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From Information Warfare to Cognitive Warfare: A Theoretical Examination of Power, Perception, and Consciousness

Bilgi Savaşından Bilişsel Savaşa: Güç, Algı ve Bilinç Üzerine Kuramsal Bir İnceleme

Abstract

The increasing centrality of information in social life and the global expansion of digital communication networks have significantly transformed the nature of power struggles. While physical superiority and material capabilities were traditionally regarded as the primary determinants of conflict, the capacity to influence individuals' perceptions, patterns of thought, and decision-making processes has become increasingly important. This transformation has given rise to the concept of cognitive warfare, which extends beyond information warfare by treating the human mind as a strategic domain of contestation. This study examines the conceptual relationship between information warfare and cognitive warfare and evaluates the transformation of contemporary understandings of power within a theoretical framework. It argues that information warfare is primarily structured around the production, circulation, and control of information, whereas cognitive warfare operates through the shaping of perceptions, the steering of meaning-making processes, and the influence exerted on human consciousness. Within this context, the cognitive domain is understood not merely as a space in which communication occurs but also as a strategic sphere through which power relations are reproduced and sustained. The study concludes that contemporary power struggles are increasingly shaped not by access to information alone but by the meanings attributed to it. Consequently, the cognitive dimension occupies an increasingly central position in understanding the dynamics of modern conflict and strategic competition.

Keywords: Cognitive Warfare, Information Warfare, Power, Perception, Consciousness, Meaning-Making

Öz

Bilginin toplumsal yaşamın merkezine yerleşmesi ve dijital iletişim ağlarının küresel ölçekte yaygınlaşması, güç mücadelelerinin yapısını önemli ölçüde değiştirmiştir. Geleneksel çatışma biçimlerinde fiziksel üstünlük ve maddi kapasite belirleyici unsurlar olarak kabul edilirken, günümüzde bireylerin düşünce dünyasını, algılarını ve karar verme süreçlerini etkileme kapasitesi giderek daha fazla önem kazanmaktadır. Bu dönüşüm, bilgi savaşının ötesine geçen ve insan zihnini stratejik bir mücadele alanı olarak değerlendiren bilişsel savaş yaklaşımını ortaya çıkarmıştır. Bu çalışma, bilgi savaşı ile

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bilişsel savaş arasındaki kavramsal ilişkiyi inceleyerek çağdaş güç anlayışının dönüşümünü kuramsal bir çerçevede değerlendirmeyi amaçlamaktadır. Çalışmada, bilgi savaşının temel olarak bilgi üretimi, dolaşımı ve kontrolü üzerinden şekillendiği; bilişsel savaşın ise alguların yönlendirilmesi, anlamların yeniden inşası ve bilinç üzerinde etki kurulması yoluyla işlediği ileri sürülmektedir. Bu bağlamda bilişsel alan, yalnızca iletişim süreçlerinin gerçekleştiği bir ortam değil, aynı zamanda güç ilişkilerinin yeniden üretildiği stratejik bir etki sahası olarak ele alınmaktadır. Sonuç olarak, çağdaş güç mücadelelerinin bilgiye erişimden çok bilgiye yüklenen anlamlar üzerinden şekillendiği ve bilişsel boyutun modern çatışmaların anlaşılmasında giderek daha merkezî bir konuma yerleştiği sonucuna ulaşılmaktadır.

Anahtar Kavramlar: *Bilişsel Savaş, Bilgi Savaşı, Güç, Algı, Bilinç, Anlam İnşası*

Introduction

War has long been one of the most prominent forms of struggle among societies and has continually evolved in response to changing historical conditions. Technological developments, expanding communication capabilities, and the growing strategic significance of information have challenged conventional understandings of war based primarily on the use of physical force. As a result, the scope of conflict has broadened, and information and communication have become increasingly important components of contemporary conflict environments (Varlık, 2013). In particular, advances in information technologies have transformed the ability to access, process, and direct information into a critical source of strategic advantage (Tansu, 2000).

As the strategic value of information has increased, the concept of information warfare has gained greater attention within the fields of security and strategic studies. In its broadest sense, information warfare refers to activities aimed at achieving superiority through access to information, control of information flows, protection of information systems, and the disruption of an adversary's information capabilities (Tansu, 2000; Talishinsky, 2025a). Within this framework, the primary arena of competition revolves around the production, transmission, and use of information. Historical examinations of information warfare indicate that information functions not only as a technical resource but also as a strategic instrument capable of producing political, social, and psychological effects (Talishinsky, 2025b).

The rapid expansion of digital communication networks, the acceleration of information production and circulation, and changing patterns of access to information have introduced new dynamics into contemporary conflicts. Strategic competition is no longer confined to controlling information or influencing information flows. Increasingly, efforts are directed toward shaping individuals' perceptions, judgments, and behavioral orientations. These developments have contributed to the emergence of cognitive warfare, a concept that extends beyond information-centered approaches and highlights the cognitive dimension of strategic competition (Du Cluzel, 2021; Hung & Hung, 2022; Kandemir, 2025).

Cognitive warfare is generally understood as an approach that places the human mind at the center of strategic contestation. Its objective is not merely to control information but to influence how individuals interpret, assign meaning to, and act upon that information. It is at this point that cognitive warfare diverges from information warfare. Whereas information warfare primarily

focuses on information processes, cognitive warfare seeks to shape perceptions, patterns of thought, and behavior (Hung & Hung, 2022; Burda, 2023; Kandemir, 2025).

This transformation also calls for a reconsideration of the concept of power. The relationship between knowledge and power cannot be adequately explained through institutional or technical dimensions alone. Knowledge plays an important role in the formation of subjectivity and in shaping social relations (Çelebi, 2013). Similarly, studies of hegemony and perception management suggest that power is sustained not only through coercion but also through the production of consent, the construction of meaning, and the direction of perceptions (Dural, 2012; Bayrakçı, 2021). For this reason, an understanding of cognitive warfare requires a broader examination of the interrelationship between power, perception, and consciousness.

Against this background, this study examines the conceptual relationship between information warfare and cognitive warfare and evaluates the transformation of contemporary power struggles from a theoretical perspective. To achieve this objective, the study first discusses the principal characteristics of information warfare. It then analyzes the relationship between power, hegemony, and perception before examining the conceptual foundations of cognitive warfare. Through this framework, the study seeks to explain the broader transition from information-centered forms of conflict to cognitively oriented modes of strategic influence.

Methodology

This study adopts a qualitative research design to examine the conceptual relationship between information warfare and cognitive warfare. Rather than relying on empirical data, the study is based on a systematic examination of relevant theoretical and academic sources addressing information warfare, cognitive warfare, power, hegemony, perception, and consciousness. The analysis focuses on how these concepts have been defined, interpreted, and related to one another within the existing literature.

The primary methodological approach employed in the study is conceptual analysis. Through this approach, the definitions, scope, objectives, and distinguishing characteristics of information warfare and cognitive warfare are critically examined. Particular attention is given to the conceptual transition from information-centered forms of conflict to approaches that place increasing emphasis on cognition, perception, and decision-making processes. In addition, the relationships among knowledge, power, perception, and consciousness are analyzed through the theoretical perspectives presented in the selected literature.

The study draws upon academic works and theoretical discussions addressing the transformation of warfare, the foundations of information warfare, the emergence of cognitive warfare, the dynamics of power and hegemony, and the role of perception management. These sources were examined comparatively in order to identify convergences and divergences in the

literature and to construct an integrated theoretical framework for understanding the evolving nature of contemporary strategic competition.

The purpose of this research is not to provide an empirical analysis of a particular country, institution, or event. Rather, it seeks to clarify the conceptual relationship between information warfare and cognitive warfare and to explore the growing significance of the cognitive domain in contemporary power struggles. Accordingly, the study should be understood as a theoretical and conceptual inquiry whose findings are derived from the critical interpretation and synthesis of the selected literature.

Conceptual and Theoretical Foundations of Information Warfare

The phenomenon of war has been defined in different ways throughout history and has acquired new characteristics in response to changing social conditions. This demonstrates that war cannot be understood solely through the lens of military confrontation; rather, it is a dynamic phenomenon that continuously evolves in accordance with the tools, methods, and domains through which struggles are conducted. Technological developments and the expansion of communication capabilities, in particular, have broadened the scope of warfare and elevated information to a central component of strategic competition (Varlık, 2013).

The growing importance of information in modern societies has led to its recognition as a decisive factor not only in economic and social processes but also in the fields of security and strategy. Within this context, the concept of information warfare has emerged as a framework associated with access to information, the protection of information assets, the management of information flows, and the strategic use of information systems. At its core, information warfare is concerned with achieving information superiority and employing that advantage in ways that influence an adversary's decision-making processes (Tansu, 2000).

Although the literature offers different definitions of information warfare, a common theme is the recognition of information as a strategic source of power. Information warfare encompasses more than activities directed at technical systems; it also includes processes related to the production, circulation, and utilization of information. Consequently, information warfare may be understood as a broad field of contestation that involves not only acquiring, protecting, and using information but also limiting an opponent's information capabilities and capacity for effective action (Talishinsky, 2025a).

An examination of the theoretical foundations of information warfare indicates that the strategic use of information is not a new phenomenon. Throughout history, efforts to acquire information, gather intelligence, and gain knowledge about an adversary's intentions have constituted important elements of warfare. However, advances in communication technologies, the acceleration of information production and transmission, and the widespread adoption of

digital systems have significantly expanded the scope of information warfare in the modern era. As a result, information has evolved from a supporting element of warfare into a central domain of strategic competition (Talishinsky, 2025b). One of the defining characteristics of information warfare is its focus on information environments and information-related activities rather than exclusively on physical targets. Within this framework, achieving information superiority, protecting information systems, and influencing an adversary's information-based activities are regarded as fundamental objectives of information warfare (Tansu, 2000). In this respect, information warfare constitutes an important dimension of contemporary conflict and strategic competition.

In conclusion, information warfare may be understood as a field of struggle that has emerged alongside the growing strategic value of information and is fundamentally oriented toward the attainment of information superiority. Structured around the production, circulation, and control of information, it provides an important conceptual framework for understanding the changing character of warfare. Moreover, the development of information warfare demonstrates that contemporary conflicts cannot be explained solely through physical capabilities and material power, as the informational dimension has become an increasingly significant component of strategic competition.

The Strategic Transformation of Power, Hegemony, and Perception

Understanding the transition from information warfare to cognitive warfare requires moving beyond conceptions of power based solely on physical capabilities or coercive force. Contemporary power relations are closely intertwined with the production of knowledge, processes of meaning-making, the formation of subjectivity, the generation of consent, and the management of perception. For this reason, the theoretical foundations of cognitive warfare should be examined not only within the security literature but also through broader debates concerning knowledge and power, hegemony, and perception management.

In this regard, theoretical approaches that explore the relationship between knowledge and power provide an important analytical foundation. According to Çelebi's (2013) interpretation of Foucault, knowledge and power are not independent phenomena. Rather than existing as a neutral entity outside power relations, knowledge is embedded within mechanisms of power and is shaped through them. Likewise, power cannot be reduced to a system operating exclusively through coercion or repression. It also functions through the production of knowledge and, in doing so, influences individuals' behaviors, attitudes, and processes of subject formation. From this perspective, knowledge is not merely information that is transmitted; it constitutes a significant element in shaping subjectivity and social relations (Çelebi, 2013).

This relationship between knowledge and power suggests that contemporary conflicts cannot be understood solely through physical domains of competition. The production, circulation, and presentation of knowledge within particular interpretive frameworks influence how individuals perceive and understand events and social realities. Consequently, struggles over knowledge are also struggles over meaning-making and interpretation. Knowledge therefore functions not only as a strategic resource but also as a field through which social influence is exercised (Çelebi, 2013).

Another important theoretical framework for understanding power relations is the concept of hegemony. Drawing on Gramsci, Dural (2012) argues that hegemony cannot be understood simply as a form of dominance established through coercion. Rather, hegemonic relations operate through the production and maintenance of social consent. Within this framework, the defining feature of modern power relations is not merely physical control but also the construction of legitimacy and social acceptance. Coercion and consent are therefore not mutually exclusive mechanisms; instead, they function together in sustaining relations of power (Dural, 2012).

This perspective helps explain why perception occupies a central place in contemporary struggles for influence. The formation of social consent is closely connected to how individuals perceive and interpret events, institutions, and social processes. The shaping of perceptions, the legitimization of particular ideas, and the dissemination of specific meanings contribute to the maintenance of hegemonic relations. Accordingly, power is associated not only with the capacity to direct behavior but also with the ability to influence how reality is interpreted and understood (Dural, 2012).

The concept of perception management provides an important analytical tool for understanding the relationship between power and hegemony. According to Bayrakçı (2021), perception management constitutes a significant mechanism through which power relations are maintained and social support is generated. It involves more than the transmission of information; it also encompasses efforts to encourage individuals to evaluate events, institutions, and processes within particular interpretive frameworks. In this sense, perception management represents a domain in which the relationship between knowledge and power becomes especially visible.

Bayrakçı (2021) further argues that the instruments of perception management have evolved over time. While religious and cultural elements played a prominent role in traditional societies, modern communication technologies and media have become increasingly influential in shaping perceptions. The development of communication technologies has expanded the reach and effectiveness of perception-oriented activities, allowing them to influence broader audiences. This development helps explain why perception has become a strategically significant element in contemporary power struggles.

The prominence of propaganda, disinformation, and psychological influence within the literature on information warfare is consistent with this broader theoretical framework. Talishinsky (2025a) emphasizes that information warfare should not be viewed solely as a technical or military activity. It also encompasses forms of information-psychological influence capable of producing political and social effects. Accordingly, information warfare involves not only activities directed at information systems but also processes that may shape the perceptions of individuals and societies.

In conclusion, the relationship among knowledge, hegemony, and perception provides an important theoretical framework for understanding contemporary power struggles. When the role of knowledge in power relations, the production of social consent, and the strategic function of perception management are considered together, it becomes evident that power cannot be explained solely through physical capabilities or institutional structures. This perspective also helps explain why information-centered forms of competition have increasingly expanded toward broader forms of influence directed at human cognition and consciousness.

From Information Warfare to Cognitive Warfare: The Rise of Consciousness as a New Domain of Strategic Contestation

Developments in information technologies and the expansion of communication networks have significantly transformed the character of contemporary conflict. With the emergence of information warfare, access to information, the management of information flows, and the pursuit of superiority within information systems became central elements of strategic competition. Over time, however, it became increasingly evident that activities conducted within the information environment were not limited to technical systems or information flows alone. They also generated effects on individuals' perceptions, evaluations, and decision-making processes. As a result, greater attention has been directed toward the cognitive dimension of information-centered forms of competition (Kandemir, 2025).

Kandemir (2025) distinguishes between two related but distinct levels of activity within the information environment: information warfare and cognitive warfare. While information warfare primarily focuses on information systems, information flows, and communication processes, cognitive warfare is associated with human perception, thinking, and decision-making processes. This distinction highlights that the strategic focus of contemporary competition extends beyond information systems and increasingly encompasses human cognitive processes.

One of the central themes within the literature on cognitive warfare is the growing significance of the human mind as a target of strategic influence. According to Du Cluzel (2021), cognitive warfare is associated with activities capable of affecting the ways individuals think, evaluate information, and make decisions. Within this framework, individuals are not viewed as passive recipients of information. Rather, they are understood as active actors who interpret

information, assign meaning to it, and develop behavioral responses accordingly. Consequently, the cognitive domain has become an increasingly important dimension of contemporary security and strategic studies.

Hung and Hung (2022) conceptualize cognitive warfare as a set of activities intended to influence individuals' mental states and behaviors. This perspective further clarifies the distinction between information warfare and cognitive warfare. Whereas information warfare is primarily concerned with obtaining, protecting, and directing information, cognitive warfare focuses on how individuals interpret available information and how such interpretations shape behavior. In this sense, the arena of competition expands from information systems to the cognitive processes through which information is understood and acted upon.

Burda (2023) argues that cognitive warfare should not be viewed as a temporary phenomenon confined to specific crises or periods of conflict. Cognitive influence activities are embedded within the information and communication environments of contemporary societies and may operate continuously over time. From this perspective, cognitive warfare extends beyond conventional wartime activities and encompasses broader efforts aimed at influencing how individuals relate to information and engage in social communication processes.

The emergence of cognitive warfare is closely connected to the discussions of power, hegemony, and perception examined in the previous section. The social effects of information, the shaping of perceptions, and the presentation of meanings within particular interpretive frameworks can influence how individuals understand and evaluate events. Consequently, contemporary power relations involve not only access to information but also the ways in which information is perceived and interpreted. Debates on cognitive warfare draw attention to the cognitive dimension of this process and to its implications for human thought and decision-making.

Decision-making processes constitute another important aspect of cognitive warfare. As Du Cluzel (2021) emphasizes, the ability of individuals and institutions to evaluate information, establish trust, and make informed decisions becomes strategically significant within dense information environments. This observation suggests that the cognitive domain is not merely psychological in nature but is also closely linked to processes of judgment and decision-making. Similarly, Kandemir (2025) argues that the cognitive dimension of the information environment is directly related to human evaluation and decision processes.

In conclusion, a clear continuity exists between information warfare and cognitive warfare. While information warfare focuses on access to information, information flows, and information systems, cognitive warfare places greater emphasis on human perception, interpretation, and decision-making processes. Cognitive warfare should therefore not be understood as a phenomenon entirely separate from information warfare, but rather as a dimension of information-

centered competition that increasingly targets human cognition. Consequently, alongside the technical aspects of information, the ways in which individuals interpret, evaluate, and assign meaning to information have become matters of growing strategic significance in contemporary power struggles.

Conclusion

This study has examined the conceptual relationship between information warfare and cognitive warfare through the interconnected dimensions of power, perception, and consciousness, offering a theoretical assessment of the transformation taking place in contemporary forms of strategic competition. The principal finding of the study is that the relationship between information warfare and cognitive warfare is characterized more by continuity than by rupture. While information warfare has traditionally focused on access to information, the control of information flows, and the pursuit of information superiority, these dynamics have gradually expanded toward the ways in which individuals engage with, interpret, and respond to information. As a result, the arena of strategic competition has extended beyond information systems and communication networks to encompass processes of perception, interpretation, and decision-making.

The theoretical perspectives examined throughout this study indicate that information cannot be understood merely as a technical resource within contemporary power relations. Information also plays an important role in processes of meaning-making, the formation of subjectivity, and the ways individuals understand and interpret their social environment. Consequently, struggles over information may also be viewed as struggles over interpretation and the production of meaning. The strategic significance of information derives not only from its content but also from the ways in which it is communicated, interpreted, and translated into social and political effects. In this respect, information functions both as a strategic resource and as a mechanism through which influence may be exercised.

Another important conclusion concerns the changing nature of power. Traditional approaches have often explained power primarily through physical capabilities, material resources, or coercive capacity. The present analysis suggests that contemporary power relations increasingly involve processes of perception, meaning-making, and the generation of social consent. Within this context, hegemony and perception management should be understood not merely as communicative practices but also as important mechanisms through which legitimacy is constructed and influence is maintained. Accordingly, power operates not only through the capacity to direct behavior but also through the capacity to shape how individuals interpret and evaluate the world around them. One of the theoretical contributions of this study is therefore to

demonstrate that the relationship between information warfare and cognitive warfare can be more effectively understood when examined alongside broader discussions of power and hegemony.

The concept of cognitive warfare represents one of the most visible manifestations of this transformation. What distinguishes cognitive warfare from earlier forms of information-centered competition is its focus on the relationship between individuals and information rather than on information itself. Within this framework, strategic efforts are increasingly directed toward influencing how information is interpreted, what meanings are assigned to it, and how such interpretations affect judgment and decision-making. The cognitive domain therefore emerges not simply as a setting in which communication takes place but as a strategic sphere in which perceptions, opinions, and decision processes are shaped. This development underscores the growing importance of the human dimension in understanding contemporary forms of conflict and competition.

The central theoretical implication of this study is that the transition from information warfare to cognitive warfare reflects a broader expansion of strategic competition from information systems toward human cognitive processes. Contemporary competition is increasingly influenced not only by the capacity to produce, access, or control information but also by the ways in which information is perceived, interpreted, and transformed into action. Information and cognition should therefore be viewed not as separate domains but as interconnected dimensions of contemporary strategic interaction.

In conclusion, understanding contemporary power struggles requires a comprehensive examination of the relationship among information, perception, and consciousness. The transition from information warfare to cognitive warfare demonstrates that strategic competition can no longer be explained solely through physical or technical dimensions. Alongside access to information, increasing importance is attached to how information is interpreted and how it shapes cognitive processes. Cognitive warfare should therefore be understood not merely as a new form of conflict emerging in the information age but also as a conceptual framework that provides insight into the evolving nature of power itself. Furthermore, this study highlights the need for future theoretical and interdisciplinary research examining the interaction between information, perception, and consciousness in greater depth. Such efforts may contribute to a more comprehensive understanding of the role of the cognitive domain in contemporary power relations and strategic competition.

Author Contributions

Elvin Talishinsky solely contributed to the conception and design of the study, data collection and analysis, interpretation of the findings, drafting of the manuscript, and revision of the final text. The author read and approved the final version of the manuscript prior to publication.

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