MILITARY MODELLING AND SIMULATION – A RECOLLECTION AND PERSPECTIVE

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ABSTRACT

The roots of today's military modeling and simulation approaches date back to 1938 when OR emerged after a disappointing exercise conducted by the RAF to test the effectiveness of the newly developed radar. It is fair to say that OR support in WWII was decisive in winning the Battle of Britain in 1940 and the Battle of the Atlantic in 1943. After WWII, military OR was re-awakened by NATO when the Cold War began by facilitating the build-up of national military OR institutions to support defense planners and militaries in sustaining a NATO force structure capable of deterring a Soviet aggression. During the decade of cooperation with Russian analysts after the end of the Cold War we found out that, based on the results of war games and battle simulations, Soviet leaders concluded that the risk of not meeting the operational objectives of a successful attack on NATO was too high. Given Putin's revisionist policy, NATO's problem today is how to re-establish deterrence in an ever more complex environment characterized by cyber threats and hybrid warfare. Hopefully, modeling and simulation will again help stabilizing the situation.

AUTHOR BIOGRAPHY

REINER K. HUBER is Emeritus Professor at the Universität der Bundeswehr München (UniBwM – University of the German Armed Forces, Munich). He received his academic education from 1954 to 1960 at the Technical University of Munich (TUM) majoring in Mechanical and Aeronautical Engineering and, as a Fulbright Scholar, at the University of Texas majoring in Industrial Engineering. He then served as Technical Officer of the Luftwaffe for three years. In 1964 he joined the OR Group of Germany's newly founded defense support institution IABG as an analyst where he later became head of its Systems Studies Division. As part time research assistant at the TUM he received his Dr,-Ing (PhD) in 1970. In 1975 he was appointed Chair of Applied Systems Science and OR (with emphasis on defense and security issues) in the Department of Computer Science of UniBwM. There, he was dean and member of the Senate from 1981 to 1986. In 2000 he became Emeritus.

From 1971 to 1976 he was a member of the NATO-Science Committee's Advisory Panel on OR (APOR) and the Special Program of Systems Science (SPOSS). He was visiting professor at the Naval Postgraduate School in Monterey, California, in 1979 and 1983, and visiting lecturer at the Korean Institute of Defense Analysis in Seoul (1980), the Royal Military College of Science at Shrivenham (1985), and the Military Operations Research and Analysis Institute at the Academy of Military Science in Beijing (1988). He organized and led several international conferences on defense and security analysis and has been a long-time research associate of Vector Research in Ann Arbor, Michigan, and the RAND Corporation in Santa Monica, California, a consultant to NATO and the German Ministry of Defense and he is a Senior Fellow of the Potomac Foundation in Vienna, Virginia. In recognition of his cooperation with Russian analysts after the end of the Cold War he was elected associate member of the Russian Academy of Natural Science in 1995. His recent work is focused on Command and Control for complex endeavors.