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IMPLICATIONS OF THE MIDDLE EAST WAR
ON
U. S. ARMY TACTICS, DOCTRINE AND SYSTEMS (U)

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A PRESENTATION BY
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DEPARTMENT OF THE ARMY
Sec 3.4 EO 12958
 Declassify Downgrade to _____
 Exempt 25X _____ Date _____
 No Objection, Refer to _____
Date 8/31/02 By PD Carney

Reviewed 15 Oct 75 Petty Gunning

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BY RAWES ON 010307

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SUBJECT TO GENERAL DECLASSIFICATION
SCHEDULE OF EXECUTIVE ORDER 11652,
AUTOMATICALLY DOWNGRADED AT TWO
YEAR INTERVALS.
DECLASSIFIED ON DECEMBER 31, 1981

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(U) THERE HAVE BEEN A NUMBER OF STUDIES, ANALYSES, AND REPORTS ABOUT THE MILITARY IMPLICATIONS OF THE OCTOBER 1973 ARAB/ISRAELI WAR. AS A MATTER OF FACT, THERE HAVE BEEN SO MANY REPORTS THAT THE IMPORTANT LESSONS OF THE WAR TEND TO BE LOST IN DETAILS. AS A CONSEQUENCE, DEPARTMENT OF THE ARMY ASKED THE US ARMY TRAINING AND DOCTRINE COMMAND (TRADOC) TO SUMMARIZE THE MAJOR LESSONS LEARNED FROM THAT WAR AND TO EXAMINE THE IMPACT OF THESE LESSONS ON THE TACTICS, DOCTRINE, TRAINING AND MATERIEL DEVELOPMENT OF THE US ARMY. IN ORDER NOT TO LOSE THE IMPORTANT LESSONS IN A MASS OF DETAIL, WE EMPHASIZED THAT THERE IS A VERY IMPORTANT RELATIONSHIP BETWEEN THE LESSONS LEARNED AND THE WAY THE US ARMY INTENDS TO FIGHT. IN THIS RESPECT, THE FORMAT OF THE BRIEFING WILL

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GENERALLY FOLLOW THIS CHART.

(CHART 1)

(C) THE THREE MAJOR LESSONS IN THE WAR ARE:

FIRST, THAT MODERN WEAPONS ARE VASTLY MORE LETHAL THAN ANY WEAPONS WE HAVE ENCOUNTERED ON THE BATTLEFIELD BEFORE.

SECOND, IN ORDER TO COPE WITH THESE WEAPONS IT IS ESSENTIAL WE HAVE A HIGHLY TRAINED AND HIGHLY SKILLED COMBINED ARMS TEAM OF ARMOR, INFANTRY, ARTILLERY AND AIR DEFENSE BACKED BY THE SUPPORT REQUIRED TO SUSTAIN COMBAT OPERATIONS.

THIRD, THE TRAINING OF THE INDIVIDUAL AS WELL AS THE TEAM WILL MAKE THE DIFFERENCE BETWEEN SUCCESS AND FAILURE ON THE BATTLEFIELD. WELL TRAINED ISRAELI TANK CREWS MADE THE DIFFERENCE IN 1973. THEIR PERFORMANCE IN BATTLE

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HAS HELPED US TO UNDERSTAND THE REQUIREMENTS OF BATTLE, THE CONCEPTS OF OPERATIONS, IF YOU WILL. WHETHER DEFENDING OR ATTACKING, YOU MUST MOVE ON THE BATTLEFIELD. YOU CAN'T BE STATIC, THAT IS, GO INTO A MAGINOT OR SIEGFRIED LINE AND WIN. IN ORDER TO MOVE ON THE BATTLEFIELD IN THE FACE OF WEAPONS WITH HIGH LETHALITY, ENEMY WEAPONS MUST BE SUPPRESSED. YOU SUPPRESS BY A COMBINED ARMS TEAM. IF YOU DO THAT PROPERLY, YOU CAN MOVE, BUT YOU STILL MUST HAVE THE WEAPONS TO DESTROY THE ENEMY WHEN THE OBJECTIVE IS REACHED. TO WIN WHEN FIGHTING OUTNUMBERED, IT IS NECESSARY TO CONCENTRATE FORCES AT THE CRITICAL POINT AND AT THE CRITICAL TIME ON THE BATTLEFIELD, IN OTHER WORDS, IN ORDER TO MOVE TO THE RIGHT PLACE, YOU'VE GOT TO SEE THE BATTLEFIELD BETTER THAN

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THE ENEMY SEES IT SO YOU KNOW WHERE TO GO AND WHEN TO GO. IN
ORDER TO MOVE RAPIDLY TO THAT CRITICAL POINT, YOU ^{MUST} HAVE TOTAL
CONTROL OVER YOUR COMBAT ELEMENTS; SO THAT WHEN YOU ORDER A
BATTALION TO MOVE, IT WILL MOVE IT IN ORDER TO
DO ALL THIS SUCCESSFULLY, WE NEED TO HAVE SUPPORT OF ALL
KINDS. WE NEED THE WHEREWITHAL OF BATTLE, THAT IS, THE
AMMUNITION, THE POL, AND THE MAINTENANCE OF EQUIPMENT. THIS
RELATIONSHIP BETWEEN OUR CONCEPT OF OPERATIONS AND THE LES-
SONS LEARNED IN THE ARAB/ISRAELI WAR WILL RUN THROUGH THIS
ENTIRE BRIEFING. ADDITIONALLY, I WILL COVER THE STATUS OF
LESSONS LEARNED; AND THERE HAVE BEEN MANY. FINALLY, WE WILL
APPLY THE LESSONS LEARNED AND OUR CONCEPT OF OPERATIONS
TO THE DEVELOPMENT OF REQUIREMENTS FOR SPECIFIC WEAPONS AND
MATERIEL SYSTEMS.

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NOW WE WILL TALK MORE ABOUT LETHALITY.

(CHART 2)

(C) WHAT WE SAID WAS THAT THE LETHALITY OF MODERN WEAPONS IS SO MUCH GREATER THAN THAT OF THE WEAPONS WE HAVE USED, OR AGAINST WHICH WE HAVE FOUGHT IN THE PAST, THAT WE ARE IN A NEW BALL GAME. OUR ANALYSIS ALSO POINTED OUT THAT THERE ARE MORE OF THESE LETHAL WEAPONS ON THE BATTLEFIELD THAN AT ANY OTHER TIME IN HISTORY. THEREFORE, IF WE WANTED TO SUM IT UP IN ONE PARAGRAPH, WE WOULD HAVE TO SAY THAT THE PROBLEM NOW CONFRONTING THE US ARMY IS: HOW TO OPERATE ON A BATTLEFIELD WHICH IS POPULATED WITH THOSE VERY LETHAL WEAPONS IN VERY LARGE NUMBERS AND STILL GET THE JOB DONE WITHOUT CATASTROPHIC LOSSES; LOSSES FOR WHICH WE ARE REALLY NOT PREPARED.

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(CHART 3)

(C) LET ME EXPLAIN A BIT MORE ABOUT THE MECHANIZED BATTLEFIELD AND THE NUMBERS OF WEAPONS WE MAY ENCOUNTER. THIS CHART SIMPLY SUMMARIZES THE FACT THAT IN THE 1973 WAR, ARAB FORCES HAD SOME 4,000 TANKS. THESE WERE FIRST LINE TANKS; T54, T55 AND T62. TO PUT IT IN PERSPECTIVE, THE AMERICAN ARMY HAS APPROXIMATELY 1,700 TANKS IN EUROPE, WHICH INCLUDES THOSE IN THE HANDS OF TROOPS AND WAR RESERVES. WE CREDITED THE SYRIAN AND EGYPTIAN ARMIES WITH A STARTING INVENTORY OF THREE THOUSAND ARTILLERY TUBES. WE HAVE LESS THAN 500 US ARMY ARTILLERY TUBES AND MISSILE LAUNCHERS IN EUROPE.

(CHART 4)

(C) DURING THE VERY INTENSE 18 DAY BATTLE, IN FACT, DURING

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THE FIRST 12 DAYS, THE LOSSES IN COMPARISON WITH ANYTHING WE HAVE EXPERIENCED WERE PHENOMENAL, ENORMOUS. EGYPT AND SYRIA LOST APPROXIMATELY 1,500^{TO 2,000}/TANKS. THAT WOULD EQUATE TO ALL THE TANKS WE HAVE IN EUROPE. FIVE HUNDRED ARTILLERY TUBES WERE LOST; ALMOST EQUAL THE AMOUNT OF ARTILLERY THE AMERICAN ARMY HAS IN EUROPE.

(U) LET ME NOW EXPAND A BIT ABOUT THE LETHALITY OF THESE WEAPONS,

REMEMBER, THEY ARE IN THE HANDS OF MANY COUNTRIES ALL OVER

THE WORLD.

(CHART 5)

(U) IN WORLD WAR II THE AMERICAN ARMY WAS EQUIPPED WITH THE SHERMAN TANK. WE ARE NOW EQUIPPED WITH THE M60 TANK. WE ARE LOOKING FORWARD TO FIELDING AN IMPROVED M60 TANK. DEVELOPMENT

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OF THIS TANK IS MOVING NICELY AND WE HOPE TO PUT IT ON THE BATTLEFIELD SOON. BUT, BY WAY OF COMPARISON, THE BASIC M60 TANK IS 10 TIMES BETTER THAN THE SHERMAN TANK OF WORLD WAR II IN TERMS OF EFFECTIVENESS. IN FACT, THAT IS AN UNDER-STATEMENT.

(CHART 6)

(C) THIS CHART SHOWS THE PROBABILITY OF HIT FROM ZERO PROBABILITY TO A HIT EVERY TIME YOU FIRE. ALONG THE BOTTOM, RANGE IS SHOWN FROM ZERO TO 3,000 METERS. AT 1,500 METERS, WHICH IS ABOUT A MILE, IF WE WERE TO USE THE WORLD WAR II TANK, WE WOULD HAVE ONLY ONE CHANCE IN 20 OF HITTING AN ENEMY TANK AT ONE MILE. BY THE KOREAN WAR, WE HAD INSTALLED A 90MM GUN ON OUR TANKS AND THE CHANCES OF A HIT WERE ONE

IN THREE. WITH OUR CURRENT M60 TANK, THE CHANCES ARE NOW A LITTLE BIT BETTER THAN ONE IN TWO. WE BELIEVE THE NEW TANK SHOULD BE ABLE TO HIT AN ENEMY TANK AT ONE MILE ABOUT SEVEN TIMES OUT OF EVERY 10 SHOTS FIRED. SO FAR I HAVEN'T SAID ANYTHING ABOUT LETHALITY GIVEN A HIT. THE FACT IS THE MODERN TANK CANNON IS ENORMOUSLY MORE EFFECTIVE THAN THE WORLD WAR II CANNON. SO IF YOU MULTIPLY THE PROBABILITY OF KILL, TIMES THE PROBABILITY OF HIT, MY ESTIMATE OF CURRENT TANKS BEING TEN TIMES AS EFFECTIVE IS REALLY QUITE CONSERVATIVE.

(CHART 7)

(U) THIS HAS MANY CONSEQUENCES. BACK IN WORLD WAR II, A CAPTAIN COMMANDING A TANK COMPANY WAS INTERESTED IN THE TERRAIN HIS WEAPONS CONTROLLED AND IN THE ENEMY UP TO AS

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FAR AS HE COULD SEE. NONETHELESS, HE WAS NOT ENDANGERED BY VERY MANY WEAPONS EXCEPT THOSE WITHIN ABOUT 500 METERS OF HIM. IN THOSE DAYS 500 METERS WAS THE DISTANCE IN WHICH HE HAD A 50 - 50 CHANCE OF GETTING A FIRST ROUND HIT. IN KOREA THAT DISTANCE HAD INCREASED TO 1,000 METERS. NOW IT HAS INCREASED TO 3,000 METERS AND YOU CAN SEE WHATS HAPPENING TO THE LIEUTENANT, THE CAPTAIN, AND THE SERGEANT IN OUR TANK UNITS. THEY MUST WORRY ABOUT A LOT MORE HILL TOPS OUT THERE FROM WHICH ENEMY WEAPONS CAN FIRE AT HIM. THE CURRENT ANTI-TANK GUIDED MISSILES, THE SAGGER, THE SNAPPER, AND OUR TOW REACH TO 3,000 METERS AND ARE EXTREMELY EFFECTIVE GIVEN A HIT. YOU CAN THEN SEE, THE ENORMOUSLY MORE DIFFICULT PROBLEM FOR THE BATTLEFIELD COMMANDER, IT'S A MUCH MORE DANGEROUS ENVIRONMENT IN WHICH TO FIGHT. HE

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MUST WORRY ABOUT A MUCH GREATER AREA. A MISTAKE ON THIS BIGGER BATTLEFIELD WILL PENALIZE THE COMMANDER BY GREATER CASUALTIES.

(CHART 8)

(C) THE FACT OF THE MATTER IS THAT OUR WEAPONS AND THE WEAPONS MANUFACTURED BY THE SOVIET UNION ARE IN MANY RESPECTS VERY SIMILAR. FOR EXAMPLE, IN THE MIDDLE OF THIS PARTICULAR CHART, AND HERE AGAIN WE'RE TALKING ABOUT THE PROBABILITY OF HIT OVER RANGE, YOU CAN SEE THAT THE 'RUSSIANS' T62 TANK, THEIR NEW BEST TANK, AND OUR M60A1 TANK HAVE SIMILAR CHARACTERISTICS. THEIR TANK IS A LITTLE BIT BETTER IN CLOSE, BECAUSE IT HAS A HIGHER MUZZLE VELOCITY. OUR TANK IS JUST A LITTLE BIT BETTER AT THE EXTENDED RANGES BECAUSE WE HAVE BETTER FIRE CONTROL

AND RANGE ESTIMATING EQUIPMENT. OUR NEW TANK, THE M60A3, WILL HAVE EVEN BETTER EFFECTIVENESS AT THE EXTENDED RANGES. BUT TODAY WE HAVE NO DECISIVE ADVANTAGE, NOR DO THEY. YOU COULD SAY, THEREFORE, THAT HE WHO HAS THE MOST TANKS ON THE BATTLEFIELD WILL HAVE AN ADVANTAGE. THE ANTI-TANK GUIDED MISSILE, THE SAGGER, HAS TO BE FLOWN BY A GUNNER WITH A JOY STICK, MUCH LIKE AN AIRPLANE. THE GUNNER MUST FLY THE SAGGER TO THE CROSS HAIRS WHICH HE HOLDS ON A TARGET. ON THE OTHER HAND, OUR MISSILES, THE TOW AND THE SHILLELAGH, ARE FULLY AUTOMATED. IF THE CROSS HAIR IS ON THE TARGET, THE MISSILE FLIES AUTOMATICALLY TO THE TARGET. YOU WILL NOTICE THAT THE GUIDED MISSILES ARE VASTLY MORE EFFECTIVE AT THE GREATER RANGES THAN ARE THE TANK CANNONS. THE TANK IS MORE

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EFFECTIVE IN CLOSE. THIS GRAPH DOES NOT SHOW THAT THE TANK CAN FIRE MORE RAPIDLY, BUT IT CAN. IT DOES TELL US SOMETHING ABOUT HOW TO FIGHT. TANKS SHOULD NOT ENGAGE ANTI-TANK GUIDED MISSILES AT LONG RANGE. THEY SHOULD SNEAK UP ON THE MISSILE POSITIONS THROUGH COVER AND CONCEALMENT. ONCE THEY DO CLOSE WITHIN 1,000 METERS, THE TANK BEGINS TO HAVE THE ADVANTAGE.

(CHART 9)

(U) THE RUSSIAN TANK CANNON HAS A HIGHER MUZZLE VELOCITY THAN OUR TANK GUN. AS A MATTER OF FACT, THE SOVIET TANK CANNON HAS THE HIGHEST MUZZLE VELOCITY OF ANY TANK CANNON IN THE WORLD TODAY. THE SOVIET PENETRATOR, WHICH IS A SOLID STEEL PLUG, WEIGHING ABOUT EIGHT POUNDS, TRAVELS TOWARD THE TARGET TANK AT THE RATE OF ONE MILE IN ONE SECOND. IT

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DROPS VERY LITTLE IN THAT ONE MILE, IT'S GOING SO FAST. THIS MEANS THAT THE SOVIET TANK CAN FIRE BATTLE SIGHTS UP TO A MILE. IT MEANS THERE IS NO TIME TO DUCK. THE PENETRATOR WILL GO THROUGH OUR TANK'S ARMOR,

(CHART 10)

(U) IF THE RUSSIAN TANK, FIRING THAT KIND OF AMMUNITION, SHOOTS AT ONE OF OUR TANKS WHICH IS JUST SITTING IN THE OPEN, AT A DISTANCE OF ONE MILE, THE SOVIET TANKER HAS A 50 - 50 CHANCE OF A FIRST ROUND KILL. NOTE THE CHANGE FROM HIT PROBABILITY TO PROBABILITY OF KILL. IT IS INTERESTING TO NOTE THAT WHEREAS THE HIT PROBABILITY WAS 50 - 50, THE KILL PROBABILITY IS JUST BELOW THAT PERCENTAGE. IN OTHER WORDS, IF YOU'RE HIT, THE CHANCES ARE THAT YOU WILL BE KILLED. ON THE OTHER HAND, IF

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OUR TANK IS MOVING 12 MILES AN HOUR, HE HAS A SOMEWHAT BETTER CHANCE OF SURVIVING. EVEN MORE IMPORTANTLY, IF HE HAPPENS TO BE HULL DOWN AND USES THE TERRAIN FOR PROTECTION WHILE ONLY EXPOSING HIS TURRET AND HIS GUN, HE HAS MORE THAN DOUBLED HIS CHANCES OF SURVIVAL. THAT OF COURSE, IS AN IMPORTANT TEACHING POINT FOR OUR TANK COMMANDERS, OUR TANK PLATOON LEADERS, AND OUR TANK COMPANY COMMANDERS.

(CHART 11)

(U) IF THE SOVIET SAGGER IS SHOOTING AT THE M60A1 TANK, AND AGAIN THE EMPHASIS IS THE PROBABILITY OF KILL; NOTE THAT IN THE EARLY RANGES, WHILE THE GUNNER AND THE MACHINERY IS CAP- TURING CONTROL OF THE MISSILE, IT'S NOT VERY EFFECTIVE. BUT, AFTER IT GETS OUT TO ABOUT 1,000 METERS AND BEYOND, IT'S

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EXTREMELY EFFECTIVE. INTERESTINGLY ENOUGH THE MISSILE DOESN'T CARE AT THE EXTENDED RANGES WHETHER THE TANK IS MOVING OR WHETHER IT'S STATIONARY, BECAUSE AT THAT RANGE MOVEMENT IS RELATIVELY UNIMPORTANT. ON THE OTHER HAND, IF THE DEFENDING TANK IS HULL DOWN AND USES THE TERRAIN AND REMAINS CAMOUFLAGED, THEN HE DOUBLES HIS CHANCES OF SURVIVAL.

(CHART 12)

(U) THEREFORE, WE ARE TELLING THE SERGEANTS, THE LIEUTENANTS, AND THE CAPTAINS AT FORT KNOX AND FORT BENNING THAT IF THEY CAN BE SEEN ON THE BATTLEFIELD, THEN THEY WILL BE HIT. IF THEY CAN BE HIT, THE CHANCES OF THE TANK BEING KNOCKED OUT OF ACTION ARE VERY, VERY HIGH, UNLESS CERTAIN ACTIONS ARE TAKEN AND THOSE ACTIONS ARE THE SUBJECT OF THIS TALK.

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(CHART 13)

(U) THIS LEADS US TO THE CONCLUSION THAT IF YOU EXPOSE YOURSELF ON THE BATTLEFIELD, YOU WILL, IN FACT, INCUR UNACCEPTABLE LOSSES. UNLESS, THAT IS, SOMEHOW YOU CAN USE THE TERRAIN TO REDUCE VULNERABILITY AND SUPPRESSION OR OBSCURATION TO IMPAIR ENEMY WEAPONS EFFECTIVENESS; SO THAT THE GUNNER ON THE OTHER SIDE IS EITHER SHAKEN UP, DRIVEN TO THE GROUND, HIS EYEBALL IS MOVED OFF THE SIGHT, OR SMOKE OBSCURES HIS VISION. ALL OF THIS IS, OF COURSE, THE MAJOR LESSON OF THE WAR. IT TELLS US THAT IN ORDER TO MOVE PROPERLY WE NEED TRAINING. IN ORDER TO FIRE PROPERLY WE NEED TRAINING. AND, IN ORDER TO SUPPRESS PROPERLY WE NEED THE TRAINING OF A COMBINED ARMS TEAM.

(CHART 14)

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(U) RECURRENTLY THERE ARE DISCUSSIONS ABOUT THE VALUE OF THE TANK. THE FACT OF THE MATTER IS, THE TANK TODAY IS THE SINGLE MOST IMPORTANT WEAPON ON THE MECHANIZED BATTLEFIELD. THERE IS NO DOUBT ABOUT IT. THE RUSSIANS THINK SO, THE GERMANS THINK SO, THE BRITISH THINK SO, WE THINK SO. HOWEVER, THE TANK CAN'T DO IT ALONE. TO WIN THE BATTLE YOU MUST MOVE. YOU CAN'T SIT AND WAIT AND EXPECT TO WIN. YOU CANNOT SUCCEED AND PERFORM A USEFUL MISSION ON THE BATTLEFIELD IN THE LONG RUN WITHOUT MOVING. THE TANK IS DESIGNED TO MOVE. IT IS A HEAVILY ARMORED VEHICLE CARRYING THE PUNCH OF A BIG GUN. THE TANK CARRIES THE BATTLE TO THE ENEMY.

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(CHART 15)

(U) TANKS ARE DESIGNED TO BREAK THROUGH THE ENEMY'S DEFENSES AND GET INTO HIS REAR, WHERE THEY CAN ATTACK HIS COMMUNICATIONS, HIS RESERVES, HIS ARTILLERY, HIS MAINTENANCE UNITS, AND HIS SUPPLY STOCKS. TANKS CAN GO AROUND THE FLANK TOO, PARTICULARLY, IF THERE'S AN OPEN FLANK. THE TANK IS HEAVILY ARMORED AND HEAVILY ARMED. ITS DESIGNED TO BE PARTICULARLY EFFECTIVE IN THE ENEMY'S REAR. BUT ONE OF THE MAJOR LESSONS OF THE WAR WAS, THAT IN THE FACE OF THE LETHALITY OF MODERN WEAPONS, THE TANK CANNOT MOVE ALONE.

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