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## TERMINOLOGY USED IN MILITARY OPERATIONS ANALYSIS

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In my lengthy and frequent contacts with Military establishments, Industries, Think Tanks, etc., there is an apparent lack of uniformity in the usage of terms which should be common to assure clarity of communications<sup>1</sup> both among operations analysis personnel and, more importantly, with the customer.

In the course of our studies in military operations analysis a set of consistent definitions has been developed that are in reasonable concurrence with general usage in all three Services; however, each service (and every investigator) has a few terms which are unique to their particular needs. Of course, it is our intent to use accepted Service terminology wherever possible but some semantic difficulties occur in examining the interrelationships of combined Air/Sea/Land warfare.

In this paper, I shall set down the definitions used in our Tactical War Study efforts.

### DEFINITIONS

SCENARIO -- describes the circumstances of a conflict and the three-part environment - NATURAL, ENEMY ( Red Force), and FRIENDLY (Blue Force) - in which a military force must operate. This includes the Military Objective and a statement of any Political Constraint (e.g.: Sanctuaries, Limits on Methods, Time Pressures, etc.).

MILITARY FORCE -- is designed to conduct Military Operations.

MILITARY OPERATIONS -- are a planned use of violence to achieve a Political Objective.

POLITICAL OBJECTIVE -- if achieved, will change the enemy's behavior.

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<sup>1</sup> See *ON WAR*, Carl von Clausewitz' complaint.

**MILITARY OBJECTIVE** -- to occupy or control areas, to do violence to people or property.

**ELEMENT** -- an object which performs one or more functions of military importance and which cannot be subdivided without qualitative denial of its primary function(s).

**UNIT** -- a set of elements, usually of diverse kinds, under a single direction.

**CAPABILITY** -- measures maximum rate of performance in defined idealized situation.

-- of an element or unit , a quantitative measure of the expected result for performance of primary function(s) under ideal conditions.

**POTENTIAL** -- measures attainable performance in actual situation in specified time interval.

**PERFORMANCE** -- measures effect of Potential during specified time interval as triggered by the Command Function.

**FUNCTION** -- the action (or combination of actions) for which an element or unit is specially fitted or used.

-- a relationship between two elements or between an element and a terrain feature; performance of the function (a characteristic action or event) results in alteration of one or more potentials for future performance.

**MISSION** -- for a specific unit or element - a task; performance of a function within specifications of space, time, and/or quantity.

-- for a service or a type unit - the collection of functions assigned to that service or unit.

**OPERATION** -- a group of related functions conducted in a particular environment.

**ADVERSARY FUNCTION** -- in any defined Combat Zone there are three collective Adversary Functions. They are: FIRE, MANEUVER, and INTELLIGENCE.

INTELLIGENCE -- is the product resulting from the collection, evaluation, analysis, integration, and interpretation of all available information which concerns one or more aspects of foreign nations or areas of operation and which is immediately or potentially significant to military planning and operations.

-- actions designed to gain information about hostile elements or units. More explicitly: Intelligence fills terrain, weather and enemy information files and positions enemy elements on the situation map. Files are information sources for data needed to estimate expectations of alternate courses of action. Decisions yield orders relating to the three Adversary Functions of FIRE, MANEUVER, and INTELLIGENCE. File information must be dated and timed and given a credibility rating.

MANEUVER -- actions designed to gain position or time advantage for INTELLIGENCE or FIRE functions.

FIRE -- actions designed to reduce hostile element or unit capability.

DIRECT FIRE -- against surface targets in the direct engagement zone.

SUPPORT FIRE -- against surface targets in the direct engagement zone, but delivered from some other source than those elements directly engaged in combat.

INTERDICTION FIRE -- against surface targets for the purpose of degrading capability of hostile committed forces at some finite time in the future (usually days).

STRATEGIC FIRE -- against surface targets for the purpose of degrading the hostile overall capability and continued will to fight.

DEFENSE SUPPRESSION FIRE -- against surface targets as a corollary to the execution of the above fires.

AIR SUPERIORITY FIRE -- against aerial targets to enable our effective use of air space.

AIR DEFENSE FIRE -- against aerial targets to enable our effective use of the surface.

RECONNAISSANCE -- operations to develop targets and conditions for use of weapons in the above fire contexts.

COMMAND / CONTROL -- actions designed to direct execution of Adversary Functions.

SERVICE SUPPORT -- actions designed to enhance or preserve friendly element (unit) capability.

PROCUREMENT -- actions designed to create military elements.

WAR -- performance of Adversary Functions including FIRE and/or MANEUVER by two opposing forces.

LAND WAR -- to control land area and/or diminish the capability of the opposing land force.

SEA WAR -- to control sea area and/or diminish the capability of the opposing naval force.

AIR WAR -- to control air space and/or diminish the capability of the opposing air force.

FORCE -- the total collection of military elements committed by one side to a war.

LAND FORCE -- the force subset of elements operating exclusively on land.

NAVAL FORCE -- the force subset of elements operating on or under navigable waters, though based on land.

AIR FORCE <sup>2</sup> -- the force subset of elements operating in the air , though based upon the surface.

COMBAT EFFECTIVENESS -- is judged by consideration of three evaluation criteria: CAPABILITY, VULNERABILITY, and COMPATIBILITY - the matters of interest to a commander in the field.

CAPABILITY -- covers the general effectiveness and/or rate at which the system can perform its primary function(s). In the case of weapons systems the capability is expressed in terms of "target kill" which is broadly defined as denial or degradation of the functioning of hostile elements. Useful quantitative measures of capability can normally be developed.

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<sup>2</sup> NOTE: Typically, the Army Navy and Air Force may each contain all three types of force.

VULNERABILITY -- is the inverse of Capability; it represents the capability of all hostile systems to prevent the functioning of the system under consideration. For analytic convenience, one exception is made to this rule; enemy counter-measures applied after launch of a weapon are treated as a degradation of Capability. Some quantification of Vulnerability and of its effect on system worth can be achieved by two-sided simulations or by application of capability models from the enemy's viewpoint. The credibility of the postulated counter-measures, and their consistency with enemy force structure and operation must be carefully examined. It is too easy to assume an enemy "ten feet tall"; the real problem is to establish the height for which it is reasonable to prepare.

COMPATIBILITY -- includes all relations of the system under consideration with the natural environment and with other friendly elements and systems. Of special interest under this heading are the requirements for support from these other elements or systems. The nature, quantity and timing of support requirements are to be compared with the functional capability of supporting systems in the projected force structure. If the candidate system imposes no major unusual demands, it is judged compatible; If not, the nature and scale of effort required to satisfy these compatibility demands must be quantified as a part of the total cost.

