. PIA 02-200 thus introduced the notion of data defined as an "element of elementary knowledge (time, place, person involved, means, etc.)"⁷. From then on, a piece of information is a *piece of unprocessed data, of any kind, that may be used to produce intelligence. To be more accurate, it is an element of knowledge through the meaning one draws from a fact or piece of data. Finally, a piece of information shall, by essence, be communicated. Information is directly generated by men or can be drawn from data supplied by technical means.*" A multi-layered link is created in which data produces information, which in turn produces intelligence. According to this principle, the data-information-intelligence link is a process identical to the data-information-knowledge link as we know it in information and communication science, the difference between both processes residing in principle in their definition: a piece of intelligence would be finalized knowledge useful to the decision-maker who would have expressed the need for it.

The diagram below summarizes the theoretical principle of intelligence production with regard to this definition:

Figure 1 : Intelligence Process



⁵ PIA 02-200, Instruction interarmées sur le renseignement d'intérêt militaire, Titre I Doctrine interarmées du renseignement, approuvé par lettre n°1076/DEF/EMA/EMP.1/NP du (novembre 27, 2003).

⁶ Beau, F., *Renseignement et société de l'information*, Fondation pour les études de défense nationale, Librairie de la Documentation française (1986); Peter R., *Information is not Intelligence*, Army no 36, (janvier 1986): 34-37.

⁷ TTA150 édition 2008, CEERAT, EMAT/COFAT.

It is similar to the description of the intelligence centralization process described by Lewal (1881).⁸ Indeed the epistemology of intelligence has not really changed since that time. Sometimes still based on Auguste Comte's aphorism: "*To know in order to predict and predict in order to control*", to which was added Marechal Blaise de Montluc's expression: "*If the army knows what the army does, then the army beats the army*," it essentially borrows from the cybernetic paradigm that the intelligence cycle reveals.⁹

Nevertheless, this mechanistic model was criticized and no longer appears suited to the complexity of *the infosphere* of the organization of intelligence and decision-making processes.¹⁰

The United States and the Western Intelligence Crisis

American research on intelligence was developed by the CIA in the Nineteen fifties on the initiative of Sherman Kent, an analyst of the American agency who was willing to contribute to the creation of "the science of intelligence". Today, within the Center for the Study of Intelligence, the CIA welcomes the works of researchers that feed the American intelligence community with theoretical papers. One cannot quote all these contributors; therefore, we invite our readers to read the study of Chopin who quotes the most important of them.¹¹

But the event that left a mark on American research was the international symposium on the analysis of intelligence organized in May 2005 by the governmental association was created in 1958 in order to foster research in the field of defense. On the initiative of the American intelligence community, which had been traumatized by the 9/11 attacks, it launched an international call for scientific papers that resulted in the reception of about 400 articles and posters, 166 of which were not classified. The symposium took place under the sponsorship of the Office of the Assistant Director of Central Intelligence for Analysis and Production. The objective was to state fundamental, new and operational advances in the field of intelligence.¹²

The analysis of input highlights the rich diversity of issues, many of which are related to Human sciences: critical thinking, construction of meaning, foreign language, information viewing, collaborative analysis, decision-making and simulation media, social networks, etc. The analysis of titles and abstracts enables the extraction of 510 keywords. The main ones are presented in Table 1.

It highlights methodological issues (55 percent of selected input). It can be noted that, with regard to the intelligence cycle, some 32 percent of the papers deal with exploitation, which leads us to think that Americans still need to work on the core process of transforming information into intelligence. Nevertheless, this "epistemological crisis" detected by

⁸ Lewal, J., *Études de guerre : Tactique des renseignements*, Paris, Baudoin, 1881, 2 volumes, réédité en 2010 aux éditions Bibliobazaar

⁹ Introduction au cours de renseignement tactique, Division du renseignement tactique, Ecole interarmées du renseignement et des études linguistiques, Strasbourg, (1987); Montluc, B., *Commentaires*, La Pléiade, Gallimard (1964); Krizan L., *Intelligence essential for everyone*, occasional paper, Joint Military Intelligence College (1999)

¹⁰ Clark, R.M., *Intelligence Analysis, a Target Centric Approach*, (CQ Press: Washington DC, 2004); Bulinge, F., *Le cycle du renseignement: analyse critique d'un modèle empirique*, Marketing & Communication, Editions Eska, 3:2 (October 2006): 36-52 ; Francart, L., *Infosphère et intelligence stratégique, les nouveaux défis*, Economica (2002).

¹¹ Chopin, *Etudier le renseignement. Etat de l'art et perspectives de recherche* (2011).

¹² Trace of this program available at: <http://cryptome.org/intel-2005.htm> .

Americans involved the whole Western model of intelligence, as was shown by Ben Yisrael, and led to the construction of a modern theory of intelligence.¹³

Table1: Analyses of MITRE 2005 Keywords

Steps in the cycle	Keywords	Freq	%	Total
Research	Information extraction	23	4,51	14,71
	Search and retrieval	21	4,12	
	Open source	15	2,94	
	Humint	10	1,96	
	Foreign language processing	6	1,18	
Exploitation	Competing hypothesis	47	9,22	31,96
	Multi intelligence fusion	23	4,51	
	Novel intelligence from massive data	21	4,12	
	All source analysis	19	3,73	
	Link analysis	19	3,73	
	Predictive analysis	14	2,75	
	Social & cultural analysis	8	1,57	
	Temporal analysis	6	1,18	
	Building analysts	6	1,18	
Diffusion	Knowledge sharing, discovery, dissemination	24	4,71	8,63
	Structured argumentation	10	1,96	
	Usability/habitability	10	1,96	
	TOTAL frequency/510	282	55,29	

France: Late Realization

In November 2010, the Ministry of Defense, upon request of the Direction du Renseignement Militaire (DRM), launched a call for bids within the framework of prospective and strategic studies named "Epistemic basics of intelligence and of economic intelligence."¹⁴ Analysis of the specifications highlights a need that had never been publicly expressed. The DRM noticed that Anglo-Saxon research had developed a "*genuine theory on intelligence*" that led to significant innovation in terms of intelligence, especially at NATO level, whereas "*France only produced little thought on the matter.*" According to its authors "*one could question the way intelligence is created*" while trying to avoid the "*risk of aligning with practices arising from another culture (...), different in principle*". Furthermore, they observe that "*the approach of many sciences (philosophy, epistemology, sociology, neuro-psychology, information, decision-making, games, logic theory, etc.) had never been the subject of a systematic review in order to assess the potential input to the intelligence function.*"

¹³ Ben Yisrael Y., *Philosophie du renseignement, logique et morale de l'espionnage*, éditions de l'Éclat (2004); Treverton, G.F., Jones, S.G., Boraz, S., Lipsky, P., *Toward a Theory of Intelligence: Workshop report* (June 15, 2005), RAND National Security Research Division, (ODNI: 2006).

¹⁴ Information available at: <http://www.mitre.org/>.

Consequently, the objective of the study is to "identify the fields and works, without any limitation in specialty, that could provide methodological input for intelligence throughout the cycle (from research to diffusion)," as well as "the cultural and philosophical input on nonwestern cultures in terms of intelligence creation." In the end the issue is to provide "a complete inventory of research trails, whether trans-disciplinary or transcultural" in the perspective of an "autonomous development of research works that contribute to an "intelligence science."

That call for bids was an essential turning point and can be viewed as an admission confirming the need to develop intelligence through a scientific approach.¹⁵ It can be viewed as the signal for a breakout from the Western intelligence paradigm that had been in place for 140 years. It is therefore a genuine challenge that is presented to the research community, whatever their subject of expertise.

A Research Topic for Social Sciences

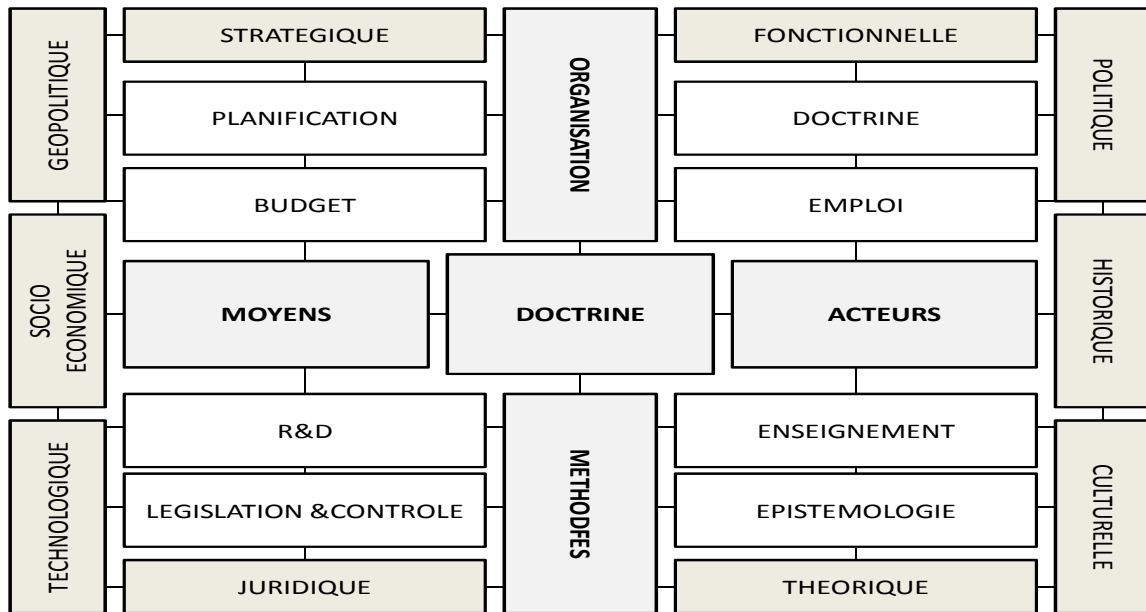
To consider intelligence as a Social Science research topic implies, as was discussed, that all dimensions should be considered: theoretical, strategic, technological, political, socio-economic, legal, geopolitical, historical and cultural.

By essence a multi-disciplinary topic, it calls for each discipline to first work separately in order to deepen the issue longitudinally. Nevertheless, this kind of research produces "disorganized knowledge" that is developed in a very uneven manner within each discipline depending on the interest expressed for it, as it was heretofore underlined.

A Multidimensional Subject

Figure 2 illustrates the systemic links between these dimensions. From this it could be said that a sound understanding of the subject inevitably supposes a global approach. The example of Mitre shows the relevance of studying the links in an interdisciplinary framework, if research is intended to improve work methods within intelligence services.

¹⁵ Bulinge, F., *Renseignement militaire: une approche épistémologique*, Revue internationale d'intelligence informationnelle, Lavoisier, vol.2-2/2010 (juillet-décembre 2010): 211-232; Bulinge F., *Pour une théorie moderne du renseignement*, Défense nationale, no 12 (décembre 2012); Bulinge, F., *De l'espionnage au renseignement*, Vuibert-INHESJ.

Figure 2: The Dimensions of Intelligence

Studies vs Applied Research

There are indeed two potential ways to approach research dealing with intelligence. The first one is the so called approach *on* intelligence that is part of a multi-disciplinary logic of knowledge of the subject as a phenomenon. It is the approach Anglo-Saxons call *Intelligence Studies* which for the main part, is focused on the study of intelligence in its historical, political and cultural dimensions. The second approach is an approach *for* intelligence. It is interdisciplinary and aims to theoretically and methodologically improve the purpose as a sociotechnical device, whether by borrowing from disciplines that have their own methods or by exploiting the input of their work towards the improvement of existing models, or even the creation of new models.

In a nutshell, even if their purpose is different, both approaches *on* and *for* intelligence nevertheless remain complementary, meaning they provide each other with elements likely to improve the subject. For instance, historians can highlight the cultural references on which the sociology of intelligence is organized. Associated to that research, an anthropological study of analysis practices will allow a better delimitation of organizational influences in the construction of intelligence, something that could be useful to information and communication sciences when developing analysis support tools.¹⁶

The Key Role Played by Information and Communication Sciences

Intelligence naturally tends to be located within the field of Political Sciences since they are destined to support political leaders. But the subject of "intelligence", taken as a political instrument, appears as a "black box", the role and use of which is considered without addressing the issue of the construction processes of underlying knowledge. It therefore remains inert and political research is generally reduced to its historical and organizational dimensions. Leaving the black box closed prevents any ontological understanding of the subject and condemns it to be simply observed as a function.

¹⁶ Johnston, B., *Analytic Culture in the U.S. Intelligence Community*, Center for the Study of Intelligence (Central Intelligence Agency: Washington, DC, 2005).

That black box, symbolized by the intelligence cycle, is the methodological core of intelligence. Table 2 highlights the input of the different disciplines at each step of the cycle.

Table2: Main Disciplinary Inputs in the Intelligence Cycle

	Orientation	Research	Handling/Exploitation				Diffusion
			Translation	Assessment	Analysis	Synthesis	
Anthropology							
Cognition							
Risk analysis							
Law							
Economics							
Epistemology							
Geography							
History							
Information and Communication Sciences							
Linguistics							
Management							
Politics							
Psychology							
Religion							
Semiotics							
Sociology							
Statistics							

Information and Communication sciences seem to have a major role to play in the process of creating intelligence. This comes as no surprise if one considers the fact that intelligence is designed to provide meaning to the strategic environment. According to Couzinet "*to generate meaning intimately depends on the information construction process, the context of its retrieval, the personal history of the one who deals with it, his document handling abilities, the knowledge he can mobilize, the context in which he works, etc.*"¹⁷ This leads us to Le Coadic for whom information science deals with "*the study of the general features of information (nature, origin, effects) and the analysis of these construction, communication and practice processes.*" This definition is backed by texts from the Conseil national des universités (CNU) related to the section on Information and Communication sciences.

¹⁷ Couzinet ,V., Intelligence économique et sciences de l’information et de la communication : quelles questions de recherche ? in David, A., (sous la direction de), Organisation des connaissances dans les systèmes d’informations orientés utilisation, contexte de veille et d’intelligence économique (Presses universitaires de Nancy : 2005).

Intelligence can actually be considered as a sociotechnical device producing information specific to an environment (political, military), a context (international relations, wars), stakeholders (intelligence officers, agents), media (sensors, information systems). The study of intelligence naturally deals with the construction of that information, its communication and its practices. Thus intelligence is not only at the core of Information and Communication sciences, it is a whole branch of it in our opinion.

Furthermore, we cannot avoid making the link with economic intelligence, which found its main methodological basis in Information and Communication sciences through the work of different teams –Dou, Rostaing, Manina in Marseilles; Paoli and Lacoste in Marne-la-Vallée, Doucet in Toulouse; Moinet and Marcon in Poitiers; Dumas, Boutin, Bertacchini, Bulinge in Toulon; David in Nancy. As such, economic intelligence is a transformation of intelligence. To justify economic intelligence as a subject of study for Information and Communication sciences therefore means to also welcome intelligence within the realm of this discipline.

A Central Inter-Discipline

Intelligence shall not be hemmed in a disciplinary straightjacket. Quite the opposite, as it was demonstrated, it can only be fully developed in a multi-disciplinary approach. According to Le Coadic, "Information science is one of these new disciplines that bear witness to the collaboration between the disciplines of psychology, linguistics, sociology, IT, mathematics, logic, statistics, electronics, economy, law, philosophy, politics and telecommunications."¹⁸ Mucchielli confirms this view and identifies the different disciplines with which Information and Communication sciences share research fields: language sciences, law, anthropology, history, political science, sociology, social psychology, philosophy, epistemology, telecommunications and IT.¹⁹

The vast majority of these items relate to the intelligence activity. It can therefore be claimed that Information and Communication sciences are a central inter-discipline that can be considered as a "cradle inter-discipline" of intelligence.

Research Areas

Information and Communication sciences are to play a key role in research applied to intelligence. If we consider that the basics of intelligence work is to collect, index and stock information, we immediately understand the potential input of research on document management methods and techniques. In the field of information exploitation, Information and Communication sciences combined with cognitive psychology allow to consider epistemological criticism of existing methods, but also the development of methods that take the new communicational approaches into account.²⁰ For instance, collaborative analysis techniques that are currently used in crisis management come to mind.²¹ It is easy to guess that research avenues are numerous. They would need a detailed inventory that we cannot provide in this article for want of space.

¹⁸ Le Coadic, Y.F., *La science de l'information*, Que-sais ? PUF (2006).

¹⁹ Mucchielli, A., *Les sciences de l'information et de la communication*. 1^{ère} édition. Hachette (1998).

²⁰ MUCCHIELLI, A., *Les sciences de l'information et de la communication*. 4e édition. Hachette (1998) ; Wolton, D., *Informé n'est pas communiquer*, CNRS Editions, collection Débats (2009).

²¹ Bulinge, F., *Analyse d'information : vers un changement de paradigme*, actes du colloque Intelligence économique, ESCE, Paris La défense (novembre 16, 2006) ; Bulinge, F., *Un modèle d'analyse collective en situation: la war room*, Marketing & Communication, Editions Eska, 7:4 (décembre 2007) : 50-69.

The Issue of Confidentiality

This of course remains the main difficulty for a community of researchers that are not authorized to enter the intimacy of National secrecy. Two options can be considered. The first means producing knowledge from the outside, from "dual use" research, that is to say relevant both to economic intelligence or documentation and intelligence. This notably involves works on *open information* but also on communication that makes up *in principle* the most part of the need. The second, restricted to confidential specific research, means directing research in a private framework, for instance training PhD students from intelligence services in an authorized doctoral school. In this case, anthropological approaches involving observation *in situ* could be mentioned.

Conclusion

At a time when intelligence is emerging in academic debates, this paper aims to defend a theory based on the key role played by Information and Communication sciences in research applied to intelligence. As shown above, Information and Communication sciences can be considered as the "cradle discipline" of intelligence. In this regard they are likely to support the project of a modern theory on intelligence. This stand is all the more justifiable that, as Mattelart underlined the evolution of our society towards the secure processing of information involves reflection on intelligence methods and practices.²² By offering intelligence the status of a scientific subject, Information and Communication sciences can contribute to the development of a political tool that will be able to ensure both the safety of citizens and their freedom, through a smart (and why not ethical) use of information that is at least easy to control.

²² Mattelart, A., 'Société de la connaissance, société de l'information, société de contrôle,' *Cultures & Conflits* no 64 Hiver (April 2006): 167-183.