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## Cognitive Warfare

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► **To cite this version:**

André Lanata. Cognitive Warfare: Preface - By the NATO Supreme Allied Commander Transformation. Bernard Claverie; Baptiste Prébot; Norbou Buchler; François du Cluzel. Cognitive Warfare: The Future of Cognitive Dominance, NATO Collaboration Support Office, pp.XII, 2022, 978-92-837-2392-9. hal-03635872

**HAL Id: hal-03635872**

**<https://hal.science/hal-03635872>**

Submitted on 8 Apr 2022

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# **Cognitive Warfare: The Future of Cognitive Dominance**

First NATO scientific meeting on Cognitive Warfare (France) – 21 June 2021.  
Symposium organized by the Innovation Hub of NATO-ACT and ENSC,  
with the support of the French Armed Forces Deputy Chief of Defence,  
the NATO Science and Technology Organization / Collaboration  
Support Office, and the Region Nouvelle Aquitaine.

Scientific Editors

B. Claverie, B. Prébot, N. Buchler and F. Du Cluzel.

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# Preface – By the Supreme Allied Commander Transformation

**General André Lanata<sup>2</sup>**

Exploiting the flaws of human nature to better target the minds of individuals is not a new idea. The maneuver of influence and deception has always been part of the art of war. Sun Tzu already underlined the importance of the psychological factor in his time, and if the Roman Empire first relied on the strength of its army, it owed its longevity to its persistent will to impose its culture and thus its own vision of the world. Today, the technological progress made in the informational field and the hyper-connectivity in which we live, made possible by the digitization of information, multiply the possibilities of manipulating an individual or targeting a group of people. The recent explosion of psychological manipulation processes for the purpose of swindling through social engineering clearly shows that knowledge of human behavior and the ability to influence it are now at the heart of a new strategic issue. This battle of perceptions affects all sectors of society and in particular the security and defence sectors.

NATO is constantly monitoring emerging threats and has quickly become interested in this subject. The Allied Command for Transformation, located in Norfolk (USA), responsible for the preparation and development of future Alliance capabilities, has recently worked on a study called “Cognitive Warfare,” which aims to shed light on and anticipate the militarization of technologies that are grouped under the acronym NBIC (Nanotechnology, Biotechnology, Information Technology and Cognitive Science).

This is why I welcome the holding of this first scientific meeting, which took place on June 21 in Bordeaux on the theme of Cognitive Warfare. This theme seems to me to be quite remarkable and I sincerely thank the École Nationale Supérieure de Cognitive, with which my command has had a fruitful cooperation for many years, for having hosted and organized this first meeting with our Innovation Hub. I also salute the participation of the eminent international experts who responded to our invitation and contributed to the success of this day. The richness of the exchanges in French and English, the presentations, the round tables, and the practical demonstrations at the ENSC testify to the great vitality of the research and development in Cognitive Warfare available to the Allies. It is up to NATO’s Allied Command Transformation to continue to federate energies to maintain and develop this dynamic, in the service of stability, conflict prevention and security of the one billion citizens of the Atlantic Alliance.

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<sup>2</sup> Gen. André Lanata is an Air-Force General (ret.). He was a French fighter pilot and served as Chief of the French Air Force (CEMAA 2015 – 2018), then as NATO Supreme Allied Commander Transformation – Norfolk (ACT 2018 – 2021).

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## Acknowledgements

This book owes a great deal to the authors whose articles appear between the covers, without forgetting all the other participants in the “Cognitive Warfare” scientific meeting held on June 21, 2021. The diversity of the contributions, from cognitive psychology to international strategy, makes the book provocative and useful for the future of NATO’s ACT and STO thinking.

We owe a thank-you to all the academic or military institutions, laboratories and companies that took part in this meeting, and that contributed to the richness of these intellectual exchanges on Cognitive Warfare.

Production of the book was made possible by the team of four scientific editors and the staff of NATO’s CSO. The meeting itself was made possible thanks to the support of the Innovation Hub NATO-ACT, of the French Armed Forces Deputy Chief of Defence, of ENSC Bordeaux INP, and of Nouvelle Aquitaine Regional Council. Special thanks are extended to Philippe Montocchio, deputy director of CSO, for his patience and dedication to the cause of scientific thinking within STO, and to André Lanata, Supreme Allied Commander Transformation for his commitment to promoting reflection on Cognitive Warfare as a field of major importance for future conflicts and for the security of nations.

<b>REPORT DOCUMENTATION PAGE</b>			
<b>1. Recipient's Reference</b>	<b>2. Originator's References</b>	<b>3. Further Reference</b>  ISBN 978-92-837-2392-9	<b>4. Security Classification of Document</b>  PUBLIC RELEASE
<b>5. Originator</b> Science and Technology Organization North Atlantic Treaty Organization BP 25, F-92201 Neuilly-sur-Seine Cedex, France			
<b>6. Title</b>  Cognitive Warfare: The Future of Cognitive Dominance			
<b>7. Presented at/Sponsored by</b>  First NATO scientific meeting on Cognitive Warfare (France) – 21 June 2021. Symposium organized by the Innovation Hub of NATO-ACT and ENSC, with the support of the French Armed Forces Deputy Chief of Defence, the NATO Science and Technology Organization / Collaboration Support Office, and the Region Nouvelle Aquitaine.			
<b>8. Author(s)/Editor(s)</b>  B. Claverie, B. Prébot, N. Buchler and F. Du Cluzel			<b>9. Date</b>  March 2022
<b>10. Author's/Editor's Address</b>  Multiple			<b>11. Pages</b>  118
<b>12. Distribution Statement</b>  There are no restrictions on the distribution of this document. Information about the availability of this and other STO unclassified publications is given on the back cover.			
<b>13. Keywords/Descriptors</b>  Cognition; Cognitive bias; Cognitive domain; Cognitive war; Cognitive warfare; Cyber-psychology; Human			
<b>14. Abstract</b>  This document, published by the NATO-CSO, brings together articles related to the presentations given during the first Symposium on Cognitive Warfare, held in Bordeaux, France, in June 2021, on the initiative of the NATO-ACT Innovation Hub and the Bordeaux-based ENSC, with the support of the French Armed Forces Joint Staff, the NATO-STO-CSO, and the Region Nouvelle Aquitaine. This first Symposium reflected on human cognition, its strengths and weaknesses, its collaborative organization for military decision-making, its relation with and dependence on digital technology, and its social and political dimensions within the context of fierce international competition. The Supreme Allied Commander for Transformation (SACT) and the French Armed Forces Vice-Chief of Defence expressed their views on the topic. This first Symposium was the starting point of a series of meetings and workshops further exploring the subject, on the initiative of NATO CSO and ACT.			