

## **MILITARY SCIENCE IN THE 21<sup>ST</sup> CENTURY – AN AUSTRIAN PERSPECTIVE**

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The invitation to come to Finland to lecture on military science in the 21<sup>st</sup> century surprised me in such a way that I asked for a short time to consider my decision. However, the one day I had for the "appreciation of the situation" was completely sufficient, as already shortly after the telephone call of LtCdr Staff the "Military Science Virus" infected my brain and covered big parts of my hard disk. The reason for it was the fact that I had worked extensively in the area of the "Academic Education of Officers" in the past years and this work was mostly dominated by short-term organisational questions. The present question was therefore a very welcome stimulation for me to think about the actual Austrian situation in a holistic and future-oriented manner.

For a better understanding of my considerations I would like to introduce myself briefly at the beginning: I have been a career officer for a long period, I always say for hundreds of years in my personal era. I served in the artillery over 20 years in several functions. Since 1988 I have been a member of the Training Department in the Austrian Ministry of Defence. Between 1988-1993 I studied pedagogy at the University of Vienna and since then I have been a pedagogical expert in the Ministry. Therefore I look at military science with a pedagogical, sociological eye and – above all – from the perspective of the academic education of officers.

At the beginning I want to make a short comment about the term "Military Science". As you probably already realised I use the concept military science in the singular and not in the plural, because this way the importance of the co-operation of individual disciplines to a common entirety is emphasised.

I start my lecture with the actual situation in Austria, with which I fall back particularly on my vocational experiences. In the second part I try to gaze at the future of military science.

## CURRENT SITUATION IN AUSTRIA

I would like to start with the concept of "science" that in my experience often evokes discomfort in many soldiers of higher ranks. In discussions with soldiers of all organisational levels, especially with older comrades, I hear the following sceptical statement again and again "we need no scientists, we need commanders". This statement I would like to take as a starting point for the description of the Austrian situation.

The more exact contemplation of this statement shows that the scepticism doesn't refer to science as a whole, but to the "academic" education of soldiers or, more concretely, officers. And there is a very concrete reason for that in Austria, because officer education became academic education in 1996. The formal result is that the career officer graduates from the Military Academy with the rank of a Lieutenant and with a Master's degree on "Military Leadership".

Caused by this development military science has been discussed in Austria for some years. The discussed questions are: Does a military science exist? What are the disciplines (sub-disciplines) of military science? What about typical military contents like strategy, operation, tactics - are they also sciences? The discussion of these questions is understandable, as Austria has no official concept of military science.

But that also means that the discussion about military science in Austria is limited in structure. Therefore I would like to list the essential tasks of science at the beginning – also as a reminder for me, because I tend to focus only on the academic education. These tasks are the finding of knowledge, in other words research, the publication of knowledge and the teaching of knowledge<sup>1</sup>.

However, back to the already mentioned scepticism concerning the academisation of career officers. I think in many cases it is caused by the image that with academic education the officer becomes automatically a scientist and the second idea is that the role of a scientist is irreconcilable with the role of a military executive. Simply put, one can say that the critics of the academisation are afraid that the officer becomes a theoretician instead of a practitioner. Provocatively one could also say: the officer should think less, but simply act. Seen from a more objective point of view, the theory - practice relationship in academic education is addressed by that fear; a problem all higher education is confronted with. But this is a pedagogical problem and is absolutely solvable in the framework of goal-oriented academic education.

But behind the expressed scepticism there is a second problem hidden. Our modern society tends to regulate the areas of social life -mostly for very good

reasons. Therefore science also is regulated by the state and is institutionalised. We have in Austria - like presumably in most other countries - extensive legislation in the area of academic education. The military - and with it military science - has to confront itself with this institutionalisation and has to arrange itself according to the law. And this means that civilian authorities are influencing military education - a very unusual experience for military executives.

## PRACTICAL EXPERIENCES WITH THE INSTITUTIONALISATION OF THE ACADEMIC MILITARY EDUCATION

In Austria we have today two military academic lines of study. One is the basic education for career officers, organised as "Fachhochschul" study course<sup>2</sup> "Military Leadership", the second one is the general staff officer course. The "Military Leadership" study course is run completely under the responsibility of the Military Academy. Hence the "Fachhochschul" study course is officially recognized as being given by an academic institution. In contrast, the general staff officer course is officially run by the University of Vienna as a so called "individual line of study", although most of the lessons are given at the National Defence Academy. But this means that the National Defence Academy is not an official academic institution. This difference has, as I suppose you can imagine, several consequences - but this is not subject of this lecture.

From the criteria for "academic studies" arise unusual fields of tension for the military, which I want to demonstrate with the criteria of (1) freedom of teaching, (2) openness for the variety of scientific opinions and methods, (3) freedom of learning and (4) obligation to publish<sup>3</sup>.

I personally experienced and still experience today these tensions, above all with the implementation of the "Fachhochschul" study course. The fundamental problem is that the head of the study course is extensively independent by law, although his superiors are also in charge of officer education. Nowadays they have only little possibilities of directly influencing the study course. Freedom of teaching, openness for a variety of scientific opinions are criteria that have hardly received attention until today in officer education. They were rather regarded as a hindrance for a successful commitment to military tasks. But it is quite normal that a traditionally strong hierarchical organisation like the military reacts to this situation sceptically. I do not want to discuss the reasons for it at this point, we would need an extra lecture for that. In any case, the long-term result of the new education will show whether the graduates are well prepared for their tasks or not.

From the principle of "freedom of learning" and the connected open access to officer education another innovation emerges: also civilians can attend the study course "Military Leadership". In practice this happens only in individual cases, as at the moment the interest of civilians for this education is very low and the selection procedure for the distribution of study places favours persons with a military background.

The obligation to publish theses is an essential criterion for the character of science, because only this way the findings are available for wide scientific criticism. In Austria, the former "military scientific works" of the general staff officer course had been held under restrictions, since these papers were often concrete military treatments. This had to be changed, and nowadays the diploma works of the general staff officers can be accessed openly.

My personal opinion on this development is that the type of co-operation between the heads of the study course and their military superiors will develop in the course of several years. As the law awards almost total freedom to the leader of the study course, an extensive autonomy of the study course will exist at the end of this process. On the other hand, the military executives will influence the study course through the control of the resources (budget, personnel) and the evaluation of the graduates.

## CURRENT DEVELOPMENTS OF THE TERTIARY EDUCATIONAL SYSTEM

At present Austria is experiencing extensive changes in this field. On the one hand competition was created for universities with the introduction of the completely new "Fachhochschulen", on the other hand the foundation of private universities was facilitated. There were also changes in respect to academic qualifications, the Bachelor's degree was implemented as a completely new qualification level beside the Master's degree and the doctorate, in the future habilitation will be no longer an absolute necessary prerequisite for a professorship at the universities. In addition the universities will soon be autonomous in economic affairs, and this is a completely new challenge for them. This development is strongly influenced by the "Bologna Declaration" of the European Ministers of Education in June 1999.

That means that the tertiary educational system in Austria will be in the future much more flexible and demand-oriented than it was in the past. This opens possibilities to the institutions of military education that were not conceivable until today in Austria. Possibilities like a doctorate study for general staff officers or a Bachelor's degree for career NCO's who want to become specialist officers are only some thoughts that come up in my mind.

A gaze at the six civilians at the "Fachhochschul" Military Leadership study course should also be stimulating. One of them is a former cadet, who wants to finish his Master's degree. One is a civil servant, one is an African and three are students who want to use the study course as a prerequisite for doctorate studies in social and managerial science.

And another, quite new experience for us is the fact that enterprises want to introduce themselves to the students just before graduation to recruit employees.

## REASONS FOR THE ACADEMIC MILITARY EDUCATION

The reasons for the academisation of military education are clearly visible in the application to acknowledge the officer education as a "Fachhochschul" study course<sup>4</sup>. These reasons can be divided into two domains:

- (1) Adaptation of military education to the developments of society, expressed by the catchwords Europeanization and academisation.
- (2) Qualification to accomplish the new and more diverse military tasks.

The latter reason is the essential one and therefore I want to throw a short gaze at it. The variety of the tasks that have to be managed by military executives have increased above all as a result of the following developments:

In addition to the traditional main task of the Austrian Security Policy, to protect the population from all threats, there is now a new and active component, the containment respectively the control of conflicts outside the own territory, to eliminate the reasons and to stabilise the area<sup>5</sup>.

The logical willingness of Austria to fulfil the "Petersberger tasks" - humanitarian and search and rescue missions, peacekeeping and peace making missions - until the European periphery sets diverse tasks to the Austrian Armed Forces. They are to be rearranged from an alignment of the defence of the own territory to the tasks of crisis-intervention in the periphery of Europe<sup>6</sup>.

But other tasks have to be managed as well, like the following examples show:

- The prevention of terrorist attacks in completely peaceful situations.
- The keyword "cyberwar" shows, that completely new threats can be caused by the quickly progressing technology.
- Austrian soldiers have been employed to avoid illegal immigration at the border to the adjoining non-EU states since September 1990 and are accomplishing a mission that is normally a task for police or customs.

It is no longer sufficient to qualify the officers only to defend their own country by military means, they must be prepared for many different scenar-

ios within different tasks. The remark of an Austrian officer about his experiences at the Balkans clarifies this in a simple way: "Everything I learned in my military education was wrong. I learned as a soldier to camouflage, to shoot and not to negotiate. In the Kosovo I always had to show myself openly, not to shoot and to negotiate".

Today the military tasks require an officer that reacts flexibly according the different tasks and who has an action-repertoire from a fighter to a "diplomat" in multicultural surroundings, from a border guard to a helper in humanitarian catastrophes. With brief words the military executives must be educated extensively for many different situations.

But back to the *academic* military education. How does this education differ from the previous education?

From the criteria for university education, particularly from the demanded freedom of teaching and openness for a variety of scientific opinions and methods, emerge alterations. The students are educated to be more flexible and to contemplate problems from different perspectives by the versatility of teaching. But exactly these abilities are necessary to accomplish the diverse military tasks of the future.

But also the criteria to judge scientific works promote logical and critical thinking, both abilities that officers need extensively. Findings must be reconstructable, pure statements are refused, independence of the work is required. One's own findings can be criticised and are confronted with other findings by the obligation to publish<sup>7</sup>.

### SCIENCE IS MORE THAN ONLY THE TEACHING OF KNOWLEDGE

Karl Popper<sup>8</sup> describes science in a very simplified but very appropriate manner by a picture of human beings. In this picture "scientists" are people who develop new, courageous ideas and suppositions and try through constant critical confrontation to refute them. Military science has to accept and use the same rules; each science must be critical and keep its findings available and intersubjective. It must not only describe agreeingly and affirmatively the area it serves.

This understanding of the role of science does not always correspond to the ideas of military executives, of course. My experiences show that this difference can especially be observed within those disciplines that examine the role of armed forces and the diverse interactions within the armed forces, like sociology, psychology and pedagogy. The critical function of science is not seen so negatively by military executives within other disciplines, like mili-

tary technology or military medicine. In my opinion the reason for this difference is that the former disciplines also criticise military decisions again and again while rarely offering solutions.

One major task of military science is, as I mentioned it already - research - or as I called it, the finding of knowledge. The findings themselves can support the position of the military in certain situations, but they can also criticise the position.

In this context one peculiarity of military science has to be mentioned: military science (at least in my country) is practised almost exclusively by members of the military and they are dependent on the military, a fact that does not necessarily foster the critical function of military science. With a more independent status of the military scientific institutions the critical function of military science is strengthened. But in my opinion the military should also have the right to control the effectiveness of its institutions. So I think a balance between independence and control must be found.

A second balance is also necessary. The balance between research by order and research by decision of the scientists. On the one hand the military must have the right to fix research goals, and on the other hand scientists must also have the right to work on topics they think are important.

The dependence of military science from the military itself in Austria increases through the fact that in our small country military specialists are very rare. The consequence is that several specialists often teach also in the courses of the academic education of officers. I think you would agree that these teachers are in respect to their own decisions less critical as independent experts. For me, it would be extremely interesting therefore to investigate Military science also from a sociological perspective, as social system in the sense of the German soziologist Nikolas Luhmann<sup>9</sup>. According to Luhmann, social systems are autopoietic, they reproduce themselves, and that is absolutely not advantageous for the demanded critical role of military science in the context of the presented dependence of military science on the military. Here I see a possibility for scientists of the "civilian" universities to take over a critical role for the whole system of military science.

#### MILITARY SCIENCE IN THE 21<sup>ST</sup> CENTURY:

But now I want to turn to the military science in the 21<sup>st</sup> century. Admittedly, we are already in the 21<sup>st</sup> century, but the remaining 98 years are such a long period of time that a prognosis until the end of the century would resemble a science fiction novel. Therefore I restrict my contemplation to a shorter, more concretely assessable area of the next 20 years.

First I want to state that the already described fundamental role of military science also in the 21<sup>st</sup> century won't change. However specific domains of action and tasks will become particularly important. The developments in society, technology and the armed forces will have crucial influence on these domains and tasks. Let me now look at them in more detail.

A current mega-trend in society is globalisation, but for us Europeans a smaller variation is much more important at the moment, Europeanization. The big political project of the 21<sup>st</sup> century is the political union of Europe. The common currency was a crucial step in this process, that will progress sometimes more quickly sometimes more slowly. Europeanization will have consequences on all areas of life, and also on the armed forces as the past years have already showed. The Common Foreign and Security Policy (CFSP) and the European Security and Defence Policy (ESDP) are examples of this development.

The question of the necessity of national armed forces will be posed and also in this context the question about the necessity of national educational institutions for all officer levels. For example, do Austria and Finland really require their own academic institutions for officer education? However, the network of National Defence Academies will be intensified, the exchange of students and lecturers will continue as usual, the reciprocal approbation of military education will no longer be a problem. It is possible that a Finnish officer could also lead a mainly Austrian unit in the European system if he has the necessary language skills.

These examples - although still visionary in the most part - shall show the idea of united European Armed Forces more concretely and clarify the consequences for military science. Military science will also have to confront itself with Europeanization, a European military scientific community will have to establish itself. The reasons for it are on the one hand the new European structure of the armed forces, and on the other hand rationalizations caused by the economic dictate. I think the task of the near future for military science is to create and to improve a European network. The development of European military scientific competence centers would be only a logical continuation of these thoughts. What would you say about a competence centre for army tactics in the UK, one for military pedagogy in Finland and one for common theory of military science in Austria?

But the Europeanization of the armed forces will not only be a task for military science, it will also be an essential field of actions for it. Even though it looks simple on paper, practice will be everything but, as we Europeans are too different and our identities are still deeply national. However, military units are also used as a model and symbol for a united Europe, as the estab-

lishment of the French-German brigade especially shows. For example cross cultural training is today very popular in armed forces, but many other questions also have to be answered until interoperable European armed forces exist.

Technology will continue to change our society essentially, the communicative and informative network will be omnipresent, computer technology will replace the human being in many cases. These technical developments will of course change the military as well, especially its structures but also the types of employment. This is going to be a wide field of activities for military science, not only in the purely technical domain but also in the border area between the human being and the machine according to the motto: "which tasks can people manage better, which tasks are for machines?" The movies of Arnold Schwarzenegger already show a soldier who is connected with everybody, has goggles that inform him about all necessary data. Professor Jarmo Toiskallio from the Finnish National Defence College has already asked today: "Do we need cyborgs or humans?"

At the beginning of the lecture I mentioned new threats and new tasks for the military. Finding or contributing to new solutions in this field is a big challenge for military science in the future. Solutions must be found for the prevention of as well as for reactions to actual threats, with a word for all phases of the crisis. At this point I want to make a short excursion to a demarcation problem of military science and raise the question: is security policy a part of military science? Maybe the question is only an Austrian problem, because in my country other disciplines are hardly interested in security policy. But in any case the connection between the military and security policy is very close.

I want to use this example to emphasise again the necessity of co-operation between the institutions of military science and the universities. I underlined that already by talking about military science as a self-reproducing social system. But also the exchange of knowledge, the scientific discourse is absolutely necessary to foster the understanding of both parts and to increase the development of the discipline. In Austria we have been opening our military educational system to the universities and colleges, and by that many misunderstandings have been solved, making this co-operation very fruitful. To promote *national and international* co-operation, military academic studies should use the same instrument as the national educational systems use: the European Credit Transfer System (ECTS). The ECTS is a system with which some courses or whole semesters at one university can easily be recognized at another university.

In the future military science must be based on a network of international military scientific institutions, civil universities and colleges. The language for these co-operations must be English, even if some of us have problems with it, because it is *the* military language. And to publish in a foreign language is not easy, I experienced that myself during the last months when I prepared the book "Military Pedagogy - an International Survey"<sup>10</sup>.

The development of the military has to be reflected in the trends of society; this will be another action field of military science. The military doesn't exist for itself, it is tied in the framework of the society and gets its legitimacy from it. The tendencies of society will influence the military, especially if the armed forces are based on conscription. Here are some examples of today's social tendencies: higher education, world-wide communication and information, individualisation, pluralistic opinions and interests, economisation, specialisation and professionalisation, wandered goals and methods of education<sup>11</sup>. Consequences will be raised from these fields, consequences for the military and military science will have to support them in finding the answers.

At the end, I want to point out a special task of military science, the task of building up a theory for military science as a whole. That the single disciplines deliver individual findings will not be sufficient. The synopsis, the integral contemplation of the military, the interrelations between individual disciplines are as just important. And by all its actions military science must not forget one particular criterion of great importance for the military: the practice-reference. The practice-reference is always to be heeded at, because the critical attitude of many soldiers towards military science, as I mentioned it at the beginning, is founded also in the lacking practice-reference of some contributions. With this statement, the circle comes back to the beginning of the lecture and I am ready to answer your questions.

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## References

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- <sup>3</sup> Universitätsstudiengesetz § 65, bzw. Fachhochschulstudiengesetz § 3.
- <sup>4</sup> Antrag Fachhochschulstudiengang (FH-StG) "Militärische Führung" vom Mai 1996 S 4f
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