



## Technological Innovation

OUR WAR COLLEGE AND THE  
GENERAL STAFF OFFICER  
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COMPETENT OFFICERS FOR  
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# STAFF

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# HERALDRY



The checker patten represents the high military science; the golden and blue square fields are the typical colors of the air war: fire and air.

The two embedded swords represent the Military Institution, specialized in high knowledge training.

A light blue cross, bordered in silver and with that metal *fleur-de-lis*, emblem of the Blessed Virgin, proclaims the commitment with the Virgin Mary taken by the cadets.

A condor framework representative of an aggressive bird that reaches the greater heights and the mantle gules reaffirm the condition and the high level of the *Escuela Superior de Guerra Aérea*.

The motto, apart from chivalrous, is the natural application for the followers of a Christian nation that traditionally begs for God's protection as the source of all reason and justice.

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## LETTER FROM THE DIRECTOR

While we write these brief introductory lines to spread the result of the institutional and professional research activity of the ESGA (Air War College), we see that the world --with its astrophysical phenomena-- finds ourselves in a process in which the Earth rotation is slowing down, even though we cannot notice it. In the meantime, the moon moves away from its orbit and the tectonic plates keep on moving. The climate change is shifting the rotation axis which is evidenced in the east to west fluctuations due to the melting of the ice caps in some sectors and accumulation in some others.

Regarding technological development in robotics and hardware, it can be observed that the Tai robot had to be disconnected by its Microsoft developers due to the unwanted effects the artificial intelligence program had. In terms of hardware technology, the United States and the Popular Republic of China continue their race through the development of the supercomputers, such as Cray Titan with a speed of 17.59 petaflops, the Thianhe-2 with a processing capacity of 33.86 petaflops and subsequently the Sunway Taihulight with 93 petaflops.

Simultaneously, Google moves forward in its UAV Google Titan project to connect the whole world to Internet services, through the SkyBender project seeking to employ 5G connectivity.

In addition, new projects emerge regarding dual-use UAV/UAS/OPA, such as the Centaur-Aurora which is already being offered in the aeronautical market, as well as others.

In the meantime, the private companies' projects to employ reusable rockets for different purposes continue: Amazon with its Blue Origin project, and in parallel, Space X develops options, in this case, with the first stage of Falcon 9, by perfecting the self-guided landing technology, with some flaws in its tests.

In connection with energy, Germany has expressed to control the thermonuclear fusion cycle through the Wendelstein 7 X, which enabled to create hydrogen plasma. Likewise, the European project ITER with the Tokamak reactor competes with its Chinese equivalent through the EAST that has beaten the hydrogen plasma maintenance record longer than the German



Colonel Fabián Edgardo COSTANZI  
Director of Escuela Superior de  
Guerra Aérea

competitor, which foresees to have the first power generation plant by 2030, hence managing to have the first worldwide environmentally friendly energy plant.

At the same time we can see that Tesla will corner the market with its electric proposals of the S, 3 and X models for street vehicles; and in aeronautical matters, Solar Impulse takes up its deeds and records of 24 thousand accumulated kilometers.

What we are saying is merely that the world does not stop and is in constant transformation, both astrophysical and technological. We simply have to distinguish that the technological efficiency quest — of state, private or mixed undertakings— is within the objectives of the world powers in that matter, such as the USA, Germany and China.

Every country and related companies seek to focus on knowledge, applied sciences and the development of knowledge and human resources, data processing, robotics, astronautics and renewable sources of energy, achieving the R&D objectives, which have to be considered for a State 'policies.

In an attempt to contribute to knowledge in the area of Social Sciences, this edition presents some remarks on leadership and the Joint Staff officer, the evolution of defense policies and the air space power use; the progressive development in RPA regulatory process, and the capability-based planning for the defense.

We hope this contribution to be of interest and use for a better understanding of those theoretical and academic tools that lead to an improved leadership and airspace power vision, as the main core areas of our editorial line.



# OUR WAR COLLEGE AND THE GENERAL STAFF OFFICER TRAINING

## COMPETENT OFFICERS FOR THE ARGENTINE AIR FORCE

*Lieutenant Colonel Matías Horacio OREFICE*

*In modern battles, irrespective of the field they are fought, the triumph will mainly depend on various factors at stake; essentially it lies in the correct execution of carefully drafted plans, resulting from the clever work of General Staffs.*

Colonel José D'Odorico.  
The General Staff and Operational Exercises

### THE OFFICER OF THE WAR COLLEGE OF THE AIR FORCE

For those officers who have already been in academic environments, such as the War College of the Air Force (ESGA), we may have the wrong impression that the education «received is limited to the teaching of a planning method». The mere evocation of the year of study at the War College brings us memories of the tiring and wearying methodology to solve problems or even of the Command Planning Process; the so fear CPP.

Most of the officers who have «suffered» their experience at ESGA might remember the non-operational problem resolution or the challenging planning of the General Staff as core and exclusive concepts in classrooms. It seems then that all the students, teachers and permanent staff' efforts during

the time of the course were limited to get «good CPP operators».

It is true that one of the objectives of the regular courses taught at ESGA is to train officers to solve complex problems, making use of the tools adopted by the Air Force. It is unquestionable that to solve a military problem a methodological tool is needed as well as knowing about it. However, we tend to forget that the successful planning or problem resolution lies not so much in the resources used but in the skills of the person in charge of applying the method: the Staff Officer (OEM *in Spanish*).

This is not about the advantages and disadvantages of the CPP. As any other planning tool, the CPP ensures order in the way of reasoning and solving problems, and it combines strengths and weaknesses.

It should be highlighted that the objective of the Command and Staff Course (CECM *in Spanish*) is “to perfect junior officers to perform efficiently as future chief officers in those areas which, based on their hierarchy, are directly or indirectly connected with leadership at the institution level”, not to obtain CPP specialists<sup>1</sup>.

This forces us to acknowledge that regardless of the type and characteristics of the planning methods taught at ESGA, the performance of the Officer in the «know-how» of those doing the job of General Staff is essential. It does not matter whether the CPP or any new method that could be adopted for the future planning is applied; it is vital that the Air Force has officers with the necessary capabilities to perform their tasks as General Staff.

### THE JOB OF THE GENERAL STAFF

The tasks of a General Staff are varied and

<sup>1</sup> Objective of the Command and Staff Course. <http://www.esga.mil.ar/ESGA/index.php/cursos/curso-de-comando-y-estado-mayor> (November 10th, 2015).

we could summarize them in a wide array of activities ranging from the knowledge of planning methodology to team work capacity.

However, there is a lot of work behind the job of the General Staff, since communication skills and abilities to summarize are needed which can be evidenced in presentations, debates and counseling. Besides, being a General Staff Officer (GSO) means working in teams and establishing good relations within work groups of a specific, joint or combined environment. It also implies knowing the persons «you work with» (superiors, peers and junior officers) helping to make synergistic and not compartmentalized efforts.

The job of the GSO also involves enthusiasm, leadership, patience and enjoyment for methodological work, even under fatigue, stress and conditions of uncertainty.

A GSO must be committed to complying with the given task and the mission of the Air Force, to the extent of feeling a true passion for his/her work. The GSO must be fond of his job, even if it is far away from the practical work he had performed previously in his career as a weapon system operator.

*A GSO must be committed to complying with the given task and the mission of the Air Force, to the extent of feeling a true passion for his/her work.*

*the GSO's job is the «sum of all the know-how skills» that guarantee the success of the intellectual tasks to be applied in planning and managing the Air Force*

In short, the GSO's job is the «sum of all the know-how skills» that guarantee the success of the intellectual tasks to be applied in planning and managing the Air Force, within and outside our borders<sup>2</sup>.

If we enumerate the kind of officer needed to work as a GSO, the following should be mentioned:

- 1º) Being able to face obstacles or hard to solve situations.
- 2º) Having practice in critical thinking and being used to analysis tasks.
- 3º) Being able to eliminate (or at least minimize) emotional, analytical or psychological prejudice and all emotional burden.
- 4º) Being knowledgeable about the planning tool (the CPP for the Argentine Air Force).
- 5º) Being organized and methodical at work.
- 6º) Being capable of having solid arguments.
- 7º) Showing loyalty to the

missions, to the boss, to the comrades and to himself.

- 8º) Being open-minded to new ideas or to revise one's own whenever necessary.
- 9º) Being well-prepared intellectually and professionally.
- 10º) Being committed to the challenges of teamwork.
- 11º) Being intellectually honest.
- 12º) Showing good judgment and criteria.
- 13º) Having a good perception capacity.
- 14º) Being flexible and capable of eradicating paradigms.
- 15º) Being willing to innovate without fearing making a mistake.
- 16º) Having a balanced personality.
- 17º) Being capable of continuing thinking processes under pressure of uncertainty, the enemy's action and the lack of time.
- 18º) Being honest, brave and confident.

As previously mentioned, solving problems will demand the vast knowledge of planning tools, but the quality of the Institution' decision making will not only depend on CCP's experts, but on the General Staff Officer gathering a great number of the conditions described before.

<sup>2</sup> When we talk about operations outside our borders, we should remember the involvement of our Institution in combined arms exercises, Peace Operations within the framework of the United Nations and in operations that can result from fulfilling objectives at national level aimed at contributing to a «subregional defense system», among others.

We may be able to provide an accurate explanation of the four stages of the method, we may even be capable of repeating by heart each of the paragraphs of the CCP Manual and we can practice it so many times that we come to “dream about it”, even then we will not achieve success, since the key lies in how it is put into practice and not in the toll itself.

We cannot seek a better future for the Air Force unless we have experts in communication, with high thinking skills and committed to the mission by working hard, wisely and in teams.

Faced with the changes an air force needs to make to address new problems and circumstances, an Air Force general staff officer shall be ready to foresee situations, analyze complex problems, acquire new knowledge, adapt himself, advise, plan, assess constantly the «state of affairs» and in turn be flexible and self-motivated. These experts perfect themselves at ESGA and return to the Institution «ready for combat» in a new level.

Once it has been understood that the activity of the general staff officer requires «know-how», we will try to highlight which could be the guidelines to obtain skillful officers in these tasks.

#### **TO BE, TO KNOW AND TO DO**

*Harsh and quiet is the task of General Staff members, who merely have the incentive of the moral satisfaction of having accomplished their duties. There is no honor, no personal recognition, no spectacular praising, just persistent, tiring and not very well paid job for the compensations of glory and recognition.*

Colonel José D’Odorico.  
The General Staff and Operational Exercises



Our War Collage

Many readings related to leadership summarize the characteristics of a good leader in BEING, KNOWING AND DOING. Without too much effort, we will discover that these three precepts meet all the characteristics needed in a GSO.

**The GSO must KNOW** that intellectual training is vital to master the profession from the technical point of view. Technological advances, the speed of changes and the unprecedented possibilities to access information force us to perform constant professional training and to acknowledge that competence does not necessarily go hand by hand with seniority. A GSO will not be well prepared unless he/she has made an effort in his/her studies and further education throughout his/her career.

A GSO must have the will to put his/her ideas forward courageously, even when this opposes everybody else’s or the commander’s. An opinion or a point of view tends to be backed by the GSO professional judgment, based on a long intellectual training together with the previous experience in his/her area of expertise. Generally, when the speaker shows training

and knowledge, it provokes the professional respect of the listeners.

Curiosity to know a little bit more must always be present in a GSO. Even though the power of leadership based on expertise and knowledge is of utmost importance, as leaders, we have to acknowledge that knowledge alone is neither the only nor the most powerful tool in the art of management.

**The GSO must BE** upright, an essential quality to manage successfully. This lies in the personal virtue and its every day demonstration. An upright officer lives according to his principles, with no duplicity and his behavior is in line with his words and thoughts.

The example set by an upright officer is not similar to an example given by a person who stands up for his/her knowledge or words.

Here, the ethical commitment of the officers of the Institution in general and of the GSO in particular come into play. A person cannot be a good leader of the Armed Forces unless he “exudes integrity” and shares the principles of the institution. We

cannot inspire through example if we do not live according to the principles, virtues and values established in our Reglamento del Régimen del Servicio (RAG 11, Service Regime Regulation).

It seems that the “desk job” in which the GSO has been pigeonholed leaves little room for virtue and integrity. That would be true if the GSO would not need prudence and good judgment when acting (prudence). As it was said before, supporting an idea with true intellectual honesty will demand, in many cases, courage and bravery (strength). This should also be the case when leadership measures (justice) are to be applied.

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The officer who manages to hold a General Staff Officer position over time is well-known and respected for

the image he portrays of himself: his prestige. The work and commands given by a prestigious and admired teamwork leave little room for doubt and debate. In this manner, commands are complied with almost unquestionable due to the bonds of trust among those making the plans and the ones following them.

The GSO must MAKE his ideas become action, since there is no point in having the knowledge, experience and integrity if they are not put into practice. Once a decision has been made, it is important to work accordingly. This job can represent an exhausting physical and intellectual effort. The GSO must be ready to put into practice the outcome of debates and counselling.

### THE SKILLS OF THE GENERAL STAFF

Recently, a new skills-based training model has been presented in some fields (universities, companies and military institutions in other countries). This model seeks to compile the acquisition of the knowledge needed to exercise the profession or to put a specific activity into practice together with

the essential skills and attitudes to conduct such activity. This “new” approach seems attractive and the most advanced in educational innovation, even though it is not actually new<sup>3</sup>.

One of the improvements when dealing with skills is admitting that the skills and attitudes are more important than the mere acquisition of the knowledge behind the implementation of certain activities.

What is the purpose of what is being taught? Is it to fill the brain with information to be withheld and reproduced in the schemes and texts shown at school or to train an individual with reasoning capacity and a set of skills that enable him/her to solve daily situations?<sup>4</sup>

We believe it is necessary to analyze the scope and challenges of applying the skills-based approach in the officer training (supposing changes were needed) and avoid “the compulsive change as the element that characterizes the innovation speech.”<sup>5</sup>

Even though that analysis exceeds the framework of this article, it is wise to mention that we believe the application of the skills-based approach would provide major progress in the GSO training’ results. Implementing the skills-based model would require major changes in the design of teaching strategies, in the organization of the student’s work both inside and outside the classroom, in the skills demanded from teachers and also in the appropriate assessment methodology.



*These experts  
perfect themselves  
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in a new level.*

<sup>3</sup> “There is no novelty in the application of this approach since the division of the activities performed by a technician at a middle level is based on the analysis of tasks, a tool which was already used in education since the fifties...”, says DÍAZ BARRIGA in his work. (Op. Cit. Page 19).

<sup>4</sup> DÍAZ BARRIGA, Ángel. Op. Cit., page 33.





*the application of  
the skills-based  
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provide major  
progress in the  
GSO training'  
results*

Even though there is not complete and practical skills classification<sup>5</sup>, there are at least three models: behavioral, focused on personal attributes; functional, centered on the tasks performed; and constructivist, in which knowledge, skills and attributes respond to deal with a specific job and a particular context.

It is evident that the work of a GSO is the application of the third model, since it seeks to mobilize knowledge, skills and attributes contributing to

address or solve a command problem. The GSO must gather skills based on the “being” (value and attitudes), on knowing (knowledge) and in the know-how (skills).

Even though we do not seek to establish a GSO skills’ “catalog” , we believe that some of them are worth mentioning since they are related to the GSO’s job.

Competences of a GSO towards himself:

- 1) Loyalty
- 2) Confidence
- 3) Critical thinking
- 4) Proactive leadership
- 5) Diligence

**1) LOYALTY:** The GSO must prove loyalty to his principles and to the principles and values of the Institution. The faithful compliance with the duties and the respect for convictions demand a constant sacrifice.

Loyalty forces the GSO to be faithful to himself, to the mission of the Air Force, to his superior and his officers, who will bear the consequences of his advice and work. Being loyal to the superior does not mean approving of all his ideas or opinions, but feeling the commitment to say and argue in accordance with one’s knowledge and experience, even in dangerous situations or when having a different opinion as that of the superiors or others. Loyalty also implies supporting the decision taken by the superior even if it has not resulted from counseling or one’s personal idea on the matter.

**2) CONFIDENCE:** It goes hand in hand with character, which is shown in the way of speaking -through body language- and

<sup>5</sup> DÍAZ BARRIGA, Ángel. *El Enfoque de competencias en la educación, ¿Una alternativa o un disfraz de cambio?* (The skills-based approach in education: an alternative or a disguise of change? Page XX.

<sup>6</sup> DÍAZ BARRIGA, Ángel. Op. Cit. Page 33.

behaving. It is also evident in the rhythm of public speaking, in the confidence transmitted regarding the possibilities of reaching goals, the tendency to taking controlled risks and the self-control and serenity in any situation, especially under pressure, tiredness or stress. Confidence enables to face adversities, hostilities and frustration firmly.

**3) CRITICAL THINKING:** the person who thinks critically has a clear purpose. He/she asks defined questions, challenges information, conclusions and points of views, both his/her own and third parties. Critical thinking enables to be clear, accurate and relevant and seeks to deepen the reasoning process with logic and objectivity. These skills must be applied when reading, writing and speaking. This involves submitting oneself to rigorous excellence standards, and at the same time, having efficient communication skills and those needed to solve problems. Critical thinking entails the commitment to overcome preconceptions and mental paradigms.

**4) PROACTIVE LEADERSHIP:** The GSO needs to express what the expected attitudes and characteristics of a leader are, which mainly requires wanting to be one. This implies being visible, knowing people, providing a vision, knowing to communicate, favoring discussions and holding

meetings keeping the focus of the debate. Being a proactive leader does not mean seeking visibility, but taking responsibilities with maturity and without fears to “what people may say”.

**5) HARD WORK:** The GSO must display his/her skills throughout long periods of time and under adverse circumstances (uncertainty, fear, lack of sleep, tiredness). The work capacity shall be kept over time, showing the same intellectual tenacity and dedication in the tasks to be conducted, both at the beginning and at the end of the effort.

The skills of the GSO with other people:

- 1) Communication
- 2) Influence
- 3) Leading people
- 4) Understanding the superior rules
- 5) Development of interpersonal relations

**1) COMMUNICATION:** it deals with the capacity to inform clearly, accurately and fluently seeking to influence others with the message.

*The GSO needs to express what the expected attitudes and characteristics of a leader are, which mainly requires wanting to be one.*

Even though the formal aspect of the communication is important, the ability to transmit the message is even more. Since informing is one thing and convincing is a very different one, the GSO must try to get intellectual solidarity and enthusiasm as feedback from his occasional audience.

**2) INFLUENCE:** it is the capacity to capture and keep the attention of those around us. The GSO must encourage reflection of his/her co-workers, without leaving anyone aside. This kind of influence can be achieved through communication, but also through more convincing ways. There are people who influence through honesty, the seriousness of their words or the simplicity of their actions. Of all the

*...The GSO must prove loyalty to his principles and to the principles and values of the Institution.*



*A healthy relation encourages everyone to cooperate and have a shared understanding.*

ways to influence, personal example is the most powerful.

**3) LEADING PEOPLE:** firstly it implies knowing where to go (which requires a previous mental process, based on skills such as conceptual and analytical thinking) and then telling people exactly what to do. A clear, specific and complete order is generally a good sign which shows the person knows what he/she wants.

**4) UNDERSTANDING THE SUPERIOR RULES:** it implies full understanding of the direction of the order given. Getting the expected result requires interpersonal understanding and a communication process, which is sometimes not very much praised. It does not mean neglecting creativity or limiting initiative, but preventing the GSO's work from meeting the criteria of the person receiving the order.

**5) DEVELOPMENT OF INTERPERSONAL RELATIONS:** this does not mean just sympathy, but the capacity to establish, keep and broaden a professional contact network, based on trust, sincerity, generosity and even affection. The effects are positive for both the person and the institution. A healthy relation encourages everyone to cooperate and have a shared understanding. Plenty of the GSO's work is based on the exchange of data, experiences and information. Success goes hand

by hand with the quality of the persons involved.

Competencies of the GSO with the tasks:

- 1) Success orientation
- 2) Critical thinking
- 3) Conceptual thinking
- 4) Flexibility
- 5) Intellectual curiosity
- 6) Initiative

**1) SUCCESS ORIENTATION:** it implies the iron will of making a good job. It is based on exceeding the expectations of the work output and setting high standards. Success orientation does not imply a competitive spirit, but a notion of self-improvement for the benefit of the service, above the personnel.

**2) ANALYTICAL THINKING:** It implies the capacity to break down complex problems into smaller parts aimed at having partial results and reaching valid conclusions (summary). It does not mean making good summaries, but obtaining

appropriate and specific conclusions based on natural thinking.

**3) CONCEPTUAL THINKING:** even though it complements analytical thinking, it is not exactly the same. It is more connected with the deductive process than with the study of mental structure and it seeks to find the root of the problem. Through analytical thinking a problem is broken down into parts. Conceptual thinking, however, foresees exactly which parts have greater impact on the problem and to what extent. It also ensures the inference of relations among the different factors or arguments. It could be said that it is a combination of common sense experience and intuition.

**4) FLEXIBILITY:** It is the capacity to adapt to situations' changes or variables. It is not lack of preparation or constant improvisation, but knowing how to listen other opinions without sticking to dogmatic or unchangeable points of view.

**5) INTELLECTUAL CURIOSITY:** In general, the best solution to a problem will rely on the situational analysis and the quality of the information available. However, it often implies leading efforts to obtaining information in the appropriate direction. It means not settling or ceasing to make questions or thinking in order to find new answers, new points of view or new perceptions of the problem. →

*Of all the ways to influence, personal example is the most powerful.*

## ... combination of common sense experience and intuition.

**6) INITIATIVE:** It is the ability to foresee events through a constant situational analysis. It implies proactive action, instead of a reactive one, and the ability to predict possible contingencies and complications.

The skills of a GSO regarding the institution:

- 1) Commitment to the institution
- 2) Understanding of the institution
- 3) Teamwork

**1) COMMITMENT TO THE INSTITUTION:** It implies putting his/her own performance second to the institution's needs, priorities and mission. It demands putting the objectives of the institution on top of one's own.

**2) UNDERSTANDING OF THE INSTITUTION:** It enables to foresee the possible responses of the institution to various situations. This is not just knowing about organizational structures, but also about who are part of them and in which manner they interact, even if it is informally. In this manner, «what to expect» from the institution and from the staff is achieved, from a realistic and not merely a theoretical point of view.

**3) TEAMWORK:** This should be fostered and observed and it is evident in any group activity. It implies having gained consciousness about the importance of considering the group as your own, wishing its success, and forgetting about

individualities for the benefit of the collective effort.

### THINKING OF THE FUTURE

*The mind is not a vessel to be filled,  
but a fire to be kindled*  
—Plutarch.

All the institutions are forced to adapt and analyze the need to change. The context where the Air Force interacts today is different from that of the past and probably of the future. This causes to have prepared (competent) personnel to solve the new problems or the most repetitive ones.

Here is where the importance of the GSO's training comes into play. Our academic environments should keep on preparing officers who master problem resolution applying the tools that guarantee logical and organized thinking, but put more emphasis on the fact they gather the skills in accordance with the activity to be developed. Clearly, a GSO's work is linked to the skills and «know-how», hence competences acquire an unquestionable value.

Even though we acknowledge that the skills-based approach transformation shall be analyzed in-depth (regarding its need and form of implementation), it is clear that after an academic year at ESGA, it is necessary to obtain an officer with the skills of a General Staff, more than an officer overwhelmed with knowledge and erudition in the CPP.

It is believed that the Air Force should strive to train competent officers in all the institutions. Particularly, the GSOs, who annually graduate from

the Command and Staff Course, should be the example of their specialization skills as General Staff Officers.

Finally, we should not forget that a GSO is a warrior. As a man-at-arms, he should be prepared for the defense of national sovereignty and trained for combat.

Even though he is no longer in the cockpit, uses an artillery piece or the sensor panel, the GSO is destined to fulfill, with self-confidence, a more important role; that is «deciding on how, when and where to use the airspace resources » the Argentine Republic has provided the Institution with.

**Preparing these men properly must be one of the greatest concerns of our Institution and of the higher ranks. ●**

| Peers-reviewed article

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# TECHNOLOGICAL INNOVATION, AEROSPACE POWER AND POLITICAL DECISION

Colonel Carlos Osvaldo FERLINI

From the beginning of the Aerospace Power history, its main objective has been to be a source of technological innovation. This condition has also led to be almost directly the changing effect of the main strategic political option to use the Military Instrument in battle. Since its first appearance in the battle fields of the Turkish-Italian war in 1912 and its actual flight baptism in the First World War, the plane has shown the possibility of becoming an almost unexplored capability for most of the military planners. From

then on, it becomes first the source of tactic concept and then of the strategy in every war.

During the “Great War”, the aviation together with the surge of mechanized vehicles were the source of technological innovation of such conflict. However, the tank would never have such an impact at strategic level. Without having real weight in the evolution and final result, Aerospace Power was created on the foundation of that armed conflict, giving way to an unrivaled technological race in respect to the other elements of the Military Instrument making aerospace inventions leave the solar system in the same century of the conflict<sup>1</sup>.

The inter-wars period constituted the beginning of the technological surge that sought the perfect weapon, the

one that would enable to shorten armed conflicts. Its first users, as the final weapon, experienced first-hand the cruelty the First World War represented. The founding fathers, such as Douhet, Mitchell and especially Trenchard,<sup>2</sup> tried to impose in a different manner the need become independent from the army air weapon<sup>3</sup>, interacting actively though propaganda or direct relation with the political power about the benefits of this new means, such as De Severky did<sup>4</sup>.

These thinkers were the «Mavericks»<sup>5</sup>, the innovators of their time, the ones that did not suffer setbacks or disappointments before imposing their ideas, such as Douhet or Mitchell, who were judged by their peers, but left a mark that would enable the exponential growth of the air weapon in this period<sup>6</sup>. →

*... Aerospace Power was created on the foundation of that armed conflict, giving way to an unrivaled technological race ...*

<sup>1</sup> Author's comment: the Voyager space probe, launched in 1973, was the first means created by men to leave the solar system.

<sup>2</sup> David R. METS, The long search for a surgical strike, CADRE PAPERS N.º 12 (CADRE - Air University), 2001, pp. 3 y 4.

<sup>3</sup> Williamson MURRAY; Barry WATTS Military innovation in peace time; Mershon Center - Ohio State University, 1995 printed 2000: p. 64. 25 and following pages.

<sup>4</sup> James K. LIBBEY, *Alexander P. de Seversky y la Búsqueda por el poder aeroespacial*. Washington DC: Potomac Books, p. 2013. 97 and following pages.

<sup>5</sup> Expression used in English to describe a rebel person, the one that is out of the ordinary and struggles with the current model.

<sup>6</sup> James L. STOKESBURY, *A Short History of Airpower*, Nueva York - NY: William Morrow & Co., p. 1986. 116 and following pages.

## THE PLOT OF THE STORY TAKES SHAPE

The association between the main political option and the capacity of Aerospace Power can be identified clearly in the Second World War. The offensive of Strategic Bombing (Combined Bomber Offensive – “CBO”), guided by the White House Directive (resulting from a meeting held in the homonymous city among Churchill, Stalin and Roosevelt), in 1943, made it clear there was a need to put an end to the war against Nazism<sup>7</sup> as soon as possible. The operations carried out by the 8th Air Force of the United States Army Air Corps (USAAC) and by the Royal Air Force (RAF) had as their main political aim to surround and weaken Hitler so as to shorten the war duration as much as possible. This included bombing populated areas, seeking to sink the German people to a condition that would favor the Nazism fall. This military-political relation could be observed with

the presence of Marshal Sir Arthur Tedder of the RAF and General Toey Spaatz of the USAAC, in the table where the German surrender was signed.

The technological capacity and the precision concept, which at that time was being fostered as the Air Power title, would lead to a major contradiction in light of the planned political objective and the obtained results<sup>8</sup>. The use of these cutting edge political capacities, such as the radar, precision navigation and the increase of the payload in bombers – aimed at achieving the above mentioned objective of “beating the German people” – comparatively reached the losses and the efforts required to obtain the strategic political objective and a crushing victory over the Nazi Germany<sup>9</sup>. What is more, voices of protest towards the use and the results of the air weapon started to rise, as it had caused heavy human losses and destruction in the cities

of the occupied France<sup>10</sup>. The loss of air and crew due to the achieved effectiveness was really low pursuant to the objectives established by the Whitehouse<sup>11</sup>.

Meanwhile, in the Pacific theatre, the result of the use of Airspace Power did not show many differences. The strategic bombing carried out by General Curtis Le May with the best American bomber of the time (the “Superfortress” Boeing B-29) and the devastation caused in the urban centers did not manage to break the will of the Japanese people<sup>12</sup>. Mass and objective, considered to be the foundation of an air operational strategy, failed in achieving the desired victory<sup>13</sup>.

At the end of the world conflict, the Nazism was defeated and, as opposed to what had been expected, the capacities’ transforming innovation and the use of Aerospace Power did arise neither from the existing



B-17 during the October 9th, 1943 raid over the aircraft factory Focke-Wulf at Marienburg



Avro Lancaster bomber at the Berlin battle (Winter of 1943-44)



B-29 over Osaka on June 1st 1945

<sup>7</sup>Herst BOGGS, Gerhar KREBS y Dietrich VOEGEL, *Germany and the Second World War*. Oxford, Clarendon Press, 2006. pp. 10 and following pages.

<sup>8</sup>Tammy D. BIDDLE, *Rhetoric and Reality in Air Warfare*. Princeton - NJ (USA): Princeton University Press, 2002. p. 230 and following pages.

<sup>9</sup>Ibid. P. 256.

<sup>10</sup>Herst BOGGS, Gerhar KREBS and Dietrich VOEGEL, *Germany and the Second World War*. Oxford (UK), Clarendon Press, 2006. pp. 31, 35 and 37.

<sup>11</sup>Tammy D. BIDDLE, *Rhetoric and Reality in Air Warfare*, Princeton - NJ (USA): Princeton University Press, 2002. p. 174, available on line. URL: <http://www.taphilo.com/history/8thaf/8aflosses.shtml>, [20th August 2015].

Tammy D. BIDDLE, *Rhetoric and Reality in Air Warfare*, Princeton - NJ

(USA): Princeton University Press, 2002. p. 174.

Tammy D. BIDDLE, *Rhetoric and Reality in Air Warfare*, Princeton - NJ (USA): Princeton University Press, 2002. p. 174.

<sup>12</sup>*The Fog of War - 11 Lessons of Robert MacNamara*. Directed by Erroll Morris. Performed by R. MacNamara. Sony Entertainment, 2003.

<sup>13</sup>In the documentary, which lays the grounds for these statements, Robert MacNamara (who was then the Secretary of Defense of John F. Kennedy and at that time was part of the Gen. LeMay’s team, measuring the effects of the bombers on Japan), acknowledges that the damage caused to the Japanese cities, if the United States had lost the war, would have put him and LeMay on the stand of war criminals.



... the ammunition was  
perhaps the first and  
definite Revolution in  
Military Affairs (RMA) ...

B-52

means nor from the ones expected for the near future. Those aerospace inventions created in Germany at the end of the war, which would then become the genesis of astronautics, were the vehicle of the element that would put Japan on its knees and create the greatest change in strategy and political decision making: *the nuclear bomb*<sup>14</sup>. After years of waiting for the air means (as Douhet and Mitchell dreamed of) that would enable the definite victory, the ammunition was perhaps the first and definite Revolution in Military Affairs (RMA), which transformed almost totally the scope of military operations. Years later, the Cuban Missile Crisis (the closest situation in history to trigger a nuclear war) would take to the political arena the need to have tools that would, in certain manner, appease the spirits when facing a crisis situation or an escalating war<sup>15</sup>.

In practice, the following happened: the countries that had the war capacity played the card of the deterrent strategy among them in the bargaining table; for the rest the bomb was the coercive manner to break will<sup>16</sup>. The nuclear bomb would produce the strategic-political option known as Mutual Assured Destruction (MAD). The MAD resulted in the need to find the manner of keeping the *status quo*, in which none of the contenders would have superiority. However, the initial unbalance between the URSS and the USA gave rise to the “security dilemma”<sup>17</sup>. The arms race had one single goal: not to be at a disadvantage.

The revolution was so radical that the change caused by the nuclear capacity shifted from accepting that Douhet strategic bomber golden dream had been achieved<sup>18</sup> to

becoming the most frightening thing for the political arena. The political manifestation of technological innovation of the most powerful countries which held nuclear weapons was mainly based on the following threesome: cruise missile with nuclear warheads, nuclear submarines with missile launching capacity and long-reach bombers evolution, such as B-52<sup>19</sup>. Thanks to these elements, it was possible to achieve worldwide outreach (through missiles), secrecy (by having almost undetectable submarines before reaching the heart of enemy territory) and time-management (a factor that was provided by long-reach bombers while flying to their targets). It is highly important to highlight that even though it seemed to be outdated in comparison with the power of their war partners, the bombers were among the first available options. If the objective was

<sup>14</sup> Estephen BUDIANSKY, *Air Power: The men, machines, and ideas that revolutionized War*. New York: Penguin, 2007. pp 345 and following pages.

<sup>15</sup> Michael DOBBS, *One Minute to Midnight*. New York NY USA: Alfred Knopf, 2008. pp 3, 285 and following pages.

<sup>16</sup> Colin S. GRAY, *Strategy and History - Essays on theory and practice*. New York: Routledge, 2006. Pp. 92 and following pages.

<sup>17</sup> In Political Sciences and International Relations, the concept of “dilemma” has been used regarding the safety of States, “where the State policies to guarantee safety prove to be poor”. If all the alternatives of a State are not satisfactory, “the state is in a paradox”, available in: [http://www.crim.unam.mx/drupal/crimArchivos/Colec\\_Dig/2009/Oswald/8\\_De\\_una\\_seguridad\\_](http://www.crim.unam.mx/drupal/crimArchivos/Colec_Dig/2009/Oswald/8_De_una_seguridad_)

[hobbesiana.pdf](http://hobbesiana.pdf) [August 12 2015].

<sup>18</sup> Estephen BUDIANSKY, *Air Power: The men, machines, and ideas that revolutionized War*. New York: Penguin, 2007. p. 351.

<sup>19</sup> Scott RITTER, *Dangerous Ground*. New York - NY (USA): Nation Books, 2010. p. 211.

According to Ritter, McNamara, who was already tired of drafting destruction calculations and a possible soviet aggression response, gave Alain Enthoven (Undersecretary of Defense) the possibility of dividing up the nuclear power of the United States in three “legs” giving rise to the concept that, according to the author “was the foundation of the American stance”.

a holocaust or a “feint” to determine the enemy’s response level, this provided the policy-makers with the time needed to debate, something the other two components lacked when handling a crisis, since if the crisis escalated, it would give way to any of the other two, with less room to “cancel” their use, leading to far-reaching consequences.

The nuclear arms race followed the footsteps of the technological evolution until becoming an “insane situation”; since it had the possibility of destroying the humankind several times (as if more than one was needed). With the advent of nuclear weapons and the evolution of the armed conflict, the conditions of use shifted from “not to use” to the humankind “total destruction”. Here, technological innovation narrowed down the options almost completely for the policy-make<sup>20</sup>.

As soon as the war was over, a crisis and a large scale direct conflict would be the first evidence of the political restraints in terms of the strategic capability of the Aerospace Power use. The first was the blocking

of supplies to the quadripartite city of Berlin, located in the territory of Germany, under communist control,<sup>21</sup> which resulted in the creation of the Air Bridge to Berlin. The implemented supply operation was necessary after the Soviet Union decided to close the access to the city showing the other nations — previously associated in the fight against Hitler— clear pressure to have the German capital under control. This led France, England and the USA to support Berlin during the harsh winter of 1948 through the use of mass transport. The operation, which even today is a subject of study due to its synchronization and effort, was backed up by the deterrence resulting from England’s deployment of American nuclear power. In light of the URSS helplessness, which at that time did not have the same capacity, the exclusive use of the air use represented the first and only war to be won without dropping a bomb. The chaos had been averted. The blockade ended in May 1949, later the wall would divide Germany in two until 1989, as we all know.

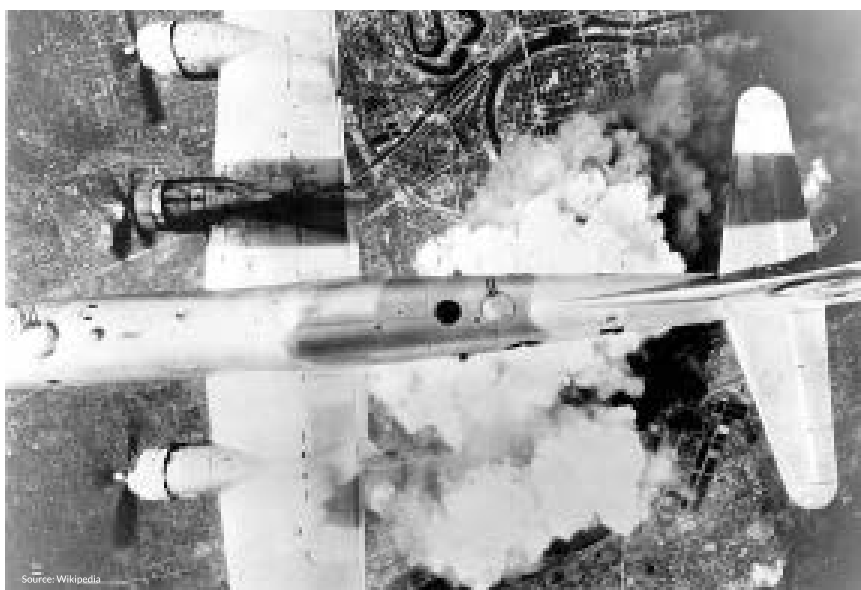
Then Korea followed, it was the first

*The nuclear arms race followed the footsteps of the technological evolution until becoming an “insane situation”; since it had the possibility of destroying the humankind several times ...*

conflict that created openly the need to replace the nuclear option for the use of conventional means only. This milestone gave rise to a number of conflicts between the East and the West during the Cold War. The position of these nuclear powers — the USSR and the USA— resulted in the need to prepare the conventional capabilities for a race, which from that moment onwards, restricted the use of the nuclear bomb, only as the last resort.

For both situations (conventional or nuclear use), the technological alternative focused on the possibility of using Aerospace Power to provide the necessary response, in both time and manner, for the decision makers. In this way, technology tried to have the possibility of penetrating the defense and achieving the effects the promoters of Aerospace Power had promised from the beginning. After this conflict, the new language would be: limited targets, collateral damage and political constraint.

Vietnam would have the same luck, this time with an endless string of discrepancies between politics and



B-29 over Osaka on June 1st 1945

<sup>20</sup> Alan STEPHENS, Nicola BAKER, *Making sense of War*. New York - NY (USA): Cambridge University Press, 2006. p. 210.

<sup>21</sup> When the Second World War came to an end, Berlin was divided among the victors —United States, England, France and the Soviet Union—.



the military command as to where, how and when to affect the military targets recognized as the core of the conflict, which almost rejected the strategic Aerospace Power use<sup>22</sup>. Having abandoned the possibilities of using the most lethal capacity, the operations focused on the use of available means for the tactical field (also with more problems than solutions), such as support to the ground maneuver with few decisive results. Through the integration of precision tools, such as guided bombs and antiradar technology (both of them created and improved during conflict) it was sought to broaden the capabilities range as cutting-edge elements within the military capabilities spectrum<sup>23</sup>. In this case, the technological option did not provide the expected advantages, merely because politicians and their restrictive nature were not aligned.

The policy-makers established the application and development of Aerospace Power in two approaches: the survival of its application in hostile environments (in order to penetrate defenses) and the capability of achieving highly efficient effects. To sum up, precision and invisibility. Technological innovation focused on the achievement of such capabilities. Technological innovation focused on the achievement of such capabilities<sup>24</sup>.

### THE PURSUIT OF HAPPINESS

“Precision at last”<sup>25</sup>. Those were the words Stephen Budiansky used to refer to the realization of affecting targets with such precision that the collateral damage would be reduced to zero. Politics adored even more the air strategy that enable to fully satisfy the aversion for casualties, which has been the main premise of all times. The combination of ammunition and means (low radar detection or stealth and the perfection of precision-guided munition —PGM— which is original from Vietnam) backed by spatial invention gave rise to the use of the Military Instrument in an efficient manner and with low adversary response capacity. This silent option allowed the United States to shift its defense concept to a “preventive attack” concept, supported mainly by these capabilities.

The First Gulf War, in 1991, was the key point that would make it seem that only with Aerospace Power wars could be won<sup>26</sup>. With the highest efficiency ever reached and the increased survival of the forces within the enemy territory, operating without restrictions, due to hostile forces threats or environmental factors, would create

the new paradigm of “perfect option” that up to that moment was not available and therefore, did not allow the police-makers to use it as the first and only response. Likewise, the concept of mass would be redefined and start depending on the capacity to respond accurately and not on the quantity. At that time, this factor was essential to apply this principle as a calculated effort to achieve an effect.

This Golden Age would be tinged with some serious setbacks. Kosovo would be where the “total weapon illusion” of Aerospace Power would deter its impulse. After 1991, the use of Aerospace Power seemed to have solved the problems of how to conduct war. The General of the US Army, Wesley Clark, (who was in charge of the multinational force engaged in combat) expressed in his book *Waging Modern Wars* that the air component autonomy, to some extent, smoothed the need of keeping the military/political objective of the campaign<sup>27</sup>. With this sense of autonomy, the decision was centered on politics rather than on the operation, and the lack of clarity to run the military operation allowed Milosevic forces to comply with the proposed objective of “ethnic cleansing” and then to

<sup>22</sup> ESGA, “Del Dogfight a los UCAV”, Chapter 6, ESGA, 2001.

<sup>23</sup> ESGA, “Del Dogfight a los UCAV”, Chapter 6, ESGA, 2001.

<sup>24</sup> David R. METS, *The long search for a surgical strike*. CADRE PAPERS No. 12 (CADRE - Air University), Oct. 2001: 95. pp 27 and followings.

<sup>25</sup> Translation: “Precision at last” (translation is mine).

<sup>26</sup> METS, DAVID R. “*The Air Campaign - John Warden and the Classical Air Power Theorist*”. Montgomery - AL (USA): Air University Press, 1999. p. 65

<sup>27</sup> Wesley K CLARK, GEN. *Waging Modern War*. New York: Public Affairs, 2001, pages: 417 and following.



USAF aircrafts during the Desert Storm Operation in 1991

surrender<sup>28</sup>. Once in the war zone, the ground forces would verify the mistake of intervening late. There was no risk but also limited results. The Brigadier General of the United States Air Force (USAF), Mike Short, Coalition Air Component Commander, acknowledged such fact before the USAF Command and General Staff attendees when he started his presentation on Kosovo air operation, explaining the lack of vision and understanding of the political objective with four words “I made a mistake”<sup>29</sup>.

The technological innovation meaning the exploitation of the outer space and the spatial capability has also led to a shift in the security dilemma and, through direct association, in the political option. Even though it deserves a comprehensive analysis separately, we will study the creation of means that were originally developed in Germany during the Second World War and were later consolidated in the United States and the Soviet Union almost simultaneously with parts of the team guided by Wernher Von Braun<sup>30</sup>. In this case, the capability materializes in one of

its axes: the use of physical effects over a material target. The so-called Strategic Defense Initiative or «Galaxy at War»<sup>31</sup> corresponded to the creation of an antimissile defensive shield with base on the United States territory and specific location in Europe, which boosted an unwavering position for Americans, provided by the defensive virtues foreseen for the project.

Such supremacy condition in the space broke the conventional nuclear balance of that moment; key factor of the power equilibrium between these powers and the escalating conflict led to a stage of crisis, giving rise to the possibility of using outer space as a confrontation region. The international political restrictions shut the door (or partially closed it as I see it) for a new combat scenery. Still, at the beginning of the XXI century, the possibility of a confrontation with a greater actor — the Popular Republic of China— was already envisaged, in the same space the communist Russia had previously held and within the same operational environment: the outer space. In this regard, the last word is still to be settled.

### THE PERFECT CHOICE?

The current conflict environments lead to a highly special situation regarding the relation between politics and the use of the Aerospace Power capabilities. After the 9/11 Twin Towers attack, the use of the capabilities which up to that moment had been latent, was confirmed. The non-conventional settings, such as the ones causing military actions in Afghanistan and Iraq from the USA, multiplied (with high fatality impact and internationally) as multinational terrorism, which acquires certain special features in this new century, even though it is not new.<sup>32</sup> This terrorism operates in an unusual range of capabilities and requires special direction in planning, in the format of engaging forces and in the political conception regarding the use of the Military Instrument.

The advent of Remotely Piloted Vehicles (RPV) or Unmanned Aerial Systems (UAS) to the airspace arsenal in this significant manner (since they already existed in operations since the Second World War) and their capacity to hit targets without risks of having own casualties has probably been the most «pleasant» piece of news for the decision maker<sup>33</sup>. →



F-15E aircrafts

<sup>28</sup> Rebecca RANT, *The Kosovo Campaign - The Air Power made it work. Special Report*, Arlington - VA (USA): Air Force Association, 1999, p. 24

<sup>29</sup> Author's note: the undersigned was an attendee of the ACSC during 2007/2008 and listener of the dissertation of the matter in question.

<sup>30</sup> The German scientist, WERNHER Von Braun, (1912-1977) together with the creating team of the Retribution Weapon V2 and the Saturn V rocket are considered the creators of modern rocketry, foundation of the US spatial capacity.

<sup>31</sup> “IDS - Initiative Defense Strategy”.

<sup>32</sup> Alan J.; VICK, Adam GRISSOM y otros. *Air Power in the new counterinsurgency era*. Santa Mónica - CA (USA): RAND Project Air Force, 2006, pp 58 y 69.

<sup>33</sup> METS, DAVID R. *Air Power and Technology. Westport - CT (USA): Praeger Security International*, 2009, pp. 113 and following pages.

*The main issue in these cases is the legality of using the means and the responsibilities attached to the effects produced.*

The missions aimed at producing the strategic effects of this technological advance at global level, which already works autonomously, shall be the only option in the near future, since the lack of own casualties will transform the «political cost» in almost zero, just having the monetary cost in case of being shot down and the possible collateral damage that may arise<sup>34</sup>. The means gain meaning again since the stealth, PGM and RPV combination is the chosen one. The main issue in these cases is the legality of using the means and the responsibilities attached to the effects produced. These vanish in the remote or autonomous operation context, in the combatant condition of attacker and attacked, in the enforcement of International Law of the Armed Conflicts regulations; all factors that are still under debate.

In the operational context and pursuant to the notion of integrating the capabilities developed by these means, the doctrinal corpus of the greater operators is detailed<sup>35</sup>. It is essential to register the resulting vision and application in the

development of any future model of the Military Instrument enforcement, since it has the generational gap of the concepts of economy and mass. This shows the scope of application of the RPV/ UAV/ AUS either as a capability itself or as a multiplier effect, i.e. a synergy generator.

The question still lies in the reliability factor and in the responsibility of using unmanned means in the battlefield or exploiting their main features, such as persistence, global outreach, precision, and minimized collateral damage which reaches all the decision levels, both military and political, in terms of who is liable for the effects caused.

### VISION OF THE FUTURE

It can be observed that technological innovation and its use evidences the essence of Aerospace Power. Together with these variations, the decision makers have identified our specialization branch as a perfect tool, which meets both political and operational needs and has become the first response.

Since the inventiveness of the First World War, where the bloody execution of ground battles focused on finding the weapon that would achieve a decisive victory and break the enemy's will, the founding

fathers continuously sought to fulfill this objective, and together with their followers, decision makers would manage to put together what currently represents the identity of both concepts: the Aerospace Power and the decisive effect.

The advent of the nuclear bomb would take the fatality of the great powers to unexpected limits, but it would be useful both as a deterrent and a main restriction. From then on, conflicts based on objectives and the type of weapon used would multiply significantly. The URSS and the USA would indirectly fight in the whole planet. Korea and Vietnam are two clear examples of this restricted engagement.

Hence, the search for a decisive weapon with conventional characteristics is achieved through precision and stealth (a combination of means and weapons), backed by the spatial capacity. These elements gave rise to the idea of complete solutions to deal with problems, backed by the 1991 Gulf War outcome. Years later, during the conflicts in Kosovo, the idea of “only by air” would fail due to the real outcome of the battle.

The last innovative leap is the massive use of the RPV – UAV/UA in the battlefield. These inventions,



Source: Wikipedia

MQ-9 Reaper, a UAV with missile attack capacity

<sup>34</sup> In some laws, such as the Australian, the existence of collateral damage as dependent on the importance of the military target in the operation go hand by hand.

<sup>35</sup> The author was part of the integration analysis team of the UAV/UAS to the Armed Forces inventory and this is one of the conclusions (its circulation has been authorized and declassified).

through their engagement supporting or as a particular element to create effects, provide an increasing projection power and a greater fatality capability, i.e. the possibility of creating effects in the moment and to the extent required. This has provided the political decision makers with the perfect tool: both its well-known aversion to own casualties risk and the need to reduce costs have turned this into the ideal weapon and the first response.

We can say that this «incomplete love story» is not even close to the end. In spite of the conditions in which future battles can take place, ranging from a large scale war to a hybrid war or an irregular characteristics

conflict, the Aerospace Power, due to its capacities, is likely to have significant value. However, experience and current events make us think that in the short term, the environment where conflicts will take place are likely to be unstable (great number of crisis in different geographic spaces and temporarily simultaneous), with emerging violent and volatile enemies and with little room for identifying and using this means through other components of the Military Instrument.

Hence, Aerospace Power shall have even more possibilities of being used as the first response and thanks to the capabilities the air means permanent technological innovation

provide, it shall continue granting the political decision makers a highly effective and decisive tool to achieve the objectives established. For the military decision makers, this focus is also a reflection space about the idyllic position of fulfilling the objectives merely with one of the three components of the Military Power. It shall be necessary to guide the ruling class so as to prevent them from fighting the wrong war purely and merely because the real sense of the conflict is not interpreted. ●

Peers-reviewed article.

*This has provided the political decision makers with the perfect tool: both its well-known aversion to own casualties risk and the need to reduce costs have turned this into the ideal weapon and the first response.*



UAV Pioneer in a surveillance mission over Iraq

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# CAPABILITY-BASED PLANNING FOR DEFENSE

*Cap. Mariano Videla*

## PROBLEM DEFINITION

Since the 1990s, the defense systems planning logic based on the hypothesis of conflict has shifted towards other alternatives due to the possibility of an armed conflict between the Cold War Blocs.

As a complement, the Capability-Based Planning (CBP) paradigm was developed, which identifies in the defense systems a vital component for the survival of the states.

This article shall try to define the advances that the Argentine defense has experienced since this change has taken place, as well as the not-so-favorable ones due to their operational and logistics implication.

On the basis of the texts quoted here,

it can be inferred that it is of outmost importance to count on a suitable intelligence so as to perform this kind of planning:

The Capability-Based Planning presents an innovative diagram in our military doctrine, in which the strategic intelligence analysis shall provide answers to requirements in the short term (up to 4 years), medium term (from 5 to 20 years) and long term (more than 20 years), in terms of the scenario dynamism and trends set by the administration, as well as the contribution to eventual requirements that emerge before the international defense and security conceptions<sup>1</sup>.

The success of this type of planning shall depend on the drawing up of an In-Depth Analysis of the National

Strategic Situation of interest for the Defense, which has undergone several changes in recent years due to the guidelines the Argentine political system has set for that purpose, emphasizing the changes in the National Defense Policy Directive and the adoption of the Capability-Based Planning process; which aims at systematizing and designing possible scenarios that may appear during the planning process, provide feedback and enable their assessment.

Then, the CBP variables shall be a priori in the medium and long term; different scenarios focused on the subsequent execution of the Military Instrument and geographic environments outside international borders, which shall determine how to comply with planning

<sup>1</sup> Gabriel Andrés CIARLA. *The intelligence analysis method in the military planning method for the Argentine defense*, Master in National Strategic Intelligence, Facultad de Ciencias Jurídicas y Sociales Siglo XXI, 2013, pages 1-2.

requirements and advise the strategic commander.

Moreover, logistics implications stemming from this planning have different characteristics from the ones traditionally used, but advantageous.

## THEORETICAL OVERVIEWS AND HISTORIC DEVELOPMENT

As a new Defense Planning System, the Capabilities-Based Planning main objective is to determine, from a joint point of view, the material means and the necessary personnel for the Armed Forces to fulfill their entrusted essential mission.

If we briefly review the Military Planning mechanisms used so far, both nationally and internationally, we shall see that they were based on a somewhat accurate knowledge of the «Threats» and their foreseeable «Lines of Action». Said mechanisms tallied with the strategic situation of the moment, which was static and only referred to confronting the enemy. Thus, planners had to analyze a small number of scenarios which, from the start, made it possible to easily identify Capabilities or means necessary to combat or end the threat<sup>2</sup>.

This passage belongs to a Spanish Defense magazine and shows how the Spanish went through this same stage before Latin American countries, like ours. Thus, it can be inferred that the initial ideas are taken from countries that have already experienced our same deficiencies and brought about some change, keeping in mind that Spain is a NATO member country,

*...logistics implications  
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and thus, follows world leaders' guidelines as regards defense.

However, we should analyze Argentine Military history to understand the turning point, and the historical and political implications that had and still have influence on the Military Planning:

In spite of its distant neutrality, the Argentine Republic also learned the Second World War formal lessons as regards jointness, sanctioning its first defense organic law in 1948 and establishing the first military coordination instance, the Coordinator Joint Staff. Nevertheless, it was still early for the creation of a Defense Civil Ministry and, therefore, the mentioned military instance not only had powers to give orders to the Armed Forces Commanders in Chief but also to advise and provide direct assistance to the President and his War Cabinet<sup>3</sup>.

Here, the very young concepts of Forces joint work started to appear; nevertheless, our country would continue with its practice, distant

from coordinated and joint planning. It was not until 1958 that the Ministry of Defense was created as such and, a decade afterwards, a Joint Staff would be established. Meanwhile, other countries had already experienced the lessons learned in the Korean War and the beginning of the Vietnam War, setting a new trend with the experience of their advantages.

“In this context, with a Ministry of Defense limited to a merely formal role and an inactive Joint Staff, each force, just as in their early beginnings, continued to plan, organize, equip and train to wage its own wars independently”<sup>4</sup>.

The Malvinas War would show the result that could be expected, the lack of effectiveness among the forces and the non-existence of an integrated Intelligence, Communications, Command and Control (C3I, for its name in Spanish) center were the determining factors for the military defeat and plunged the Argentine Armed Forces into a deep introspective crisis.

The Rattenbach Report exposed these flaws:

The deficiencies observed in joint matters have turned out to be significant and demand an urgent solution. The Armed Forces first joint operation took place during this war with Great Britain. There is no record of previous significant joint training or exercises. This has been a serious responsibility of the officers conducting the present conflict<sup>5</sup>.

<sup>2</sup> Manuel GARCÍA SIEIRO, General Jefe de la División de Estrategia y Planes del EMACON, INFORME REVISTA ESPAÑOLA DE DEFENSA, 2006, page 1.

<sup>3</sup> Lic. Gustavo SIBILLA. *Reforma logística de la Defensa Argentina*. Facultad Latinoamericana de Ciencias Sociales (FLACSO/Argentina) and San Andrés University, Bs. As., 2008, page 15.

<sup>4</sup> Ibidem



Moreover, it made the following suggestions:

The Joint Staff is the fundamental body for bringing about this transformation. To do so, it must acquire prestige; it must be strengthened and staffed with the most qualified men each force can appoint to it, based on their demonstrated and officially assessed joint dedication. A single planning system, and a joint war college, together with the most careful and detailed observation and selection in this regard, should be the first steps<sup>5</sup>.

After the first years of democracy, some bills were proposed to provide the defense with a new legal framework. In 1988, the second National Defense Law was sanctioned

during a constitutional government. In theory, the aim was that the guidelines included in the 1988 Defense Law –once implemented– would go beyond the pre-systemic scheme used during the Malvinas conflict.

What was worth emphasizing about this new laws was that they provided more specific guidelines as regards war stock acquisition, based on the CBP and the rationalization of the bureaucratic structures for that end.

### STRATEGIC PLANNING MODELS AND METHODOLOGIES

For information purposes, it is worth listing the Strategic Planning methodologies, based on specific functions or scenarios that are used as guides to assess institutional

*It was not until 1958 that the Ministry of Defense was created as such and, a decade afterwards, a Joint Staff would be established*

performance. Some of the most known are:

- A. SCENARIO-BASED PLANNING**
- B. THREAT-BASED PLANNING**
- C. CAPABILITY-BASED PLANNING**

For drawing up this article, the following models shall be analyzed in order to observe their evolution in this regard:

The **Argentine Model**, supported by the National Defense Policy Directive (Decree No. 1714/09), ends with the Military Capabilities Plan (PLANCAMIL, for its name in Spanish) for the next 20 years.

It involves the following steps:

- Diagnosing and interpreting the Global and Regional Defense Scenario.
- National Defense Policy: Strategic positioning and conception of the ARGENTINE REPUBLIC in Defense matters.
- Guidelines for Implementing Military Policy and Defense Policy.

The **Spanish Model** reflected on the Military Capabilities Objective Project (PROCAM, for its name in Spanish)<sup>7</sup>.

It is made up of the following steps:

- Response to future scenarios

<sup>5</sup> Informe RATTENBACH, available in: [www.cescem.org.ar/informe\_rattenbach/home.html].

<sup>6</sup> Ibidem

<sup>7</sup> José Manuel García SIEIRO, General Jefe de la División de Estrategia y Planes del EMACON- REVISTA ESPAÑOLA DE DEFENSA, June 2006, pages 38-43.

- Setting capabilities
- Performance Scenarios

And the **Chilean Model** based on the Strategic Planning Manual, by the University of Chile, for writing the general guidelines and definitions of the present Capacity-Based Strategic Planning Model, suggested by the Command and Joint Staff College (ECEMC)<sup>8</sup>.

As far as logistics is concerned, we shall try to discern whether these innovations mean the military instrument shall rest, from now on, on a matrix of military capabilities to be fulfilled; and, thus, mean that the weapon systems incorporation or modernization decisions shall be based on their logical consideration. And, from then on, establish the advantages of adopting them.

Considering the Capability-Based Planning characteristics, this investigation formulates the following hypothesis:

Hypothesis 1: The capability-based military strategic planning process makes it possible to develop scenarios and meet logistics requirements in terms of the operational needs for the Argentine defense in the regulatory term, and their interrelation with the regional framework.

In terms of the hypothesis made, this article deals with the development of doctrinal and theory concepts, faced in their systematization with the planning cycle. Thus, it must be understood that the objectives to be met shall summarize:

**Objective 1:** To determine the most relevant advantages of the capability-based planning.

**Objective 2:** To analyze the influence of the capability-based planning on the logistics and operational planning for the Argentine Defense.

**Objective 3:** To determine the capability-based planning compatibility in the Latin American regional framework.

## CAPABILITY-BASED PLANNING

Most of the different traditional military planning methods aim at adjusting the means (or resources) available, either by optimizing or replacing them, to the threats identified in the conflict hypothesis.

These systems were framed in the prevailing strategic situation analysis, which made reference to the confrontation of two great opposing blocks, based on a scarce number of static scenarios which, from the very start of the cycle, enabled the identification of the means necessary to combat and, possibly, end the predefined threat, guiding the decision-making with the renewal of existing weapons systems or the acquisition of technologically innovative ones.

This led countries like ours to the inevitable task of adjusting their means, following the known course: "Previously establishing the potential aggressors, and knowing how they combat, the planning objective was just to compensate the military balance".

In this kind of strategic planning, military commanders and political leaders counted on two typical methodologies:

### A. SCENARIO-BASED PLANNING

This Strategic Planning Model uses a group of representative situations for the use of force. The situations are specified in terms of operational and environmental parameters and are the basis for evaluating capabilities requirements regarding formulated mission objectives.

### B. THREAT-BASED PLANNING

This Planning Model involves identifying potential opponents and assessing their capabilities. The capabilities or the requirements system are based on the criteria of beating the opponents. Quantitative and qualitative solutions are explored.

This approach was a very common planning method during the Cold War and differs from the scenario-based planning, since humanitarians and others not considered threats are excluded from the group of scenarios.

The arms escalations that have taken place during the 19th and 20th centuries fit this planning logic.

As a replacement, the capability-based planning paradigm was designed which identifies in the defense systems a vital component for the survival of the states.

"This strategic definition quadrennial process, based on the capability-based planning

<sup>8</sup> Cnl. DAEN. Herbert R. ZELAYA ROJAS, «Modelo de planificación estratégica por capacidades», DIRECTOR NACIONAL DE LA ECEMC, (monografía), page 1.

<sup>9</sup> MINISTERIO DE DEFENSA REINO UNIDO de ESPAÑA, *Nuevo sistema de planeamiento de la Defensa*, Spain, Ministry of Defense, 2005, page 3.



methodology and, thus, better than conflict hypothesis-based anachronistic schemes, is developed on the guidelines set by the National Defense Policy Directive (Decree No. 1714/09) by the President in her capacity of Commander in Chief of the Armed Forces”<sup>10</sup>.

Considering the aim of this article, we shall define the **capability-based planning**:

This method involves a functional analysis of the operations expected to be carried out in the future.

This planning model product is a description of tasks that the Armed Forces military offices, military units, departments and directions should be able to carry out, expressed in terms of capabilities. Once the capabilities inventory is defined, the best options in terms of efficiency shall be implemented. The results are not weapons systems or, required levels of personnel<sup>11</sup>.

Of course, it was not just our country, not even the regional block, which started discerning this. This new system is rooted in a generalized global tendency, as can be observed in the Spanish example: “The new planning process aims at providing answers to future scenarios crisis. These shall be more complex than the previous ones, since we must confront more subtle, multipolar and undefined threats”<sup>12</sup>.

In other words, it is possible to see how NATO member countries, more and constantly immersed in war



experience, already noticed this need.

Spain expressed this in the Ministerial Order 37/2005 which regulates the Defense Planning process, and which introduction specifies that the Military Capabilities shall be inferred from the objectives set in the Defense Policy<sup>13</sup>.

In our country, the Executive Power stated: “Without precedent in the history of the Military Instrument, this strategic definition process is, in turn, supported on an innovative capability-based planning methodology of the sector requirements, thus beating anachronistic schemes exclusively based on conflict hypothesis”<sup>14</sup>.

By way of Decree No. 1729/07, for the first time in history, the Argentine State started the implementation

*The arms escalations that have taken place during the 19th and 20th centuries fit this planning logic.*

of a National Defense Planning cycle aimed at setting a Military Instrument design for the short, medium and long term, on the basis of military and technical criteria and political guidelines.

From that moment on, the ones responsible for executing this process were defined. This strategic definition quadrennial process, based on the capability-based planning methodology and, thus, better than conflict hypothesis-based anachronistic schemes, is developed

*This new system is rooted in a generalized global tendency, as can be observed in the Spanish example*

on the guidelines set by the National Defense Policy Directive (Decree No. 1714/09) by the President in her capacity of Commander in Chief of the Armed Forces.

<sup>10</sup> MINISTERIO DE DEFENSA REINO UNIDO de ESPAÑA, Nuevo sistema de planeamiento de la Defensa, Gobierno Reino Unido de España, Ministerio de Defensa, 2005, page 3.

<sup>11</sup> Cnl. DAEN. Herbert R. ZELAYA ROJA, «Modelo de planificación estratégica por capacidades», DIRECTOR NACIONAL DE LA ECEMC, (monografía) page 1.

<sup>12</sup> José Manuel GARCÍA SIEIRO, General Jefe de la División de Estrategia y Planes del EMACON- REVISTA ESPAÑOLA DE DEFENSA, June 2006, page 38.

<sup>13</sup> *Ibid.*, page 39.

<sup>14</sup> Available at: [[http://www.mindef.gov.ar/mindef\\_pl\\_estrategico/index.html](http://www.mindef.gov.ar/mindef_pl_estrategico/index.html)]. Date of search: August 2015.

The Ministry of Defense and the Joint Staff, with the assistance of the Armed Forces General Staffs in their specific sphere of competence, were from then on responsible for translating said directives into a Military Capabilities Plan (PLANCAMIL) for the following 20 years.

The joint capability objectives as regards training, information, doctrine, infrastructure, logistics, organization, human resources and materials that the National Defense System shall try to meet during such period stem from PLANCAMIL.

These political guidelines were expressed in the Armed Forces Restructuring Law, Art. 17 states: “The Ministry of Defense shall be responsible for assessing and deciding upon the requirements for equipping the Forces in the way that best contributes to the necessary operational capabilities for jointly achieving the national defense objectives. By way of the Logistics Supervisory Board it shall be prone to the rationalization, systematization and standardization of each Force materials”<sup>15</sup>.

Then, it is possible to state that: “The capabilities to be developed arise as a consequence of the objectives set by the defense policy. A crucial difference between the logic based on the hypothesis of conflict and the capability-based planning” (...) “the strategic actors establishing the objectives to be met: they no longer are the high command military officers with a

wide action margin, but the political leaders (president, ministers and legislators)”<sup>16</sup>.

As expressed, the setting of objectives includes specifying the responsibilities of each of the actors involved, establishing functions and limits for the Armed Forces.

Therefore, the capability-based planning logic is organized in a pyramid scheme. [...] By setting a vertical vision of the organization, the capability-based planning shows, as main advantage, the global detection of needs and, as a consequence, the design of more efficient and effective methods to meet them. This logic favors the rationality in decision-making as regards the investment in defense (armament acquisition and production).

Once the regulatory frameworks were established, in 2006, our country started developing new management processes related to recovery, modernization, acquisition and development. These have been oriented towards planning, scheduling and optimizing investments.

“These processes cornerstone has been the Defense Investments Management Integral System (SIGID). [...] The setting-up of the SIGID thus tried to meet the demand of guaranteeing the consistent coordination of the Defense Investments Plan (PIDEF) with the capabilities required of the military instrument for the Military Strategic Planning established in the Planning Cycle”<sup>17</sup>.

This orientation made it possible to align investment projects considering the ones proposed by the Joint Staff with the ones determined by the political leadership through their agencies. This can be considered the first advantage to be highlighted; i.e., a better utilization of budget than the one suggested by the capability-based planning.

This is why, since it provides priority criteria as regards capabilities and needs, the military planning shall enable the orientation of available resources allotment.

“By way of illustration, the following chart describes the significant steps forward taken on this subject; in the last six years, budgetary activities increased approximately 255% and the projects increased 750%, always keeping –almost constant– the number of Administrative Services this Jurisdiction counts on (8 in 2005 and 10 in 2011).<sup>18</sup>”

*The joint capability objectives as regards training, information, doctrine, infrastructure, logistics, organization, human resources and materials that the National Defense System shall try to meet during such period stem from PLANCAMIL....*

<sup>15</sup> Ley N° 24.948 de Reestructuración de las Fuerzas Armadas.

<sup>16</sup> Alejandro CORBACHO. *Defensa Nacional: Planeamiento por Capacidades – ¿Enfoque para el Siglo XXI?*, Vol. IV, CEMA University, 2006.

<sup>17</sup> Resolución MD N.° 626/07.

<sup>18</sup> Available at: [http://www.mindef.gov.ar/mindef\_pl\_presupuestario/index.html]. Date of search: August 2015.



The Spaniards also observed this in 2006:

We understand that Capability-based planning shall provide more rational grounds for decision-making on future acquisitions, while offering integral solutions since it considers all associated needs at once. The planning result shall not be only the mere weapons to be acquired, but it shall define «action packages » to be applied to each of the Capabilities, which shall go beyond the system acquisition, its possible modernization or the fixing of maintenance expenses<sup>19</sup>.

Thus, “Chile, in the same way as European countries, the US and Australia, acknowledges that traditional limits of the safety challenges in a globalized world are diffuse and must be confronted with all available instruments. Therefore, it is willing to complement the defense and police forces capabilities and optimize the use of available resources, something perfectly feasible if institutions roles are defined and leadership is

*This is why, since it provides priority criteria as regards capabilities and needs, the military planning shall enable the orientation of available resources allotment.*

### Chart: Budgetary transparency evolution

BUDGETARY ALLOCATION	PERIOD			GROWTH
	2000	2005	2012	2012/2000
SUBJURISDICTIONS	4	4	4	0 %
ADM. FIN. SERVICES	8	8	10	25 %
PROGRAMS	31	33	41	32 %
SUBPROGRAMS	0	0	2	200 %
ACTIVITIES	42	60	149	255 %
PROJECTS	4	18	34	750 %

established, which is the aim of this document. It is necessary to identify the potential conflicts that shall need the use of the force and to determine the required capabilities. It makes it possible to structure, keep and develop a military force adjustable to the different scenarios”<sup>20</sup>.

“...the PLANCAMIL is established on an initiative that multiplies Defense-associated national industry growth possibilities, as well as on a regional integration engine of production capabilities and, thus, contributes to raise the country’s technological independence levels”<sup>21</sup>.

Here we find, as a second advantage, the generation of Industry for the

defense and the scientific knowledge that enriches a country. This has not been considered in the past, when the Ministry of Defense lacked explicit policies that guided acquisitions, research and development efforts and industrial production.

Another advantage of this method is that, regardless of who the aggressor shall be, in theory, we deal with a «defects»-vs.-«effects» relationship, in which our vulnerabilities are the defects, and the effects are the capabilities that shall reduce them (or end them is possible).

In other words, if our own vulnerabilities are detected first

<sup>19</sup> José Manuel GARCÍA SIEIRO, General Jefe de la División de Estrategia y Planes del EMACON, *REVISTA ESPAÑOLA DE DEFENSA*, junio 2006, pág. 39.

<sup>20</sup> Eva CERVERA. «La estrategia Nacional de Seguridad y Defensa Chilena», artículo *Revista defensa.com*, 2012.

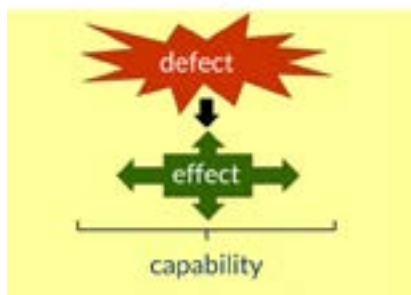
<sup>21</sup> Available at: [[http://www.mindef.gov.ar/mindef\\_pl\\_estrategico/index.html](http://www.mindef.gov.ar/mindef_pl_estrategico/index.html)]. Date of search: August 2015.

and those military capabilities that reduce or end them are conceived, it shall no longer be important who the aggressor is or when and where said country's vital interests shall be attacked.

These concepts also bring what we call «genetic logistics » and it is that category of logistics that deals with the generation of military capabilities. This stems from the Planning Cycle and opens up new opportunities for a country like ours. This is another advantage of implementing this system that should be highlighted.

As regards the aspect of maintenance logistics as a significant advantage, the joint advisory services that the Ministry of Defense receives since 2007 are highlighted, with the reformulation of the Logistics Supervisory Board and its evolution into the Joint Logistics Committee of today, an executing agency that aimed at becoming a political instance of effective coordination among the forces' logistics commands.

Another advantage is found in the strengthening of jointness, both in the logistics and the operational phase. «Before, each Armed Force acted on its own and acquired means separately. There was no interoperability among those means



*Another advantage of this method is that, regardless of who the aggressor shall be, in theory, we deal with a «defects»-vs.-«effects» relationship...*

since each counted on their weapons systems”<sup>22</sup>.

This regulatory and practical reformation process took place at the same time in the countries of the region, which enabled a greater integration. As has been defined earlier, from the hypothesis of conflict logic, the threats faced by Western countries used to be reduced to the risk other states could represent.

The Argentine Republic understood this historic change and made the relevant changes and sated them openly, as can be seen in the following excerpt:

As evidence of the complete desertion of the hypothesis of conflict logic, during the meeting of the South American Defense Council celebrated in Santiago de Chile in March 2009, Argentina put forward the creation of databank of investments and economic indicators of each country defense sectors. This way, the aim is to make reliable and updated information available for those countries in the region that wish to use it for analyzing and formulating their defense policies <sup>23</sup>.

In the Argentine Republic, a defensive, cooperative and autonomous policy is clearly established. This means that it shall act in self-defense; it

shall cooperate with other states to contribute to peace and international security and shall efficiently carry out all defense operations. It was thus expressed by the then Minister of Defense, Ms. Nilda Garré, when she stated: “This new understanding replaces the ancient «hypothesis of conflict» that confronted Brazil and Chile theoretically —and in one opportunity, almost practically. On the contrary, the constitution of the South American Defense Council (CSD) at the Union of South American Nations (UNASUR) has highlighted the condition of «peace region » in South and Latin America”<sup>24</sup>.

At this point, and summarizing everything expressed above, we infer the following advantages as regards capability-based planning:

- It is highly suitable for providing possible solutions to logistic difficulties, both of genetic nature and joint support.
- It is based on effects that must reduce own defects or vulnerabilities.
- It is possible to group in categories or generic profiles all possible foreign state military aggressions, which provides some dynamics resistant to relative-power changes.
- It fosters joint military action through integration synergy.
- It rationalizes and prioritizes the use of the ever scarce resources, enabling their allocation and quotation.
- It makes it possible to count on a Plan Director for the next twenty years (PLANCAMIL).
- It is dynamic and flexible. It must be permanently supervised and updated on the situation evolution basis.

<sup>22</sup> Cristian NIETO. *Ciclo de Debates para la Elaboración del Libro Blanco de la Defensa 2014*. Ministerio de Defensa, pág. 26.

<sup>23</sup> Folha de São Paulo, «Transparência militar tensiona», 2009, available at: [conselhohttp://fontanablog.blogspot.com/2009/03/transparencia-militar-tensiona-conselho.html].

<sup>24</sup> Ms. Nilda Garre speech. *Planeamiento por capacidades para la Defensa*. Secretaría de Comunicación pública, 2010. Available at: [http://prensa.argentina.ar/2010/04/11/6946-planeamiento-por-capacidades-para-la-defensa.php]. Date of search: August 2015.



In short, a capability-based planning system makes it possible to achieve a favorable combination between strategic uncertainty, military means and budgetary planning, ever so demanding as regards defense expense accuracy in a country such as ours. Nevertheless, the Armed Forces' adjustment to this new scenario, in terms of defense, considering this new paradigm, shall be vital for increasing their professionalism and responsiveness.

### FINAL CONSIDERATIONS

Once the Capability-based Planning process has been defined, and considering the proposals conceptualized in the methodology to the appropriate leadership level, it is possible to infer that:

1. The advent of the new military planning method for the Argentine defense confirms hypothesis N° 1, which emerges from the development of the set objectives and presents a singular dependence on the financial and administrative political guidelines, which shall be considered by the highest decision-making agency.
2. Thus, the Defense System counts on defined standards and procedures in order to ensure the correct coordination of means acquisition and maintenance efforts (genetic logistic and maintenance logistic) with the priorities set at the strategic level, as well as with the management technologies appropriate for achieving higher efficiency and efficacy levels in allocated resources administration.
3. Another institutional condition necessary for the implementation to be successful is the strengthening of military coordination agencies (Joint Staffs). In the case of

*In the Argentine Republic, a defensive, cooperative and autonomous policy is clearly established.*



Argentina, these agencies are legally responsible for providing military advice to the Ministry of Defense and for developing planning and other joint activities. Therefore, the Joint Staff, in its fundamental conception, fosters a joint logistic approach, reinforcing the hypothesis.

4. From the two stages put forward, the traditional planning (based on hypothesis of conflict) and the new Capability-based planning, a global change can be observed in the way of planning of the different countries considered –a European, NATO member country, such as Spain, and another closer to our reality, such as Chile.

5. The legitimacy of the military capabilities matrix (and of the resulting forces design) shall depend on the level of consistency it kept with the foreign policy stance. In other words, the military instrument

cannot stop being a function of the national strategy of insertion in the international scenario, a fundamental equation to reinforce the veracity of the hypothesis we put forward.

In this paper, we have tried to argue that the change of paradigm from the hypothesis of conflict to the capacity-based planning was not only a practical answer to threats emerging from a different international context, but also efficient and effective when applied to the Argentine defense system to reorganize the way in which objective, functions and missions are established. It should also be remembered that the planning based on hypothesis of conflict led to a regional arms race and, above all, that it was incomplete since the possibility of suffering an aggression not foreseen in said hypothesis was always present.

<sup>24</sup> Discurso de la Dra. Nilda Garre. *Planeamiento por capacidades para la Defensa*. Secretaría de Comunicación pública, 2010. Disponible en: [http://prensa.argentina.ar/2010/04/11/6946-planeamiento-por-capacidades-para-la-defensa.php]. Fecha de consulta: agosto 2015.



Is capability-based strategic planning then a panacea that shall make it possible to successfully face up to any aggression? No, it definitively is not. Nowadays, not even the world's first power can achieve this. Nevertheless, there is no doubt that this method, as any other, is a rational and ordered guide that does not guarantee its contents, but which is more comprehensive than the previous one.

The new system relies on significant advantages which shall make it possible to:

- a) advance in the development of capabilities with a joint vision to achieve higher synergy, in particular, for the development of Special Forces;
- b) eliminate duplicity of means and superimposition of capabilities,

observing that future acquisitions adjust to this criterion;

c) highlight the polyvalence for capability development;

d) weapons systems replacement shall not be automatic, but assessed considering the capability they contribute with, the need to count on them, technological alternatives available and defense needs global context.

Their flexibility should also be added, since it enables the integration of

international commitments and the active participation in the regional integration process, through the UNASUR and their defense congresses and implementation of transparency policies among the countries of the region. ●

Peers-reviewed article.

*...a capability-based planning system makes it possible to achieve a favorable combination between strategic uncertainty, military means and budgetary planning,*

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# PROGRESSIVE DEVELOPMENT IN RPA REGULATORY PROCESS

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In order to maintain its effectiveness, a social discipline as Law shall essentially study changes within the various areas of knowledge, in search of solutions that may satisfy truth and public welfare.

Scientific and technological breakthroughs, as well as social and cultural progress constitute “new facts” –engines, in some cases, catalysts in others- that measure current rules flexibility, rules that govern social life in the presence of new situations generated by steady progress.

Very often, the speed of change may be faced with two extreme attitudes assumed by who is in charge of ruling: early regulation on a case-by-case basis and restrictive inaction. In both cases, the risk of harmful situations for individuals is faced with.

The first extreme attitude involves exaggerated diligence in anticipating,

by means of written regulation, the wide range of possible events that might occur in the future; this aims at preventing any possible legal loopholes. Logically, said posture suffers from the absolute inability to make futurology about the sailing directions that knowledge and human progress will follow –not in a hundred years, but just tomorrow.

For example, who could have anticipated the countless applications Internet has nowadays?

The second posture, restrictive inaction, seeks to classify new scientific and technological facts within the existing legal standards and categories by looking for analogies. Should any obstacle arise as to that, there is a trend either to ignore the novelty or to prohibit its use or existence until it is adapted to fit in with the existing Law.

As usual, the intermediate line of thought seems to be the most practical and appropriate –accompanying Law along with changes relating to truth and common welfare through creative, integrating and enlightening observation.

That does not only entails preventing the fact of creating institutions and elements in advance in a way that may result too much based on cases, but also –and basically–using flexible regulating alternatives that may allow for greater adaptability, regulating gradually together with the changing pattern, until eventually –when a stability base point is reached– being able to regulate under higher-level rules as, for example, laws.

Nowadays, aiming at formulating and enforcing a high-level rule, finished and not likely to change in the short

*Very often, the speed of change may be faced with two extreme attitudes assumed by who is in charge of ruling: early regulation on a case-by-case basis and restrictive inaction.*

term for the case we are studying, i.e. RPA (Remotely Piloted Aircraft), UAS (Unmanned Aerial Systems), UAV (Unmanned Aerial Vehicle), drones, etc., adversely affects the development that promotes their normal course.

The previously mentioned is despite the fact that seeking to exhaust in writing the “just in case” restrictively does not benefit in any way the subjects who might be affected as individuals or in their property by the constant occurrence of new eventualities.

*...seeking to exhaust in writing the “just in case” restrictively does not benefit in any way the subjects who might be affected as individuals or in their property by the constant occurrence of new eventualities.*

### POSSIBLE REGULATORY MEANS: LAW, DECREE, ADMINISTRATIVE DECISION AND RESOLUTION

In general, when referring to “rules”, the common syllogism is to think about laws, i.e. rules of law issued or promulgated by the legislator.

Actually, that type of rule of law *stricto sensu* is the one issued by the National Congress and promulgated by the executive branch of government, with characteristics of **generality** (encompasses everyone who is within the terms specified by it, with no exceptions), **binding nature** (establishes legal obligations or duties and grants rights, besides, the failure to perform it can give rise to a penalty), **permanence** (indefinite, permanent nature, for an indefinite number of cases and events, and shall only be left ineffective by means of abrogation, subrogation and derogation by subsequent laws), **abstraction** (not issued to regulate or settle individual cases, or aimed at certain individuals or groups) and **presumption of knowledge** (nobody can claim ignoring it so as not to comply with it).

Therefore, laws are a species within the genre of rules of law, a high-level species just below the National Constitution and treaties, but a species in the end.

In fact, rules may be promulgated by the authority with the premise of attempting to control human behavior, establishing rights and duties and, in case of failure to perform it, a penalty could be applied. The hierarchy of said rule in the legal pyramid will be determined in terms of the competency level of the promulgating authority.

That leads to attenuating the roles of laws, whenever we intend to apply them or qualify the regulations situated in the lowest levels of the

pyramid. For example, the lower the hierarchy, the more mutability or less permanence—at least within the framework of possibilities—.

In our country, we have decrees issued by the Executive, administrative decisions taken by the Chief of the Cabinet, resolutions, provisions, circulars, among others.

Let's take, for example, resolutions. They also have a binding, general and permanent nature and are included under the legal category of administrative acts.

Basically, they are useful to reinforce laws since they are issued so that what is thereby established may be fulfilled; therefore, they count on a degree of flexibility, opportunity and information that law cannot have and supplements it in that regard.

*...Therefore, laws are a species within the genre of rules of law, a high-level species just below the National Constitution and treaties...*

In that sense, this kind of administrative acts (resolutions, among others), framed within a more general law, grant the opportunity to accompany technological breakthroughs more gradually and with more flexibility, as long as they are included in a higher rank regulatory document that supports them.

### ADAPTABILITY OF AVIATION LAW

Within an ever-changing and constantly evolving environment



such as that of aerospace, the Law attempts, to the extent possible, to adapt itself to that set of changes. Nevertheless, it is not always capable of encompassing all of them with the positive legal categories and institutions —i.e., in written rules—, and it is here that its capability to adapt to new circumstances plays an outstanding role, circumstances that, once regulated, are translated into legal institutions, laws and other forms of legal regulation such as administrative acts of general scope (decrees, resolutions, etc.).

The constant change of aeronautical science and technique constitutes a sort of Law determining factor

*...The assumption we are working on, the regulation of the RPA/UAS/ UAV phenomenon, constitutes a clear example of exceeding any restrictive paradigm since it involves diverse areas of knowledge.*

since it requires its permanent adaptation.

The adapting capability assumes some balance between the diverse changes occurring in both the aeronautical environment and the legal system, which sometimes occurs in a parallel and simultaneous way and others —most of times— immediately afterwards.

It is worth mentioning that human nature has the in situ characteristic of attempting to dominate nature and take the most of its wealth, which allows for the development of better conditions for social human life and the satisfaction of common welfare.

It should be reminded that, at this stage of analysis, society progress does not only influence written rules, but also the most deep-rooted values and customs, which should be addressed by regulations.

The assumption we are working on, the regulation of the RPA/UAS/UAV phenomenon, constitutes a clear example of exceeding any restrictive paradigm since it involves diverse areas of knowledge.

In fact, it is not only about the consequence which had the revolution that, many

years ago, assumed the existence of a “machine heavier than the air that could fly”<sup>1</sup>, but about something even more revolutionary: a machine that flies with no human presence on board, remotely, thanks to a device called computer and the scientific and technological breakthroughs entailed by information technology discipline.

However, this phenomenon of necessity to adapt to the fast changes required by Aviation Law due to RPA does not depend on this legal area, or on this branch of Law.

All these breakthroughs that forge changes in the diverse spheres of man’s life and are permanently dynamic, should be undertaken by Law in order to regulate them and use them in a functional and appropriate way and possible conflicts are prevented or actions are taken in relation to ongoing conflicts.

### ISSUES, CATEGORIES AND FUNDAMENTAL OR «MACRO» RIGHTS

As previously stated, the new changes and situations that take place deserve legal intervention so as to deal with their regulation for the sake of legal entities protection.



UAV control



X-47B conducting a successful landing

<sup>1</sup>As certified in Leonardo Da Vinci’s written documents.

In the first place, that is the way it should be differentiated between the need for higher- rank rules, such as the National Constitution and Nation's higher-level rules — which protect fundamental rights as life, privacy, etcetera— and other regulatory rules arising from the eventual implications that, *verbi gratia*, new technological means generate in those fundamental powers.

Thus, together with information technology and the Internet, the so-called *hackers* and *crackers* emerged, true computing systems pirates, capable of remotely infiltrating in all kinds of reserved or secret information, individuals with skills to create computing viruses with highly prejudicial effects.

It does not mean that, for example, the right to intimacy or self-image started with the Internet. In our country, Article 19 from 1853 of the National Constitution guards the right to intimacy (not to mention that is a right inherent to human nature and life in society).

Basically, it is about new means —resulting from science and

technology, at least, within the framework of what is possible— represented in everyday reality many and countless times, that make the protective framework more permeable with innovative ways to affect them.

Unquestionably, the similarity and analogy existing between violating material correspondence such as a letter and intercepting e-mails is evident.

Then, legally protected is the right to secrecy of correspondence, another rule should provide for the documents related to the means, in this case, information technology.

As regards the case which keeps us busy, the existence of technological devices capable of putting at risk fundamental rights such as the right to intimacy, one of the bastions of life in society, means that, actually, although there is a capability or readiness for vulnerability, its occurrence depends on facts.

RPA vehicles are not specifically bad at all; it shall be their use the one subject to ethical or even legal (legitimate/illegitimate) labels. We

modestly think that RPA, *per se*, are an additional means that enable, through their improper operation, endangering certain assets or rights.

The thing is that man's behavior is assimilated by Law. Then, as long as there is a framework with a high degree of immutability that may result protective of the most general and vital objects, the use of technological means can be regulated —so that their development is not unnecessarily hindered— by lower-order rules, more practically and in more detail.

Undoubtedly, it is necessary to count on a law, *stricto sensu*, which regulates airspace protection in every way, establishing definitions and application authorities, among others.

As well as that, Chicago Convention does not state anything about the definition of aircraft, which does appear in Annex 7, "Aircraft Nationality and Registration Marks, definitions": "Every machine that may sustain itself in the atmosphere by air reactions that are not its own reactions against the ground surface"<sup>2</sup>.



Source: Wikipedia

RPA vehicles are not specifically bad at all; it shall be their use the one subject to ethical or even legal (legitimate/illegitimate) labels.

RQ 11 Raven, a micro spy aircraft used by the Spanish army in surveillance tasks over Lebanon and Afghanistan

This is a wide approach since it emphasizes the means where the machine circulates and its way of interacting with it.

In turn, Article 36 of the Argentine Aeronautical Code states that “Every machine or mechanism that may circulate within the airspace and is capable of transporting people or things is considered to be an aircraft”<sup>3</sup>. This is a more restricted definition which adds the requirement that these machines or mechanisms be capable of transporting people or things.

Then, we as authors consider RPA to fit in both definitions, since Article 36 itself uses the term “capability”: it is not about effectively implementing the transportation of people or things, but counting on the capability to do so.

In spite of that we believe that Law is an entity that comes into life when intervening in the regulation of new facts and circumstances that stem from man’s knowledge and actions.

That is the reason why, as regards fundamental issues, nothing hinders the possibility of improving, in future regulations, the most encompassing and precise

definitions and thus avoiding mistaken interpretations. Therefore, amendment to Article 36 of the Aeronautical Code seems to be extremely advisable.

The «technical aviation fact», due to its own inherent changeable nature, generates in Aviation Law a sustained adjustment to technical progress and the subsequent mutability of its rules. In consequence, it requires to be permanently updated, due to the continuous airworthiness system breakthroughs. That also implies the continuous appearance of new rules that shall satisfy the inevitable requirement of air navigation being performed under the maximum conditions of safety and efficacy.

That is the reason why Unmanned Air Systems pose a new challenge for the aeronautical industry that will allow for cost reduction and promote the appearance of new opportunities in order to use technologies scattered in other fields.

However, and as it has already been mentioned, said systems are just one more means of circulation within the airspace, as well as one more means

to eventually impair essential rights such as intimacy—as recognized by the Constitution—.

For that reason, it does not seem crazy to pretend that, instead of favoring the approval of a law that exclusively regulates RPA phenomenon, this phenomenon could be considered to form part of a larger situational cluster, related to airspace protection.

That would definitely imply a more generic and exhaustive amendment of the Aeronautical Code provisions. Also, the drafting of an airspace protection bill.

In the case of RPAs, within this broader framework, regulating through a decree or resolution is possible especially within the military sector<sup>4</sup>, as long as it occurs within the spectrum of faculties and competencies.

### THE VALUE OF ICAO’S CIRCULAR NO. 328

International Civil Aviation Organization’s (ICAO) Circular N° 328 provides a good regulatory and

*...that Law is an entity that comes into life when intervening in the regulation of new facts and circumstances that stem from man’s knowledge and actions.*

<sup>2</sup> Definition expressed in Annex VII. ICAO.-

<sup>3</sup> Article 36, Aeronautical Code.-

<sup>4</sup> As in our country civilian and military aeronautical fields are separated, the purpose of this article deals with the military one.



B-52 acted as mothership, carrying under its wings two Lockheed D-21 (surveillance Unmanned Aerial Vehicle)





interpretative framework.

Its Preamble states as follows:

*Unmanned Aircraft Systems (UAS) are a new component of the aviation system, one which ICAO, States and the aerospace industry are working to understand, define and ultimately integrate. These systems are based on cutting-edge developments, offering advancements which may open new and improved civil/commercial applications as well as improvements to the safety and efficiency of all civil aviation. The safe integration of UAS into non-segregated airspace will be a long-term activity with many stakeholders adding their expertise on such diverse topics as licensing and medical qualification of UAS crew, technologies for detect and avoid systems, frequency spectrum (including its protection from unintentional or unlawful interference), separation standards from other aircraft, and development of a robust regulatory framework<sup>5</sup>.*

The Circular guiding value is depicted in paragraph 1.6, where within the Purposes, the following is expressed:

*The purpose of this circular is to: a) apprise States of the emerging ICAO perspective on the integration of UAS into non-segregated airspace and at aerodromes; b) consider the fundamental differences from manned aviation that such integration will involve; and c) encourage States to help with the development of ICAO policy on UAS by providing information on their own experiences associated with these aircraft<sup>6</sup>.*

The present document is organized

so that it shows the three traditional areas of aviation: operations, equipment and personnel; obtaining the current value of interpretation guideline, provided with uniformity and as starting point of future regulations, both at national and international levels.

### CIVILIAN FIELD: ANAC REGULATIONS

The aforementioned ICAO Circular No. 328, from its perspective of integrating these systems (UAS) into the non-segregated airspace and at aerodromes, aims at considering the fundamental differences from manned aviation that such integration will involve, encouraging States to develop a policy on that regard.

ICAO's complete regulatory framework and the Circular itself, stipulate that only remotely piloted aircraft or RPA shall incorporate into the international civil aviation system in the predictable future.

At present, ICAO is developing the regulating framework that will govern said air vehicles operation and, according to what is stated in the abovementioned Circular, and as every issue and technology gets enough maturity, the applicable Standards and Recommended Practices (SARPS) shall be adopted, anticipating that such adoption will constitute a gradual and evolving process.



International Civil Aviation Organization (ICAO)



National Civil Aviation Administration (ANAC, in Spanish)

<sup>5</sup> Cfr. Circular No. 328 of Preamble, An/190, Unmanned Aircraft Systems (UAS), ICAO, approved by the Secretary General and published under his responsibility, page (iii), 2011.

<sup>6</sup> Cfr. Paragraph 1.6. Circular No. 328, An/190, Unmanned Aircraft Systems (UAS), ICAO, approved by the Secretary General and published under his responsibility, page. 2, 2011.



In some way, that follows the regulatory logic that seems most suitable to us: issues affecting fundamental rights and categories are regulated through high-level rules, and details are considered permanent when (in this case, in relation to science and technology), they reach a turning point capable of being attracted, identified and represented.

Therefore, as a consequence of the lack of an international rule and specific internal regulation it is imperative that these vehicles and vehicle systems be regulated provisionally and the supporting documents for its operation be established.

*At present, ICAO is developing the regulating framework that will govern said air vehicles operation ...*

It should be mentioned that National Civil Aviation Organization, by means of ANAC's Resolution No. 527 dated July 10th, 2015, approved the Provisional Regulations of Unmanned Air Vehicles, applicable within the civilian field. That means

*...it is of utmost importance to standardize the subject-matter which regulates the rule, for both the civilian and public sectors..*

regulatory documents were adopted in a conducive way until more general and permanent measures can be taken.

### THE 'PRESENCE' IN THE REGULATION OF INSTITUTIONS WITH DIRECT INFLUENCE ON THE SUBJECT MATTER

The enthusiasm and popular impact generated by 'drones'—as they are most commonly known by the public—is very clear; since the opportunities to access lighter machines multiply every day.

Thus, it is of utmost importance to standardize the subject-matter which regulates the rule, for both the civilian and public sectors.

Starting, within the framework of the own competency, to establish minimum parameters —by means of administrative acts, for example—, constitutes a real act of presence and of taking position with respect to different aspects of safety, efficiency, efficacy and ethical and legal impediments on their use.

It should be remembered that, due to the lack of regulation or written documents, the interpretations and criteria to be used multiply, therefore, hindering even aspects such as safety.

Moreover, determining a scope of action constitutes a real act of presence by aerospace operators, not a minor issue to be considered.

### FINAL REMARKS

To conclude the present article, some thoughts are expressed below:

a) As it has already been stated in another of the authors'<sup>8</sup> articles about the topic being analyzed, when providing legal guardianship, it should not be confused the use or purpose of a technological breakthrough with the risks its use entails. That is, it does not seem reasonable to proscribe the investigation, experimentation and use of unmanned air vehicles faced with the possibility of them being misused and, for example, infringe citizens' right to intimacy.



AR.Drone 2.0 in flight with indoor hull



DJI Spreading Wings S800 hexacopter



DJI Phantom, a UAV for commercial use and recreational aerial photography.

<sup>7</sup> Cfr. *Shaping the "doren" debate*. November 2013. Dirección URL: [www.aerosociety.com](http://www.aerosociety.com).

**b)** Moreover, the Aviation Law is dynamic and its object changes. In consequence, the regulations that govern it should be constantly interpreted in order to accompany the mutability of the technical event they regulate. And that's the way analogy and recurring to the subject-matter general principles are common practice within this field, and that is why, at least at their experimental phase, they are not restrictive of RPA use. The legal operator should look for the best possible protective frame.

**c)** While 'macro' objects to be guarded (aerospace, etc.) deserve to be considered urgently at legal level, besides remembering that there is constitutional protection as regards fundamental rights (intimacy, etc.), it seems more practical and advisable to provisionally regulate the RPA phenomenon within the military field by means of administrative rules of general scope.

*... when providing legal guardianship, it should not be confused the use or purpose of a technological breakthrough with the risks its use entails. .*

**d)** That is up to the moment the turning and non-return points are reached, in both science and technology, with sufficient degree of permanence and immutability as to become a law.

**e)** The previously stated, regarding the above mentioned regulation (decrees, provisions, resolutions), entails a great impact on the social and economic activity, since it has a degree of flexibility, opportunity and information that law cannot have and they supplement it in that sense.

**f)** It should be considered that the absence of a regulatory process, at least an emerging one, also implies not knowing the importance the sector to be regulated has in the aerospace of the future, especially, as regards its uses by public authorities, considering their civilian uses have first been started to be regulated through the National Civil Aviation Administration.

**g)** The fact of starting to regulate public uses—including the military ones— gives the opportunity of giving a 'further step' regarding the development of the technique, preventing that excessively restrictive or, on the contrary, too loose interpretations, in the face of 'legal loopholes', result in the absence of opinion depicted in Law, by those institutions with direct influence on the subject-matter, such as the Armed Forces. ●

*...the Aviation Law is dynamic and its object changes. In consequence, the regulations that govern it should be constantly interpreted in order to accompany the mutability of the technical event they regulate.*

Peers-reviewed article.

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<sup>8</sup> Also, published in another edition of ESGA.

# INSTITUTIONAL ACTIVITIES

## CEREMONY OF THE BASIC COMMAND COURSE AND COMBINED AIR STAFF COURSE I

On October 7th 2016, the graduation ceremony of the Basic Command Course (second round) and Combined Air Staff Course I was held. The ceremony was headed by the Director of the Institute, Colonel Fabián Costanzi, accompanied by the Deputy Director, Col. Claudio Salaberry and the Academic Secretary, Col. Carlos Ferlini, together with superior officers, officers, professors of the institution, personnel and special guests.

The Vice Commodore, Cristian Haller, was in charge of addressing the officers. He particularly highlighted the job of the institution's professors and personnel working on the Virtual Educational Platform.

At the end of the ceremony, distinctions to the best and second average score were given as well as the "Special Mention to the best argumentative essay". Finally, all the personnel and special guests were offered a wine of honor in the "Campos" event room.



## CERTIFICATES AND AWARDS CEREMONY

On December 7th 2016, the graduation of the “Specialization on Assessment of Investment Projects for the Defense” took place, presided by the Director of the Institution, Colonel D. Fabián Edgardo Costanzi, accompanied by the National Investment Director of the Ministry of Economy, Mr. Manuel Weich, and special guests of the armed and security forces.

During the ceremony, the Retired Colonel VGM (Malvinas Islands war veteran) Carlos Alberto Maruso pronounced the corresponding allusive words.



*Award ceremony, chaired by Col. D. Fabián Edgardo Costanzi*



*Participants of the Specialization on Assessment of Investment Projects for the Defense.*

## GRADUATION OF THE 2016 AIR COMMAND AND STAFF COURSE

On December 19th, the graduation of a new Air Command and Staff Course took place, taught by the War College (Escuela Superior de Guerra Aérea -ESGA) in the Officers club of the Argentine Air Force.

The ceremony was headed by the Chief of General Staff of the Air Forces, General, Enrique Víctor Amrein, who was accompanied by the Inspector General, Lieut. Gral. Héctor Ascazuri; the education and training Commander,

Lieut. Gral. Oscar Charadía; the Education General Director, Mayor Gral. Gustavo Testoni; the director of the War College, Col. Fabián Costanzi; the Training Deputy-secretary of the Ministry of Defense, Mg. Alejandro Gómez; the Dean of the Defense University, Mr. Julio César Spota; authorities of the Universidad del Salvador; generals, command officers, superior officers, officers and special guests.





After the Military Chaplain, Alberto Barda, blessed the diplomas and medals and made the religious invocation, the ESGA Director, Col. Fabián Costanzi made reference to the objectives of the Course and the achievements attained throughout the year. Moreover, the Colonel paid a very emotional homage to Col. Marcelo Eduardo Cattani, who had been the Deputy Director of this institution.

Once all the recognitions had been delivered to those who stand out in various training areas, the Chief of General Staff of the Air Forces addressed the audience: “It is a real honor for me to say these words; it crowns the end of the year and all the efforts involved in conducting every course until the end, and for that reason I would like to express my appreciation to the Managing authorities and all those who have contributed to this present day”.

Finally, the graduates and special guests shared a toast where they raised their glasses on a promising future in this new stage of their careers. ●

*“It is a real honor for me to say these words; it crowns the end of the year and all the efforts involved in conducting every course until the end, and for that reason I would like to express my appreciation to the Managing authorities and all those who have contributed to this present day”.*



General and Malvinas War Veteran, Enrique Víctor Amrein

*The following books are available at the “Vicecomodoro Juan Rawson Bustamante” Library.*

## RULES OF ENGAGEMENT

*Rear admiral (R) : Gustavo Adolfo Trama*

*Army audit Major: Alvaro Ribeiro Mendonça*

*B.S. : Sebastián Vigliero*

*Content advisor: Major Gral. (R) Evergisto de Vergara*

*Methodology consultant: PhD Lucía Alejandra Destro*

*This is a doctrinal revision which seeks to contribute to the promotion of joint-combined and joint military interoperability standards.*

It is an interesting book that explains the definition, classification and objectives of the Rules of Engagement, a key concept for the current military operations. It also analyses the relation among such rules and the planning and operational process and highlights the importance of drafting Rules of Engagement in a joint and coordinated manner in a time the Air Forces have to consider the need to avoid collateral damage.

The book provides elements of judgement that evidence the need of having a permanent Rules of Engagement and Rules of Use of Force catalogue, approved by the competent authority in order to train the troops properly and, therefore avoid errors which contravene international law.



# THE 21 IRREFUTABLE LAWS OF LEADERSHIP

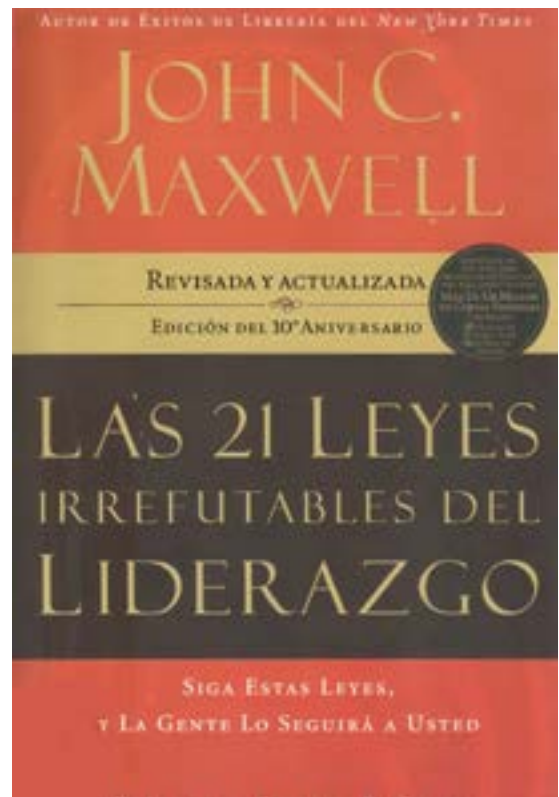
*John C. Maxwell.*

*Foreword by Stephen R. Covey*

This best seller author is a regular *New York Times*, *Wall Street Journal* and *Business Week* writer, which evidences the preferences for these topics in certain leadership fields, such as the cultural, commercial, military and political sectors.

This book describes each characteristic and each virtue the person seeking to be a leader in any given activity should have. It presents with magisterial writing how to polish the potential aimed at reaching the necessary excellence of a well-known leader. It provides examples of his premises, detailing virtues and flaws to be corrected of prominent personalities of the world history.

This books gives the reader an assessment tool to recognize capabilities and skills, as well as the flaws of the personnel being considered and provides exercises for those training to become leaders, such as details of capabilities and characteristics to be developed in the quest of this gift —which can always be improved—: leadership.



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The articles can be original opinion articles, the outcome of selected research papers or related book reviews and if possible they should deal with the following topics: International Relations in connection with National Defense, Strategy in the Military Airspace Field, Leadership and Science and Technology applied to the Military Airspace field.

RESGA is an interdisciplinary publication of public reach and in every case the management of the magazine reserves the right to accept the collaboration.

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The articles shall be submitted or presented in the direction of the magazine with the author's signature, printed name, rank and destiny, address and telephone.

The information and articles published by RESGA do not represent the official opinion neither of the Air Force nor of the Institute.

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## MISSION

**To train Senior Military Personnel of the Air Force in management at all the institution levels, to specialize officers in the Joint Staff service and to develop special courses to contribute to achieving the mission of the Air Force.**

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### ESGA IS CURRENTLY TEACHING THE FOLLOWING ADVANCED TRAINING COURSES:

-Senior Command Course: This course is designed to train O5 or equivalent in conducting the tasks and filling the positions of superior management of the institution and joined and combined military action.

-Air Command and Staff Course: This course aim is to perfect the officer to perform efficiently as command officer and staff officer in specific commands and in those areas which, based on their hierarchy, are linked both directly or indirectly with management in the institutional field.

-Basic Command Course: It perfects the officer in specific areas of management to develop efficiently as operation officer and equivalent level institutions.

-Basic Command Course – Professional: Its goal is to perfect the officer in specific areas of management to develop efficiently in administrative or operational institutions similar to the level of their squadron.

-Activities for continuous improvement: It gradually perfects officers of A, B, C and D command corps and professional services corps, in accordance to the positions and tasks to be developed.

-Combines Air Staff Course: It provides the officers with the necessary tools to develop efficiently in a Combined Air Staff field.

Specialization on Assessment of Investment Projects for the Defense: Its goal is that the student finishes the course and as an Argentine public officer be properly prepared to provide assistance and counselling in the organizations related to the National Defense regarding Investment projects. This course is designed for the Armed and Security Forces of the public and private sector, national and foreigners. Those interested in receiving more information, please contact (+54) 4346-8600, ext. No. 3239.