## Warfare from antiquity to modern days

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Ancient Warfare describes the methods, concepts and technologies used during wars in the ancient period, which covers the time from 34<sup>th</sup> century BC to 4<sup>th</sup> century AD. While very early wars are also considered the focus lies on highly structured warfare of big empires during Classical Antiquity, such as the Greek Empire, Gupta Empire and ends from European perspective with the fall of Roman Empire in 476 (Robinson 1951). Modern warfare, on the other hand, refers to the period during and after the Second World War.

From ancient to modern times three other eras are distinguished including Medieval, Gunpowder, and Industrial warfare with several transitions in the way how wars were fought (Breasted 1916). This article analyses some of the major changes from ancient times to today in respect of methods, concepts and techniques used during wars. Although no in-depth elaboration on warfare development may be given because of the articles limitation, it tries to point out the most significant causes.

Ancient wars are the first which brought up the notion of organisation, strategic planning and logistic thinking. Those were not covered during prehistoric times. It is the time when armies, as we know them today, were first introduced. Both, Ancient Greek and later on the Roman Empire had huge armies of more than – in its best times – 40,000 men divided into lochos (500 to 1,500 men each) respectively legions (Thucydides n.d.). First Greek wars were expected to be decisive and fast with only minor losses. This changed dramatically during the wars against the Persian Empire, which required Greek's city-states such as Athens and Sparta to form coalitions establishing a much larger scale of war than known before (Kagan 2003) (Fine 1985). War formations were compact and tight, e.g. Greek phalanx with a common depth of six to 16 rows. Soldiers were heavily armed and stable within formation. Therefore no dedicated training of infantrymen was required or provided (Corum 2012). Additionally, in order to enter the Greek or – later on – Roman army men had to provide their own equipment, to which a spear and a heavy shield belonged (Kagan 2003).

These two characteristics – self-provision with equipment as well as simplicity of formation – made the army rather cheap and enabled a city-state to maintain a huge citizen army. Self-provision also introduced a political element within the army, meaning that each soldier had to effort his own equipment which required him to be in a certain position in society. On the other hand were certain privileges given to higher commanders, among which were land and citizenship, making the army a socially respected part of the society and a desirable employee for at least one male member of the family.

Nowadays Western armies are either conscript (Finland, Israel, Germany until July 2011, etc.) or professional (USA, France, Britain, Germany, etc.) with a visible shift towards professional armies within Europe (War Resisters' International 1998-2012) (Hoegger 2008). European countries,

additionally, see the role of their modern armies as defence forces being allied within the NATO organization. Similar organizations exist for parts of former Soviet Union. Because of a shift from symmetric interstate wars towards intrastate conflicts, which are more and more internationalized (Libya 2011, Kosovo 1998/1999, Sudan / Darfur since 2003, etc.) conventional battlefield tactics and formations have been replaced by guerrilla wars and terroristic attacks against innocents and army patrols on the one hand and reconstruction and educational aid for civilians and the government on the other hand (Human Security Brief 2007) (IPPNW e.V. Deutschland n.d.). Even though Western countries still try to keep or enlarge their influence in conflicting regions they do not aim to occupy or conquer them, but rather want to establish democratic parliaments (Süddeutsche Zeitung 2008). A major reason for this is that armies are no longer king-based and therefor dependent on personal aims, but aligned at national interests and – in industry countries – lead by democratically elected persons.

Ancient armies, like most of the armies until modern days, did only consist of men. Women were not allowed to be recruited. Not until Napoleon's introduction of separation of responsibilities into Administration (G1), Intelligence (G2), Operations (G3) and Logistics (G4) as well as Prussia's division of the army into specialized corps (signed corps, veterinary corps, transportation corps, etc.) women could be introduced in certain fields, such as within ambulance corps (Heweston 1822). Despite the women's emancipation within the army recent studies still show advantages of using men for traditional warfare tasks on the battlefield (Helena Carreiras und Kümmel 2008).

Along with this staff system a strict two (France) or three year education (Prussia) system for military generals was introduced, military academies established and printed instructions for warfare prepared. Status and later on also gender importance for military qualifications started to cease, warfare became more structured and better understood. General publications about warfare are written and still used for education, e.g. "Vom Krieg" by Carl von Clausewitz (Clausewitz 1832).

Both, the staff system as introduced during the French Revolutionary Wars as well as Prussia's army specialization are still intact and further developed nowadays. They established a major achievement in respects to organization, planning and training of army members. Along with this developments a central operation organization and planning was launched, allowing gaining greater inside into current army positions and situations on battlefields (Heweston 1822). This enabled the commander to more specifically operate the different types of army during a battle. In order for this to become possible the telegraph and -phone had to be invented and militarily utilized first, which was initially seen in the American Civil War (1861–1865). Later inventions allowed using mobile radios for live communication on the battlefield further increasing the function of signal corps during a battle. Battles were no longer planned and operated on site, but from centralized headquarters coordinating all parts of the army (White 1996-2003).

Whereas commanders during wars before the industrial revolution could be seen as honoured men giving their lives for their king, nation or state on the battlefield led modern technologic inventions to the paradox, that soldiers follow commands given by a general or organizational construct, which is not in danger and generally not directly affected.

Beside the organizational improvements within armies also major strategic and tactical changes took place in recent times. As mentioned earlier, within the last thirty years warfare changed from between states to intrastate issues, which are mainly lead by territorial, access to power and water or ethno-cultural cross-border conflicts. Several other changes can additionally be observed and will be presented in the following part.

After the invention of firearms and tanks, their standardization and mass production warfare changed from decisive battles on open battlefields to heavily defensive battles with lots of trenches and defence bunkers. During the First World War position warfare found its way into commonly used tactics leading to enormous military build-up and only few and slow movements at the front. Decisive battles were rarely fought.

Later on, during the Second World War, the Germans invented the strategy of Blitzkrieg (invasion and fall of France within 46 days) (BBC n.d.). Blitzkrieg introduced several advantages over past strategies. Among those were the requirement of less long-term logistics, the shock effect as benefit for attacker, a less costly war, because battle periods may generally be shorter (money therefore was invested into weapons) and the enablement of focusing battalions for shorter periods of time achieving greater impacts. It, therefore, achieved fast advancement at the front. Only at the end of the war after the failed invasion of Russia the First World War strategy of defensive battles was recovered.

Another strategic aim was to demoralize the enemy. The armies heavily used leaflets, which they dropped from airplanes, to influence the population. Also huge amounts of counterfeit money were dropped by the Nazis to disrupt Britain's economy (Burke 1988). Eventual also area bombardment was used by Axis as well as Allied for the very same reason: demoralizing the enemy's population. Later studies showed that this method did achieve the opposite by creating even more hate against the enemy and were not successful. Regardless of success or failure a general trend to psychological tactics can be seen, which is still heavily used. Nowadays, additionally, diplomatic pressure (sanctions etc.) gains weight, because they get more and more effective in highly internationalized economies and are less cost intensive for the attacker.

Finally the rise of the internet, which in the first place facilitated today's economic integration provides a huge field for low or middle budget attacks mainly focused at the enemy's infrastructure such as airports, power stations and other system-critical factories (Süddeutsche Zeitung 2008). Also secret information became a valuable target. The so-called cyber war moves currently into focus of all modern military intelligences.

In today's warfare psychological and cyber-based attacks are used before and in parallel to conventional tactics on the battlefield, which moved from the open to defensive spots around main infrastructure. Access to information is still most valuable and supported through heavy use of intelligence services.

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