Long-Term Evolution of Professional Military University Education

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Abstract

Although the concept of the military university can be traced back to Ancient times, it is a comparatively recent phenomenon, being widely adopted only late in the twentieth century. We successively describe in broad strokes the main trends and the factors that have shaped institutions of higher learning and military education within states over more than two millennia of institutional evolution, culminating in the institutions that exist around the world today for the professional development and education of the officer corps.

Keywords: History – Officer – Military – University – Education – Industrialization – Professionalization

Although sources of the concept of the military university can be traced back to Ancient times, it is as such a comparatively recent phenomenon, The United States Military Academy (West Point), founded in 1802, obtained its accreditation as a university only in 1925. The US Naval Academy's curriculum was accredited in 1930 by the Association of American Universities. In other leading countries such as Canada who were among the first, after the US, to transform their military academies into accredited degree-granting military universities, this development goes back to the late 1950s. Germany founded both of its *Bundeswehr* universities in 1973, whereas in France, this transformation is still quite recent, when its military academies, such as Saint-Cyr, founded by Napoleon, sought to have their educational programmes accredited as Master's degrees within the Bologna Process which was launched in 1999. In Great Britain, the university education most of its officers have has been obtained at civilian institutions. Though its military academies and staff colleges are thought to offer courses corresponding to a professional requirement, the academic courses these institutions run qualify for university credits; the instructor of those courses is most often a civilian university professor. This brief overview serves here merely as an indication of the diversity of institutional models followed by so-called "First-World countries" with respect to the military education at a university level of their officer corps. Given the fact that the military university is a recent phenomenon that has been taken up by most of the so-called First World countries, but not by all, and the diversity of institutional models with respect to military university-level education of the officer corps, we intend in this paper to explain what historical factors have led to the establishment of accredited, or self-standing, military universities.

Our understanding of the education of military leaders can benefit from a long view of civilization and learning. To understand the accreditation of military universities that actually began in the 1920's, it is important to know not only how and why military academies began morphing into military universities, but also to know in broad terms the long history of the institution which is called today the 'university' with a particular view to certain turning points in its history marking a shift in its social mission and governance structure.

This should help us to understand why the morphing of the military academy into the military university has become a major trend in officer military education and professional development.

1. A Short History of the University

Although the military university is a fairly recent institution, it has a very long pre-history if we consider that Plato's Academy, founded circa ~387, is generally considered as the model that has inspired the *university*, as it was conceived as a school of higher learning intended for those who aspired to become statesmen (*politikoi*), generals (*strategoi*), higher public servants and political advisors.[1] Book VII of Plato's *Republic* undoubtedly contains a version of the educational program that was originally offered at the Academy. This academy, whose concept is attributed to Socrates, was to take in only the most gifted candidates, and they were also screened to have the highest moral character and be hard-working and naturally inclined to study. These students were to be brought through the different stages of knowledge so as to be prepared for the highest level, namely dialectic. As a *propaedeutic* (preparatory study) to dialectic, a full programme of mathematics was proposed, beginning with the simplest and easiest, namely arithmetic as the general science of numbers. From there the students were to be initiated to plane geometry and then to solid geometry. In all of these fields, the students would exercise their minds to think in abstract terms, but the practical applications of mathematics would not be neglected. It is clear that these studies were meant to instruct the students and future leaders in engineering and administration, which are particularly useful when leading an army to war (*Rep.,* 525b).

Once these studies were completed, the students would move on to astronomy, i.e. the mathematical theory of the movement of the heavenly bodies, which was thought to provide them with the required insight into the mathematical foundation for the beauty and harmony of the cosmos. And as final preparation for the study of dialectic culminating in the intellection of the Idea of the Good, Socrates proposed the study of harmonics, which is the mathematical theory of music, which can elevate the soul to the contemplation of Beauty. *Dialectic*, the study of which represented the ultimate phase of the program of study at Plato's Academy, can be interpreted, among other things, as the arch form of *critical thinking*.

When it was founded, Plato's academy already had an Athenian rival in the school opened in ~393 by Isocrates who is rightly considered as the earliest promoter of what would become the liberal arts college. His was a school, much like Plato's academy, that offered a higher education to those young men who intended to enter into public life, when political leadership was still closely associated with military leadership. The difference between Plato's school and that of Isocrates was that the curriculum in the latter culminated in the study of rhetoric rather than of philosophy. For Isocrates, the study of grammar, literature, mathematics and philosophy (eristic and dialectic) was to prepare the learner to the study of the art of public speaking. Also, Isocrates assumed that the mastery of this art went hand in hand with leading a good life, i.e. a life of virtue (*arétê*) in the ancient meaning of the term, not acknowledging that there might be anything problematic about the common conception of morality, virtue or the 'good life' which he took for granted[2]. Philosophy would therefore be understood as the science of the means to attain the good life, and rhetoric was the art capable of persuading the citizenry, and the Greeks in general of the rightness of those means amounting to a general policy.

Later in the 4th century BC, other rival schools of philosophy were opened in Athens, most notably Aristotle's Lyceum (~334), Epicurus' Garden (~307) and the Stoic school (~300). The latter two would have a significant number of students and followers, but all philosophical schools would in fact be eclipsed in popularity and influence by the schools of rhetoric after the Isocratic model that have steadily admitted large numbers of students throughout the Hellenistic period, not only in the Greek, but also in the Roman world. By this time, however, i.e. after the demise of the Greek city-state as a sovereign political entity and its integration within an empire – first the Macedonian, and then the Roman empire – the relevance of higher education for military thinking at a strategic level was all but forgotten.

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[1] There were comparable schools in China, India, Persia, Japan and Africa, but all were founded later in Ancient times, and some have lasted much longer than the Academy, which is reputed to have been closed under the Christian emperor Justinian in 529, because of its pagan roots. On the prototype of the Chinese staff college for mid-career commanders under Gengis Khan, see Chambers (2012).

[2] See H.-I. Marrou (1981), *Histoire de l'éducation dans l'Antiquité, t. I : Le monde grec,* 7th edition, Paris : Éditions du Seuil, 127-146 and 291-306.

Nevertheless, if we are to trust the observation of the Roman emperor Julian (emperor from 361 to 363), the well-educated man – in the sense of classical humanism – is capable of every great deed, from advancing science to political leader, great general, explorer, and hero[3]. The schools of higher learning of Ancient times, as was also the case for China, if indeed there were not meant specifically for members of an aristocratic class, were certainly designed to form a knowledge élite within their society.

After the fall of the Roman Empire, Roman civilization was all but extinguished in Western Europe, while to the east Hellenistic civilization was christianised, but survived to a large extent in the Byzantine empire and other parts of the near and middle east that had been hellenised. There, and most notably in Alexandria, as in other parts of the world such as China, schools of higher learning that can be considered as universities were established and thrived for centuries. But in Western Europe, the first university would be created only in the 11th century by students of medicine in Bologna. Indeed, they banded together to create a *universitas,* an 'association', a 'corporation', in a spirit that is not all that foreign to that of the nascent guilds that would play a major role in the developing civil society of medieval Europe[4]. Thus, the initial purpose of the medieval university appears to have been to institutionalize what has later been called the 'liberal professions' and their reproduction through the teaching profession. In Bologna as later in many other communes (cities), but most notably Paris and Oxford, students of law, medicine, the liberal arts and theology came together[5] to form similar corporations that would eventually come under the protection of the Holy See, with the expectation of preserving their autonomy after fending off attempts by the communal and state governments to bring them under their control[6].

In the decades and centuries that followed their institutionalization under the authority of the Holy See, European universities were embroiled in numerous conflicts with the pope on the issue of their autonomy, conflicts that were not restricted to theological questions. Of paramount concern for the university, already in the Middle Ages, was the licence to teach, not only at the university, but anywhere in the world, and the process by which diplomas were granted[7]. The papacy would soon exert its authority by imposing upon the University of Paris the entry of teaching clerics belonging to the mendicant orders (Franciscans and Dominicans) and pressing for a tuition-free university education, which all but excluded lays, who could not count on financial support from an order, from electing to pursue an academic career. Thus, not very long after its "re-invention", the university became, in Europe at least, a "thing of the Church".

While the number of universities grew exponentially in the centuries following their inception in the 11th and 12th centuries, the university's monopoly to grant licences to teach came under challenge during the Renaissance (15th and 16th centuries), above all from humanists as those who, for the most part, sided with the kings in their struggle with the Holy See, and the university's important role in the cultural life of medieval Europe began to wane[8].

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[3] *Contra Galilaeos*, 229E, cited by Marrou (1981). The emperor was referring to himself as he undoubtedly embodied this ideal of a learned man of war and political leader.

[4] See Charles H. Askins (1923), *The Rise of the Universities*, Brown University Press, 13-14.

[5] The liberal arts, which included, following Isocrates, grammar (literature), philosophy (dialectic) and rhetoric, served as a propaedeutic to the other faculties, which may explain why the different faculties of knowledge came together to form the *University*, leading many to forget that the word originally meant 'corporation'. In this connection, see Kant's fascinating monograph entitled *The Conflict of the Faculties* (1798),

[6] Jacques Le Goff, *Les intellectuels au moyen âge*, Paris : Éditions du Seuil, 1965, 76-80. At the time, the papacy saw in the university a place where reason and faith supported each other and it was hoped that it would constitute an intellectual army against its rival, Muslim civilization, which had benefited so much from its integration of Ancient Greek science and philosophy.

[7] *Id.,* 80-89. See also Stephen C. Ferruolo, *The Origins of the University: The Schools of Paris and their Critic,* Stanford: Stanford University Press, 1985, and Alain Renaut, *Les révolutions de l'université. Essai sur la modernisation de la culture*, Paris : Calmann-Lévy, 1995, 50-56. In Bologna, the situation remained unique until 1321, when the autonomy of the university was finally recognized by the commune, in that until then the teachers formed a college separate from the university which was still exclusively an association of students.

[8] J. Le Goff (1965), 137-156, 170-188.

After a long period of tense collaboration between the Holy See and the temporal powers with regard to the universities, the 15th century saw an outbreak of the state's assertiveness with the nationalization of universities in Prague and in France[9], which we may well interpret as a prelude to the Reform and Counter-Reform movements that would shake Europe in its foundations in the following century. In all the European kingdoms and principalities that embraced the Reformist faith, universities came under the national Church's and therefore the State's control. This situation lasted well into the 18th century in Germany and the Netherlands for instance, and even into the 19th century in England and Scotland. What is remarkable during this entire period is that most of the advancements in science, philosophy and general culture in Europe were due to individuals who had little or no connections with the university[10]. It should be noted that academies of the arts and sciences proliferated throughout the 17th and 18th centuries, which appear to have further marginalized the university in Europe, with the notable exception of Scotland[11]. Equally remarkable is the fact that the overwhelming number of advancements in science and philosophy since the beginning of the 19th century can be attributed to individuals who were or became university professors or had a close connection with the university. Many historians consider that the intervening event that brought about such a dramatic change was the reform of the German university following the French Revolution.

At the time this reform was set in motion by the Prussian government in 1802, universities in the German-speaking world, just like those of the rest of Europe, were in a serious state of decay, with enrolments plummeting to historic lows[12]. The planned reform got wings after the resounding Prussian defeats at the hands of Napoleon's army. A number of philosophers contributed thoughts on the principles that should drive this reform and even, in one case, a detailed plan[13]. Remarkably all of them argue for the unity of scientific knowledge, as something flowing from a single principle, thus justifying the housing of the different sciences under a single roof, thereby reinterpreting the *university* as the coming together of the sciences. The purpose of the university, following the famous word of its main architect, W. von Humboldt, should be "Bildung durch Wissenschaft" ("education through science"), which should be understood in continuity with the Enlightenment project of the 18th century. It gave the highest value to science as that which could lead humanity out of the darkness of ignorance and superstition and into the light of knowledge and well-being. But to have this leading role, it was essential for science to be unfettered by Church or State or Society, although it was clear to all concerned that the university could not thrive without state and even also private funding[14]. Thus, the University of Berlin was founded, and enjoyed the financial support from the State, while being autonomous in its administration. This model was soon replicated throughout Germany. It proved to be a very successful one in that it resulted in the mutual reinforcement of teaching and research[15].

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[9] *Id.,* 165-170.

[10] Jean Bruchési (1953), *L'université*, Québec: Presses de l'Université Laval, 24-25. See also McNeely, Ian F., and Wolverton, Lisa (2008), *Reinventing knowledge: from Alexandria to the Internet*. New York: WW Norton & Company.

[11] G. Fallis (2007), *Multiversities, Ideas and Democracy*, Toronto: University of Toronto Press, 31-36.

[12] See A. Renaut (1995), 118-121, who relies heavily on Jürgen Mittelstrass, *Die unzeitgemäße Universität,* Frankfurt am Main: Suhrkamp, 1994.

[13] The texts of S*chelling, Fichte, Schleiermacher, Humboldt, and Hegel* regarding this reform have been conveniently assembled and translated into French by L. Ferry, J.-P. Pesron and A. Renaut (eds.), *Philosophies de l'Université. L'idéalisme allemand et la question de l'Université*, Paris : Payot, 1979.

[14] This point was made in particular by Schleiermacher who thought it dangerous for the autonomy of the university to rely exclusively on state funding.

[15] W. von Humboldt had also laid down for the new German university the principle of the unity of research and teaching as well as that of academic freedom which Schelling had developed as early as in 1803 in his *Vorlesungen über die Methode des akademischen Studiums*. See on the Humboldtian principle of the unity of research and teaching H. Schnädelbach, *Philosophie in Deutschland 1831-1933*, Frankfurt am Main: Suhrkamp, 1983, 36-44. See also Clark, William (2006). *Academic Charisma and the Origins of the Research University*. Chicago: University of Chicago Press.

Echoes of this model which had thrived in Germany in the early 19th century can also be found in Great Britain, in particular in Cardinal Newman's often quoted *The Idea of a University*[16], first published in the middle of the century, at the time of the foundation of the University of Dublin, and had also strongly influenced institutional developments in the USA. Later in the 19th century, however, industrialism had made large inroads into the ivory tower, as the industrial society was eager to adopt processes in production and administration that met the most advanced scientific standards. Thus, virtually all of the major advances in science and technology originated and were tested at the university, before transforming production processes and how services were being performed in all sectors of society. Engineering, pharmacology, forestry and agriculture, to name but a few of the fields of study that entered the university in those years are an indication of a marked expansion of the university as it was set on the quest for academic excellence and the highest standards for professional certification. But the key to the German model was the idea that all the faculties could contribute to the advancement of science, and which could therefore contribute to the advancement of all the fields of knowledge. The universities in Germany would thus soon grow to become the unrivalled centres for the systematic collection, production (expansion), transmission, and validation of knowledge, and a key factor in the development of the German industry and of its military might, which became quite conspicuous after Germany's resoundingly quick and decisive victory over France in 1870. Prussia conceived military science as the application of all sciences to military problems;[17] but more generally, the ideal of an "education through science" with its moral and political dimensions was sacrificed to specialization[18]. Professionalism did not yet have the ethical dimension it generally has today. In the United States of America, France, and other countries around the world, the German model of a "research university" was adapted to their particular circumstances.

This model appears to have endured at least until the end of WWII. Post-war socio-economic and demographic factors strongly contributed to a marked opening and expansion as well as to a redefinition of the university that began in the 1960s and continued throughout the 1970s, which were witness to the last of the "great transformations" of the university[19], not only in North America, where this trend could first be observed, but by and large all around the world since then.

2. Reconstruction of the History of Military University Education

In what follows, we retrace in broad strokes the evolution of military education during the whole period from the re-invention of the university to the French Revolution in Europe, before focusing on the factors which drove the military academy to become a military university.

Whereas in Ancient times, during the Hellenistic period, most political-military leaders had followed a program of formal studies in higher education, as described above, in medieval and early modern Europe, military leadership was all but exclusively the role of the aristocracy; indeed, it was its very *raison d'être*. The military arts were thus practiced and handed down from one generation of nobles to the next in a manner that was not institutional in medieval Europe, which is in stark contrast to the Hellenistic civilization. Thus, though the military dimension of Hellenistic higher education, which had a high athletic component, was rather loose and more of a reminiscence of glorious times past, there is no denying the relevance of this education for all those Roman and Hellenistic noblemen aspiring to fill the highest political and military positions, whereas hardly any connection can be found between what the medieval universities were offering and what the European nobility were required to know to discharge their military leadership role.

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[16] J. H. Newman, *The Idea of a University*, New York: Longmans Green & Co., 1947.

[17] Von Moltke, quoted by Spenser Wilkinson (1918) Government and the War. London: Constable and Company, p. 172.

[18] See Clark Kerr, *The Uses of the University* (1963), 3rd edition, Cambridge MA: Harvard University Press, 1982, p. 5: „The Berlin of Humboldt was being violated just as Berlin had violated the soul of Oxford". See also Jürgen Habermas, *Protestbewegung und Hochschulreform*, Frankfurt am Main : Suhrkamp, 1969, and Albrecht Wellmer, „Unpolitische Universität und Politisierung der Wissenschaft", first published in D. Clausen und R. Dermitzel (eds.), *Universität und Widerstand*, Frankfurt a. M. 1968, p. 108-116.

[19] Clark Kerr, *The Great Transformation in Higher Education: 1960-1980*, Albany NY: State University of New York Press, 1991.

The bridge between family tutelage and professional development in military arts was probably the institution of aristocratic academies for riding, swordsmanship and dancing, which begin to appear in the 17th century.[20]   An exception to this situation can be found in medieval Italy, particularly in the north where communes were allowed to grow into city-states that were largely autonomous, even in their external relations. There we see the emergence, at the beginning of the thirteenth century, of the professional military leader, the *condottiere*, who was hired for specific missions and was expected to recruit, train and arm his own troops, and lead them into battle. At the beginning of this period which lasted until the 16th century,   the *condottieri* often moved freely between clients, though by the end of it they could not. The *condottieri* commanders were literate and sophisticated in order to navigate the complex political territory of church and city states[21].

This situation began to change with the introduction of gunpowder and of artillery in the conduct of warfare in the later middle Ages, again with Italy appearing as the prize that was disputed between major emerging European powers such as France and Spain, not to mention the Holy See, which was, along with the northern Italian city-states, the main employer of the *condottieri* throughout this period. The first military academies appeared in Italy in the 16th century, and from there spread to the rest of Europe[22]. Mathematics relevant for artillery and fortification design was taught in military academies that were founded in the northern European states that were swept up by the Reform movement as well as in Jesuit colleges which proliferated in France and Russia during the same period[23]. These differed from the earlier academies in that they were open to a wider social class, artillery and engineering being unglamorous and commoner trades less suitable to the aristocracy, who preferred the mounted arts.

The proliferation of these military academies, often located in garrisons, continued in the 18th century all over Europe. Among the most notable of such schools was the Royal Military College at Woolwich, England, chartered in 1741, and imitated by France in 1749, with the founding of *L'École du corps royal du génie militaire* at Mézières, soon followed by the creation of other military schools in France itself and Prussia, and elsewhere in Europe[24]. At *L'École militaire spéciale de St-Cyr,* founded by Napoleon in 1802, which became a model for many other nations, including the United States, the emphasis on mathematics and military engineering remained until very recently. St-Cyr's greatest novelty was that its cadets came from the general population. In Prussia, Scharnhorst and Clausewitz sought to improve upon the St-Cyr model by advocating an emphasis on historical studies and on the sharpening of analytical skills in order to form officers who could plan innovatively to win the next war[25]. However, whether the Prussian military academies or St-Cyr or West Point, until relatively recently, these were specialized military institutions entirely focused on the military profession and the formation of future officers, where the teachers were, overwhelmingly, active or retired military officers. That said, given the breadth of subjects taught at the Berlin *Kriegsakademie*, this institution came closest to resembling the German research university; its staff included both civilian and military instructors[26].

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[20]   Parrott, D. (2001). *Richelieu's army: War, government and society in France*, 1624-1642. Cambridge University Press. See also Anglin, J. P. (1984). The schools of defense in Elizabethan London. *Renaissance Quarterly*, 393-410.

[21]   Among the most famous of the *condottieri* we can cite Giacomo Attendolo "Sforza" (1369-1424), the head of the powerful family that would bear that nickname meaning "the strong", about whom Jacob Burckhardt writes that he spent his free time reading translations of Greek and Latin historians he had ordered for his own use (*La civilisation de la renaissance italienne*, vol. I, Paris: Plon, 1958, p. 23).

[22]   John B. Hattendorf, 'The Conundrum of Military Education in Perspective', in G. C. Kennedy and K. Neilson (editors), *Military Education: Past, Present, and Future,* 2002, 3-4.

[23]   These Jesuit colleges attracted many members of the nobility and the bourgeoisie who were seeking a humanistic education in the early modern times, and had no intention of pursuing studies at the university. Indeed, the Jesuit colleges were created to fill a social need that the universities at the time were either unwilling or unable to meet, and they were permitted by the State in spite of the objections from the universities.

[24]   J. B. Hattendorf (2002), 5.

[25]   T. G. Otte, 'Educating Bellona: Carl von Clausewitz and Military Education', in Kennedy and Neilson (2002), 13-33.

[26]   Samuel P. Huntington (1957), *The Soldier and the State: The Theory and Politics of Civil-Military Relations*, New York: Vintage Books, 48, cites tactics, military history, science of arms, field and permanent fortifications, military and political administration and economy, mathematics, artillery, special geography and geology, staff

We can thus see two powerful macro-trends emerging from the beginning of the 19th century which saw the irresistible rise of industrialism combined with the ever closer relationship between science and technology: 1) the highly successful development of the research university able to elevate to and maintain at the highest levels of excellence those entering into a number of professions that depend upon scientific knowledge and expertise; and 2) the professionalization of the officer-corps. We can see both trends gradually converging, as the profession of arms became ever more reliant on scientific and technical advances, while the leadership and administrative dimensions of the profession were likewise subjected to ever higher and better defined standards within the context of the modern State[27]. The following table tracks the growth of military establishments dedicated to the professionalization of the officer corps:

Table Growth of military education by century

Century	Number of new institutions	In order of establishment
17th	1	Italy[28]
18th	7	Denmark, Norway, Austria, Poland, UK[29], Sweden, Brazil
19th	18	France, USA, Chile, Mexico, Greece, Netherlands, Peru, Turkey, Belgium, Bolivia, Portugal, Serbia, Argentina, Canada, Switzerland, Bulgaria, Spain, Romania
1900-1950	10	Columbia, Russia, Estonia, Mongolia, Uruguay, India, Albania, Korea ROK, Ukraine, Pakistan, South Africa,
1950-1990	21	Korea DPRK, Myanmar, China, Egypt, Israel, Cuba, Nigeria, Algeria, Vietnam, Germany, Venezuela, Bangladesh, Tanzania, El Salvador, Sri Lanka, Thailand, Australia, Iran, Jordan
1990-2014	38	Croatia, Latvia, Kenya, Philippines, Finland, Slovakia, Nicaragua, Georgia, Moldova, Tajikistan, Lithuania, Malaysia, Macedonia, Belarus, Ecuador, Paraguay, Hungary, Tunisia, Kazakhstan, New Zealand, Qatar, Uzbekistan, Indonesia, Czech Republic, Saudi Arabia, Honduras, Afghanistan, Uganda, Cambodia, Singapore, Iraq, Kyrgyzstan, Botswana, Togo, Armenia, Madagascar, Zimbabwe, Namibia

Source: institutional web sites, compiled by David Last, June 2015, data available to collaborators, www.othree.ca/globalsecurity

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duty, and military jurisprudence among the fields studied at the *Kriegsakademie* and on which the officers were examined. Other subjects were taught as electives including universal history, universal geography, logic, physics, chemistry, literature, higher geodesy, higher mathematics, French and Russian.

[27] On the relationship between industrialism, the modern State and the military see A. Giddens, *A Contemporary Critique of Historical Materialism*, vol. 2: *The Nation-State and Violence*, Berkeley and Los Angeles: University of California Press, 1987, p. 244-254.

[28] Many institutions can point to early precursors, but most of these early establishments would fall short of the standard we have applied to identify institutions of higher education. The earlier institutions on the list can be disputed. Our focus on states and contemporary institutions, rather than on earliest educational institutions, means that there are probably many examples of defunct institutions, which would be of interest to the historian, but which do not appear in our data. Italy's Military Academy of Modena claims establishment in 1678, predating Austria's, and Denmark's 1713, Norway's of 1750, and Austria's Theresien military academy of 1751. Of these, only Austria's can boast continuous association with same location and institutional structure, and claims its place as the oldest institution of higher military education.

[29] Britain's Royal Military Academy Woolich existed from 1741-1939 as a technical college; Sandhurst was established in 1947 as an officer school, but the UK Defence Academy established in 2002 lists its oldest constitutive element as1772, so that is the date that appears in the table.

The morphing the military academy into the military university, which follows on the trends towards the industrialization and *scientifization* of warfare and the professionalization of the military is especially observable since the 1950s, and has only intensified in the last two decades, as we observe its expansion throughout the globe, as evidenced in table above.

From the early 1800s and until the 1950s, we have seen major developed countries establish or maintain military academies or special schools aimed at developing their officer corps through university level instruction and education specifically designed to prepare the candidates at three levels: 1) entry into the officer corps (lieutenant and captain), 2) mid-career (staff college for majors and lieutenant-colonels), and 3) senior leadership (colonels and generals). This has been part of a general trend towards specialization, but specialization has been contingent upon mass. The growth in the number of states and the limited capacity of many of them in the twentieth century has led to a double movement – imitation of the established states, at the same time as these institutions attempt to compensate for weakness and lack of resources in a variety of innovative ways. The two forms of specialization have been the natural division by service (army, navy, and later air force) and by level (entry, mid-career, and senior leader). The most innovative variations are often found in the smallest and most marginal players, where combinations of both level and type are in the process of evolving. However, these institutions, for reasons that have at least as much to do with the military culture as with scale, resources and practicality, have sometimes resisted their transformation into outright military universities[30]. The breakthrough occurred when, starting in the 1930s in the USA, the trend towards professionalism brought the military to seek the ultimate validation of the university level knowledge of their officer corps and the recognition of their professional status through the kind of certification provided by university degrees and certificates.

It is highly symbolic that the most comprehensive attempt at setting the standards for universities and university degrees, not only in a single country, but across many countries—the Bologna Process initiated by the European Union—would be located in the city that saw the very first university, as we have noted above. This is not to say that universities have not been engaged almost from the beginning in comparisons and benchmarking amongst themselves, although this benchmarking may have been essentially notional for the longest period of time. It should also be noted that the Bologna Process is by no means Eurocentric in that constant reference is made to the practices and standards of other universities around the world, in particular North American universities. Therein lies an essential feature of the university which, from the start, had the mission of accrediting professions, starting with the university teachers themselves, barring interference from the authorities, whether the Church or the State, whose profession included of course the validation of the knowledge of those on whom degrees and diplomas would be bestowed.

The levels and types of military education have evolved within states and communities of states over time. Successful military education can be judged both by military leaders and forces that achieve security both domestically and internationally. Success is always measured by the standards of the day. These standards can of course be the object of a public debate in liberal-democratic states, but they are constantly openly discussed within many fields of academic study in universities around the world today. It stands to reason that the most successful military education is the one that is focused on eliciting the most successful military leadership, policy, strategy and tactics based on the most advanced and scientifically validated standards, an education that can now only be found in universities or else in institutions that are university-like. Though the idea of a university education for officers may still be resisted even nowadays by an ever-dwindling number of military commanders, there is no denying the powerful social-historical trends which have led nowadays to a convergence of officer education with higher education programs to a degree that had not been seen since Ancient times.

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[30] Some sources of resistance are obvious: university certification of the military professionalism of officers requires more resources, time and effort than would otherwise be the case; those already at the top of the hierarchy who are without the qualifications of those who are up-and-coming and would benefit from the educational upgrade have ample motive to thwart their premature replacement; and there is finally the matter that in poorer countries a well-educated military officer corps might threaten established elites.