

Mass

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This month we end our series on the principles of war by examining one of the most respected pearls of martial wisdom: the principle of mass. Mass is and always has been an invalid principle of war. In fact, as we shall see, it has never been anything more than a battlefield tip trying to masquerade as a strategic idea. In that inflated role, mass is woefully unbalanced in its advice. Modern warfare continues to develop before our eyes as proof positive that mass doesn't work, and yet our official doctrines of war still cling desperately to this colossal anachronism.

Within the context of ancient and modern warfare in the western world, the principle of mass had two dimensions: the importance of overall numbers in war, and advice on what to do with whatever numbers the commander had. The famous adage "God is on the side of the bigger battalions"—variously attributed to Voltaire, Frederick the Great, Napoleon, and Bismarck—emphasizes the goodness of having a lot of soldiers. In the linear tactics of the 18th century, the side with the greater number of soldiers on the field had a good chance of "overlapping" the enemy's lines, thus exposing a vulnerable flank. At the theater level, greater numbers meant greater ability to project combat power throughout the area of operations, along with the ability of the general to maintain reserves. It's hard to argue against the advisability of having a large army.

And yet some did just that. Saxe suggested that "multitudes serve only to embarrass and perplex" their commanders, because he knew that the essence of battle was morale, not numbers. The quality of the soldiers, the leadership ability of the commander, and sometimes the technological advantage of one side count more often in real war than the mathematics of who has the bigger army. As I discussed in a previous article for The War College, the statistics of military

history are clear: the smaller side wins in battle more often than the larger side. Numbers, in the aggregate, are not the determinant of victory.

The other connotation of the principle of mass, however, is advice to the commander about what to do with the numbers he does have. Mass serves as the counterpart to the principle of economy of force. The latter precept warns the commander not to waste his forces on unimportant things; the former insists that those forces be concentrated for the decisive battle. In today's vernacular—gang up on the enemy!

This is another example of advice that's hard to find fault with, but the problem with this aspect of the principle is its focus: the "decisive" battle. The logic proceeds thus: since the war will be decided on the battlefield, the commander *must* ensure success there, and massing forces is the best hedge against failure. But the logic is based on fallacy: war is not decided in a battle. In Napoleon's day (the period from which the principles of war drew their strength), battles could be and often were decisive. The student of history has only to hear the names Austerlitz, Leipzig, or Waterloo to conjure up a picture of strategic decision. But for every Austerlitz there was a Borodino; for every Waterloo, an Aspern-Essling. Soldiers from Napoleon's Grande Armée died in indecisive battles from one end of Europe to the other. Victory in battle, the Emperor eventually learned, did not often translate into strategic success in war.

Enter the industrial age. With the advent of rifled barrels, rapid-firing artillery, railroads, steam power, and mass conscription, warfare underwent a profound change in the course of the 19th and early 20th century. The American Civil War and, later, World War I served as lessons in just how irrelevant a won battle could be. Winning the day on the field of honor often meant horrendous casualties for both sides, flagging support at home, and a quagmire of indecision. Mass was not leading to victory, at least not at the tactical level of war.

As armies multiplied in size, along with fleets of ships and aircraft, modern operational art began to develop, and with it an understanding that massing for battle had to be balanced with the need for a proper *distribution* of combat power throughout the theater of war. Generals who continued to quote Napoleonic

truisms about mass and decisive battles were forced to instead disperse their combat power for a variety of reasons: logistical necessity, population control, efficient use of road networks, and security against weapons of mass destruction. A logical dialectic was forming: in real war, a commander had to both *concentrate* and *distribute* combat power.

Is it possible for a leader to do both at the same time? Can the art and science of tactics handle such a logical conundrum? The answer is a definite yes. Imagine that you are in command of a tank company getting ready to defend a key avenue of approach against an enemy attack. American battle doctrine will advise you to concentrate your defense—i.e., mass your direct and indirect fires against the enemy in a prepared engagement area. When the enemy advances into the kill zone, the friendly force unleashes the combined violence of artillery, tanks, infantry, attack aviation, and fixed wing aircraft to obliterate the enemy formation. This is the very definition of mass at the tactical level of war.

Or is it?

In reality, it's a picture of *balance* between concentration and distribution. What would happen if every tank and artillery piece focused their fires on the first enemy combat vehicle that entered the engagement area? The result would be a catastrophe for that vehicle, but the rest of the enemy force would escape unscathed. You see, the commander of the tank company must simultaneously *concentrate* his fires in the engagement area, and *distribute* those fires throughout the enemy formation. Yin and yang, concentrate and distribute. Massing is only half of the equation.

With the introduction of the precision technologies of the information age, the balance between these two theoretical opposites changed. Consider once again your defense against the advancing enemy armada. Suppose that due to the fire control systems on board your tanks, each of them had only a 25% chance of killing an enemy vehicle. How many tanks would therefore have to concentrate their fires on one enemy vehicle in order to ensure a kill? Probably, the commander would have four of his tanks volley fire against one enemy

vehicle in this situation. Massing the fires of four tanks overcomes the incapacity of each single tank.

But precision technology will change the equation. Suppose we now replace your older tanks with new ones that have better fire control. Now instead of having a 25% chance of killing the enemy, each tank has a 90% chance. Your tanks now have greater *precision*. What effect will this new precision have on your tactical dispositions? Will you still mass the fires of four tanks against each enemy target? Obviously not. That would be a waste of resources. Instead—and here's the key to understanding warfare in the information age—*greater precision leads to greater distribution of combat power*. Precision warfare is the opposite of mass warfare.

This is the situation today. While our doctrinal manuals remain steadfast in their devotion to 19th century battlefield dynamics, our generals are concentrating and distributing combat power in accordance with the realities of precision warfare. A battalion operating in Iraq today might concentrate combat power in a raid to destroy an insurgent strongpoint, and the next day distribute that combat power to secure local communities and administer their assigned territories. In such a dynamic situation, a Napoleonic aphorism advising the commander to mass for battle is worse than useless. Today's military leaders must be trained instead to understand and achieve the balance between concentration and distribution.