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# Psychology and Education

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# Psychology and Education

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# The dramatic pattern in the poem "The Story of the Princess and the Boy Who Speaks to Water" by Ahmed Abdelmuti Hijazi

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## ABSTRACT

The contemporary Arab poet realised new visions in reaching aesthetic awareness to new horizons that allow this poetry to be truly representative of this period, expressing it, and among the manifestations of renewal is the orientation to the dramatic structure in the poem based on the idea of conflict and the formation of the self in an objective opposition, in which the poem was slightly stripped of its lyrical character to give way to modern experiments aimed at breaking the traditional mould, benefiting in this regard from its combination between poetry and various other literary arts, and we lack here to talk about the nature of the relationship between the poem and the theatre and how the contemporary poem has benefited in its employment of the techniques of this art - the theatre - in enriching the contemporary poem. theatre to enrich the contemporary poem?

What is the extent to which the contemporary poet was able to reach aesthetics that traditional poetry did not reach in order to achieve uniqueness and distinction?

**Keywords:** Contemporary poetry, dramatic structure, characters, dialogue.

## INTRODUCTION

Contemporary poetry has made that qualitative leap that allowed it to discover new creative methods that enabled it to overcome the traditional poem with its excessive lyricism, as it opened the door to new aesthetics for the poetic text in which it was able to benefit from various other literary arts such as the novel, cinema, story, theatre ... In this article, we aim to shed light on the relationship between poetry and theatre, and to find out how contemporary Arabic poetry has benefited from the techniques of theatre and how they helped it to move from its purely lyrical character to its dramatic character.

How has the contemporary poet been able to invest and employ techniques such as dialogue and conflict within his poem?

### 1. Between poetry and theatre:

The researcher does not find it difficult to uncover the frameworks of intertwining between poetry and theatre, "poetry has been associated with theatre since Greek tragedy and remained its dominant language until the emergence of realistic drama with the nineteenth century and the call to replace poetry with what represents daily reality, that is, in prose language close to the daily life, and it was very healthy natural for poetry to be the language of performance in Greek and classical epics and tragedies, due to the nature of the topics addressed." When we talk about the relationship between poetry and theatre, we talk about a questioning between the two sexes, and the theatre has often made its written text a poetic text, or a poetic text, or a poetic text. The theatre has often made its written text a poetic text, or as it is known that "the playwright is a poet and a storyteller at the same time", and this would be the focus of our study if we were talking about a poetry play, but we are basically here talking about poetry that draws from the

theatre its specificities The poem does not lose its lyrical and aesthetic character, but rather imparts to the poem new aesthetic features that arouse the surprise of the recipient, and if we turn to contemporary poetry, we will find this feature available in many modernist poets, "The Arabic poem has evolved from pure lyricism and from pure lyricism and abstraction to intellectual lyricism, which is represented in the dramatic poem.

## **2. Poetic drama:**

The term "drama" is originally Greek in origin, and its literal meaning is an act, or an action performed, and when dealing with it after its definition, we understand it as a dramatic action, dramatic movement, presentation, treatment, conflict, art, literature ..., if all this is related to the text, and the essence of theatre drama is the conflict that deals with a human issue that has multiple intellectual methods in its crisis, and the ways and beliefs in its solution, this dramatic conflict draws its elements from the dialectic of life around it.

If we talk about the infiltration of drama into Arabic poetry, we find that "the various changes and changes that the twentieth century brought to modern Arab society have greatly influenced aesthetic needs and aesthetic consciousness, so that contemporary poetry has become a lyrical consciousness because it starts from the individual self in the consciousness of the world and a dramatic consciousness because it embodies the world through the conflict that is the essence of drama, in a way that seems There no doubt that the experience of the new poetry was one of the most important motives of the poets' awareness of these facts, whether as a result of their modern culture or a necessity imposed on them by the nature of the conditions of life in which they live, as this movement bore fruit in the creation of poems that critics considered the highest forms of literary expression and "the most wonderful modern poems have become first and foremost poems of a dramatic nature of the first order." The dramatic expression in the poem is manifested by highlighting the conflict and directing the contradiction between two opposites, one of which may stem from the self and the other from a sensory nature, as well as through the proper use of dialogue.

## **Dialogue style:**

Dialogue is the language of returning from something to something. It is a conversation that takes place between two or more people in a story or between two or more actors on stage.

In the terminology, the word means a conversation or conversation, which entails an exchange of opinions and ideas, and is used in poetry, short stories, novels and plays to portray characters and push the action to speech.

The dialogue method is a prominent feature in many discourses and in the poetic discourse as well, as the dialogue runs on the logic of poetry in sequence with its natural order in the life of psychological meanings, as it jumps leaps and crosses gaps and uses luminous words, eloquent wisdom and bright images to reach in a few qualities the depths of the human soul, where we can identify two forms or two types of dialogue, the first is the internal dialogue (monologue) and the second is called the external external dialogue (dialogue).



**A/ Internal Dialogue:**

This phrase was taken and borrowed from the field of narrative art, especially from the field of theatrical literature. In the internal dialogue, the two voices of one person, one is his public internal voice and the other is his private internal voice that no one else hears but appears to the text fabric from time to time, and this internal voice shows all obsessions and ideas opposite to what is happening on the surface of feeling and thinking, adding a new dimension that represents another voice that seduces the receiver with what he says, or deepens his feeling of the apparent idea and convinces him of it.

**B/ External dialogue:**

This method is mainly based on the appearance of voices (or at least two voices only) of different people. This type of dialogue allows the characters to express openly what they feel, as it shows the difference and agreement in visions and ideas and allows for a multiplicity of voices in the poem. It is worth noting that dialogue in the poem is not new and has been a part of it since the Jahiliyya era, but it did not have that dramatic dimension as we see it today in the contemporary poem, in which the poet switches from his own voice to the voices of the poem's characters depending on his psychological state or explaining a situation or opposing an issue that requires multiple voices to discuss and provoke the recipient to interact with it.

Forms of dramatic structure in the poem "The Princess and the Boy Who Speaks to the Water":

We can hardly find any of his poems that deviate from the dramatic depiction, and the poem "The Princess and the Boy Who Speaks Water" is only one of them, and we will describe and analyse it and highlight the aspects of the dramatic tendency in it:

**Dramatic conflict:**

Conflict is evident in all forms of life as it represents one of its aspects and goes along with it, highlighting the physical difference represented by the juxtaposition of objects, as well as the abstract moral difference represented by the juxtaposition of ideas "an idea meets an idea, and that every appearance hides an interior, and that the contradictions, although negative in themselves, the exchange of movement between them creates the positive thing, and thus life is a positive that benefits from this mutual movement between the contradictions. Contradictions, even if they negative in themselves, the exchange of movement between them creates something positive, and therefore life is a positive thing that benefits from this mutual movement between contradictions." When we explore the poem, we find it full of opposites: "A woman whose wardrobe contains a thousand dresses" is contrasted with "a boy. . A princess and a poor boy, light and darkness ... With all these sensory contrasts, we find on the other hand an image of an intellectual struggle that haunts the poet and hardly leaves him, two different images that meet in one stream, which is sorrow and sadness mixed with hope for salvation and the long-awaited meeting, and the poet is not content to live this experience alone, but shares it with us because he knows that it is inside each of us:

The one who leaned on his father

Struggling with nostalgia to stop it

He was swept away by nostalgia

He is you and me, digging under a thick wall.

All these contradictions and the vast disparity that drives one to grief and sorrow despite the hope he carries:

I have a small request

For life to become a love nest

With a single loaf of bread and a laughing child

The poet keeps moving us from an internal subjective conflict and then reflects it to the outside to represent an objective realistic conflict, giving this dramatic movement in the poem from its beginning to its end.

Dialogue and multiple voices in the poem:

If the conflict emerges through the dramatic movement in the play, the movement is manifested through the characters, and the characters, in turn, are revealed through dialogue... The dialogue is not only the words spoken by the character, but its intellectual logic." Perhaps the reader of the poem finds that the poet exploited the dialogue feature to inform us about many of the characters he employed, and he also made his voice hidden among these many voices, so that the reader falls in amazement and bewilderment Perhaps his voice sometimes appears as an interrogation between him and himself, which is called internal dialogue, as he looks at us in the poem with the tone of answer and confirmation, saying "I know her and I know him", as if something inside him asks him the question "Do you really them?" The poet continues to narrate their story through his transition from an internal dialogue to an external dialogue that takes place between the characters of the poem, and the question is repeated within it in each stanza, so the poet answers, "I know her and I know him" and explains a second, third and fourth time, and here the poet's ingenuity stands out in involving us in his internal dialogue without showing both parties and leaving us the opportunity to know why he answered with that answer As if he did not want to inform us of the question that occupies his mind, and here the importance of the internal dialogue is highlighted as it "added to the situation to be expressed dimensions that would not have appeared if the poet was satisfied with the movement in one direction and satisfied with the incident by telling about it, but the personification of the situation and the depiction of conflicting feelings through that internal dialogue undoubtedly made it more effective and convincing." And this This transition from the dialogue of the self to the outside or from the self to the subject gave the poem a dramatic dimension, as the poet made in it "a network of relationships between events and figures and between individual images and general images, so that they all pulse with one pulse and its images become textural relationships, each image is linked to what comes before and after it organically functionally, and what we see in the whole, we see in the part". Perhaps this statement refers us to the presence of two stories in the poem and not one story, namely "the story of the poet" and "the story of the princess and the boy" and the stories intersect in the poem and allow for polyphony in it, and it is worthwhile before proceeding to analyse the technique of "polyphony technique" to define it first, as Professor Ali Awwad says: "The phenomenon of polyphony or polyphony is the coexistence of characters, viewpoints, centres, ideologies, signs, methods and

systems of full value and their intersection within one literary space." The contemporary poet has realised the fact that experience can only be established through his interaction with the outside world, so he gave the opportunity for figures from reality to speak and thus achieve this blending that may lead to complexity or dissonance sometimes, but this dissonance between voices gives the poem vitality and impact.

This is what we find in Hijazi's text. The multiplicity of characters and their good use allowed the poem to move from pure lyricism to drama, as he made each character a voice that contributes to the crystallisation of the conflict and the course of the story and reveal its frames, so we find the "princess character" who represents the salvation, the executor and the centre of change of every event in the poem:

An oriental princess who loves to sing

She loves it but does not professionalise it.

She chanted in silence ... Ouf!

My heart on a child by the wall

On the other hand, we find the character of "the poor boy", whose voice overlaps with the poet's voice, but is He is the poet himself who is waiting for that meeting that makes him forget all his sorrows:

O friend of the stranger

I am the words of the earth ... did you listen to me?

I am millions of eyes ... did you look at me?

He lights candles with his meek words

In his words is the light of a candle that does not go out

The voices overlap and the characters exchange dialogue and begin to grow little by little until their features are revealed, and finally give the reader a disjointed picture through which the poem can be understood, as the reader considers the movement of the two characters in the poem "the character of the princess" who is "narrowing heart is on a boy by the wall", and the character of the wandering boy who is "swept away by nostalgia" and is sometimes hopeful and sometimes sceptical "Will the light really come after a year?", is an evocation of the Greek mythological story "Odysseus and his wife". That prince who remained wandering in the land, condemned to alienation, and on his journey he was seduced by a woman and remained imprisoned on her island for years, but he did not forget his wife and continued to wait to meet her and suffered until he became that beggar prince, but in the end his alienation ends with his return to his palace and his wife. The poet's invocation of this legendary character was not in vain, but to indicate his psychological alienation in the place where he is, where the faces and everything around him have changed, and his only hope is to return one day to his old place as he returned "

Odysseus, and happiness returns to his heart.

In the morning she asked him ... " What did you see?"

My lady ... I saw everything good.

My lady ... I'm happy.

This temporary happiness that visits the poet for a moment and then disappears like a dream at night, and as soon as he wakes up in the morning, he returns to his longing

It's as if fate had written him this alienation and wrote him away from love:

I know her, I know him.

The one who passed away and did not say goodbye to him ... She didn't want to

Between this presence and absence, joy and sorrow that captivates the poet's heart,

we notice that he was able to communicate all these feelings inside him without ascending in the poem to the rank of an explicit speaker, but rather he placed a group of characters and made them speak instead of him so that the dialogue was in harmony with the movement of the poem. This is what gave it more drama and made it with multiple connotations and achieved the purpose of calling this technique

### **Conclusion:**

As a summary of the above, we can say that the poems of the poet Ahmed Abdel Moati Hegazy have given contemporary poetry in general and the poets who followed him that model through which the path of renewal in poetry can be determined, as his mastery in using theatrical techniques and techniques and moulding them into a poetic form makes both the careful reader and the critic alike attracted to his poetic creations and the depth of his experience, and this is what we see in his poem "The Princess and the Boy Who Speaks to the Water". This is what we see in his poem "The Princess and the Boy Who Speaks to the Water." He was able to accurately highlight the conflict that formed in the poem with a good link with what we see from the dialogue launched from himself to the outside world, made the poem tend towards drama, and we also see his skill in calling mythological characters and employing them well to serve his poetic text. We can also see that the poet's use of characters gives the poem movement and allows for a multiplicity of voices.

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# Obstacles to Conducting Physical Education and Sports Lessons in Primary

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## ABSTRACT

This study aims to identify the main obstacles to conducting physical education and sports lessons in primary schools from the perspective of subject teachers. The research sample consisted of 30 physical education and sports teachers in the primary school stage from the provinces of Guelma and M'Sila. We utilized the descriptive method in this study, as it is suitable for the nature of the research topic. We reached the following conclusions:

- There are obstacles related to the material resources of the institution.
- There are obstacles related to the developmental features of primary school students.
- There are obstacles related to the features of the subject, its delivery method, and the curriculum contents.
- There are obstacles related to the perspective of the administrative and pedagogical staff towards the subject of physical education and sports.

**Keywords:** Obstacles, Physical education lessons, Primary schools.

## Introduction and Problem statement:

The Ministry of National Education has clarified in a document addressed to the Directors of Education that physical education and sports is a mandatory subject prescribed at all levels of primary schools.

Specialized teachers, graduates of physical education and sports institutes at the national level, are responsible for teaching physical education lessons. Each teacher takes care of a number of educational groups in the primary school where they are assigned, and if necessary, in one or more other primary schools, as part of achieving the required teaching hours for primary school teachers.

The document also demonstrated that the time allocated for the subject of physical education and sports at this stage is one hour per week for each educational group in the five educational stages. The number of educational groups assigned to a subject teacher is estimated to be a maximum of fifteen groups.

The significant importance of physical education and sports in primary schools is undeniable, as it ensures the instillation of human values during childhood, the development of physical and mental capacities, and the refinement of talents by discovering and nurturing them early in children from different aspects:

**Physical Aspect:** Managing energy and coordinating the balance of movements on one hand, and what is necessitated to resist fatigue and external pressures that often hinder fulfilling goals on the other hand.

**Skill Aspect:** Controlling movements and acquiring motor skills related to physical and sports activities as a basic support for managing the body in various situations of daily life.



**Emotional Aspect:** Controlling impulses and emotions by complying to the values and rules imposed by the game, thus regulating behavior as an individual belonging to a group and lives in a community.

**Aesthetic Aspect:** Expressing through basic movements the grace of gymnastics and their coordination, adding an artistic aesthetic quality through body control and movement mastery (National Council of Programs, 2023).

By establishing the position of physical education and sports teacher in the primary school, we have taken a giant step towards advancing the subject, which would positively affect our students physically, mentally, psychologically, and socially.

Based on the aforementioned points, the following question arises:

**• What are the obstacles to conducting physical education and sports lessons in primary schools from the perspective of subject teachers?**

**Study hypotheses:**

- There are obstacles related to the material resources of the institution.
- There are obstacles related to the perspective of the administrative and pedagogical staff towards the subject of physical education and sports.
- There are obstacles related to the developmental features of primary school students.
- There are obstacles related to the features of the subject, its delivery method, and curriculum content.

**The concept of physical education and sports lesson:**

Physical education and sports lesson is regarded as the smallest unit within the curriculum. It is the basis of every educational program. It should cater to the needs of students, as well as their interests and preferences (Al-Sadiq, Al-Saffar, p. 200).

It is also considered an academic subject, similar to natural sciences and languages. However, it is different from these subjects as it not only provides students with motor skills and experiences but also equips them with a wealth of knowledge and information covering different aspects such as health, psychology, and social interactions. Furthermore, it covers scientific knowledge associated with human body formation through the use of physical activities such as exercises and different games (both group and individual) under the educational supervision of instructors who are prepared for this purpose.

Physical education is defined as " the process of directing physical and motor development in humans through physical exercise, health measures, and other methods that interact with educational tools to develop psychological, social, and moral aspects," This means that the physical education and sports lesson, one of the practice aspects, also fulfills these goals because at the school level, it ensures comprehensive and balanced growth for students and meets their physical needs according to their age stages. It also accommodates their motor skills progression and offers opportunities for talented individuals to participate in different activities inside and outside the school. In this way, the physical education and sports lesson not only covers the time frame but also fulfills the educational purposes outlined by educational policy in the field of physical and health growth for students at all levels



(Basiouni, Al-Shaati, 1992, p. 34).

## **2. Objectives of the physical education and sports lesson:**

The essence of physical education and sports lesson is to contribute to fulfilling specific objectives for each lesson, thereby achieving overall general and comprehensive goals. Among these objectives are:

- Acquiring technical aspects for students to perform different sports skills and movements.
- Promoting students' love for teamwork and collaboration to improve collective work employing organizational methods such as drills, lines, and various formations.
- Instilling in students conscious sporting inclinations and positive attitudes towards physical education through knowledge, information, and athletic abilities and skills.
- Developing positive psychological traits in students that contribute to building and developing their personalities, such as discipline, obedience, courage, initiative, and bravery.
- Improving students' different mental capacities and working on their development through conscious thinking during sports activities and executing game plans, as well as exhibiting behaviors in various situations.
- Cultivating in students the values of beauty through expressive movement and innovative performance, as well as promoting good posture (Mahasneh, 2006).

## **3. Characteristics of the physical education and sports teacher:**

- Self-control: The teacher who has self-control can also lead others.
- Self-confidence: The teacher should behave as if he expects the students to show their desires.
- Ability to face the first challenge to the system with determination and strength: Often, some students attempt to test the new teacher, and successfully meeting the challenge firmly prevents the recurrence of such attempts.
- If there is doubt about a student's mistake, experience has demonstrated that silence is better than giving a lecture on character and sportsmanship.
- Remember that the majority of students in the classroom tend to obey the teacher's directions and act accordingly.
- Know your subject well to avoid embarrassing situations resulting from an inability to answer a question in the core of your work, as such situations reflect poorly on classroom discipline.
- Consider that disobedience or showing some defiance or fallacy by some students is not a personal insult directed at you, and attempt to address the situation on that basis.
- Act quickly and according to a known and established system so that the student knows what to expect as a result of certain actions. The student's lack of knowledge of the established system causes anxiety and rises the likelihood of disrupting the system (Ibrahim, 2000, pp. 206, 205).

## **4. Features of Children in Primary School Stage:**

### **A- Key Features of Children in the First Stage of Primary School:**

#### **Social Aspect:**

- Dominated by self-centered behavior.
- Limited interaction to those he sees as close to him.
- Avoids appearing in front of others for fear of ridicule.

**Psychological Aspect:**

- Often quick to react.
- Moody (quick to anger, quick to joy).
- Gets bored quickly.
- Does not consider consequences.

**Cognitive Aspect:**

- Has some acquired knowledge from home and in his close environment.
- Loves to explore and discover.
- Enjoys imitation even at the expense of his own ability.

**Motor Aspect:**

- Physique is still fragile.
- Dominated by random (excessive) movements.
- Doesn't manage energy well, acts impulsively.
- Gets tired quickly and recovers his strength quickly.
- Weak in guidance and response factors.

**B- Key Features of Children in the Second Stage of Primary School:****Social Aspect:**

- Strong inclination to play with peers.
- Seeks independence from home and family elements.
- Aspiring to explore the outside world (beyond home, beyond school).

**Psychological Aspect:**

- Finds a release in play.
- Ability to focus on the task at hand.
- Shares peers' problems and stands by them.

**Cognitive Aspect:**

- Understands the concept of certain moral values (cooperation, voluntary contribution, helping others).
- Eager for stories and heroic games.
- Expanding vocabulary and skills, enhancing self-confidence.

**Motor Aspect:**

- Physical grows, particularly in terms of height, while systems remain somewhat fragile.
- Quick mastery of motor skills, even complex ones.
- Increased responsiveness and guidance factors helps fulfill more complex motor skills.

**C- Key Features of Children in the Third Stage of Primary School:****Social Aspect:**

- Seeks a balance between self-interest within and outside the family.
- Inclined to external pressures while respecting family values.
- Engages with peer groups and attempts to organize playgroups.
- Works towards gaining relative independence.
- Loves competition and starts distinguishing between genders.

**Psychological Aspect:**

- Slow development of the processes of differentiation and adaptation.
- Needs to feel a sense of fairness and take initiatives.
- Searches for independence.
- Acquires the rules of games and the concept of duties and rights.
- Aspiring towards body image and takes an interest in it.

**Cognitive Aspect:**

- Develops an understanding of certain moral values (cooperation, contribution, voluntary help...).
- Enriches his vocabulary, aiding in listening to and telling stories.
- Eager for heroic games.

**Motor Aspect:**

- Demonstrates improvement in coordination.
- Precision in executing movements.
- Good balance control.
- Mastery of natural movements.
- Quickly acquires different motor skills
- Body flexibility during performance allows for prolonged focus (National Curriculum Committee, 2016, pp. 3-5).

**Methodological Procedures for the Research:**

**1. Research Method:** The descriptive method was utilized due to its suitability for the nature of this study. It relies on studying reality or phenomena as it exists in reality, concentrating on its accurate description, which can be expressed qualitatively or quantitatively (Boudouaoud, Atallah, 2009, p.123).

**2. Research Sample:** The research sample consisted of 30 primary school teachers from the provinces of Guelma and M'sila, selected randomly.

**3. Research Tools:** A questionnaire form.

**4. Research Fields:**

- **Human Field:** Physical education and sports teachers for the primary school in the provinces of

Guelma and M'sila.

- **Spatial Field:** Primary schools in the provinces of Guelma and M'sila.
- **Temporal Field:** The academic year 2023-2024.

## 5. Research Variables:

- **Independent Variable:** Conducting a physical education and sports session.
- **Dependent Variable:** Obstacles to execution.

**Research Results:** We can summarize the responses of physical education and sports teachers regarding the obstacles to achieving a physical education and sports session in the primary school as follows:

### Firstly: Obstacles Associated with the Material Resources of the Institution:

These were particularly presented through:

- **Unsuitable Locations for Sessions:** The areas designated for sessions do not meet the specific needs of the subject or ensure the safety and security of students. Most practice spaces are paved school yards, leading to difficulties in fulfilling lesson objectives, low comprehension levels among students, and a rise in sports-related injuries.
- **Lack of Covered Sports Halls:** There is a shortage of equipped indoor sports facilities that could be employed, particularly under difficult weather conditions (rain, heat).
- **Insufficient Equipment and Teaching Aids:** These are regarded as the backbone of activities and play a significant role in easing lesson difficulties. Most teachers report a lack of such materials, and even when available, they are insufficient in number, often damaged, and in need of repair or replacement to guarantee students' safety.
- **Inadequate Changing Rooms:** There is a lack of suitable changing rooms, and in some cases, they are completely unavailable.
- **Weak Budget Allocation:** The budget for buying tools and equipment is insufficient.
- **Lack of a Sports Library:** There is no library with books on individual and team sports and the importance of physical activity to enhance students' knowledge.

### Secondly: Obstacles Associated with the Perception of the Administrative and Pedagogical Staff towards Physical Education and Sports:

Many teachers encounter negative attitudes from some principals, administrators, and other subject teachers towards physical education and sports. These individuals often view it as merely running, jumping, chaos, and a waste of time. This lack of cooperation creates psychological pressure on physical education and sports teachers.

### Thirdly: Obstacles Associated with the Developmental Features of Primary School Students:

- **Behavioral Features:** The young age of the students introduces challenges such as a high need for movement, enthusiasm, and impulsivity, leading to chaos, distraction, and sports injuries of varying degrees. This makes it difficult for the teacher to control the session and interpret its procedural objectives.

- **Physical Limitations:** Students have fragile bodies at this age, making it difficult to endure physical exertion. They also struggle with distance estimation, coordination, and self-organization in appropriate time and space, necessitating the teacher to put in extra effort.
- **Lack of Prior Knowledge:** Primary students generally do not have prior knowledge of physical and sports activities, raising a challenge for the teacher to impart the correct knowledge.
- **Special Needs Students:** Some classes encompass students with special needs who require special attention and care, creating a challenge in integrating them into activities with their peers.
- **Need for Constant Supervision:** The age of the students requires close monitoring of their movements and behaviors. Teachers often find themselves juggling between explaining the lesson content, applying it practically, managing time constraints, controlling large numbers of students, correcting mistakes, etc.
- **Moodiness and Sensitivity:** The students' moodiness and sensitivity to criticism necessitates the teacher to be constantly cautious about how to interact with them.
- **Individual Differences:** There are considerable individual differences among students in mental, physical, motor, behavioral, and social abilities.

#### **Fourthly: Obstacles Associated with the Features of the Subject, Its Presentation Method, and Curriculum Content:**

- **Large Class Sizes:** The number of students in each educational group is very large, sometimes reaching up to 40 individuals. This impacts the delivery and progression of the subject content and creates chaos that distracts students.
- **Insufficient Time Allotted:** The 60-minute duration for each session is inadequate to complete the lesson, particularly given the students' eagerness to play, run, and relax.
- **Scheduling Issues:** There are problems with the timing of sessions. Early morning hours in winter are very cold, while afternoon hours in spring can be very hot without a covered area.
- **Unclear Objectives:** The curriculum content lacks well-defined objectives, making the teacher's task more difficult.

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# The image of distance learning among students

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## ABSTRACT

This study explores in depth the experiences of Algerian students in the face of the rise of distance learning. In a rapidly changing global educational context, we sought to understand how students perceive this learning modality and whether it effectively meets their needs. Through semi-structured interviews with 20 students, we were able to identify the main challenges they face, notably technical problems and inequalities in access to resources. While the flexibility and autonomy offered by distance learning are appreciated, the need for direct human interactions remains significant. Our results highlight the importance of a hybrid pedagogical approach, combining the advantages of in-person and remote learning, to ensure quality and equitable education.

**Keywords:** Distance Learning, E-Learning, Social Representation, Online Courses.

## INTRODUCTION

Distance learning has gained increasing importance in the global educational landscape, and Algeria is no exception to this evolution. Technological advances in information and communication have contributed to the popularity of this method, particularly in higher education. However, opinions on distance learning vary widely among students, teachers, and higher education institutions.

In Algeria, these perceptions are shaped by cultural, economic, and technological factors, as well as by the recent effects of the COVID-19 pandemic, which accelerated the adoption of this model. While some see it as an opportunity to access higher education, others question the quality and effectiveness of this approach. This situation raises crucial questions regarding equal access, pedagogical support, and the acceptance of new learning methods.

In this context, it is essential to study how these social perceptions influence not only students' experiences but also the evolution of educational practices in Algerian universities. Such a study could provide valuable insights for adapting and optimizing distance learning according to the specific needs of the academic community in Algeria.

### The objective of the study

- Analyze students' perceptions: Study how students perceive distance learning.
- Evaluate pedagogical effectiveness: Measure the effectiveness of distance learning compared to traditional methods, based on students' perceptions and satisfaction.
- Propose improvements: Formulate recommendations to enhance distance learning practices, taking into account the needs and feedback of students and teachers.

## 1. Definition of Key Terms

To maximize the benefits of distance learning, which is the core of our study, it is essential to clarify this concept as well as the related terms. Several expressions have emerged, such as distance education, e-learning, open and distance learning, and online courses. While these terms share similarities, they generally refer to an innovative learning process that differs from the traditional interaction between teacher and learner. This model emphasizes autonomy in managing learning activities, moving away from the conventional transmission of knowledge.

### 1.1. Distance Learning

The origin of distance learning dates back to 1840, thanks to Isaac Pittman, a teacher who enabled disadvantaged university students to access education through correspondence courses. His goal was to maintain a connection between students and their teachers through written exchanges. While these communication methods may seem outdated today, they paved the way for new modern teaching approaches, such as computer-assisted learning and the integration of new information and communication technologies.

Currently, this approach, often abbreviated as FAD (Formation à Distance), has experienced significant expansion. It is defined as a teaching and learning model focused on self-directed learning, emphasizing tasks carried out remotely. According to Glickman, distance learning is "any type of organized training, regardless of its purpose, where most of the knowledge transmission or learning activities take place outside a direct, face-to-face relationship between teacher and learner." (Abric, 1995).

Similarly, the Inter-Order Liaison Committee on Distance Education offers a complementary definition: "Distance learning is a structured educational system designed to achieve the objectives of a course or program, allowing an individual to learn relatively autonomously, with minimal constraints in terms of schedules and travel, while benefiting from remote support from resource persons." (Abric J. , 2003).

Several specific features of distance learning can be identified:

- Absence of direct contact between the teacher and the learner.
- Mediatized content in various formats: printed, digital, online, etc.
- Bidirectional interaction between the system and the learner.
- Individualized and collaborative activities, without direct connection between the group and the learner.
- Virtual pedagogical support provided through remote tutoring.

It follows that distance learning is perceived as an intermediate stage linking the teacher and the learner through various didactic tools that supplement the teacher's role.

Moreover, paraverbal cues in face-to-face communication, such as gestures and eye contact, which enrich mutual understanding, fade behind a screen. As a result, the regulation of interactions in virtual classes often suffers.



Furthermore, the transition from exclusively synchronous teaching (in-person) to a predominantly asynchronous learning process (remote) has reshaped the teacher's role, making them more proactive in supporting learning. Finally, learners' cognitive strategies are put to the test in an asynchronous learning context, where they must adapt their prior knowledge to analyze, question, solve problems, and formulate hypotheses without direct teacher guidance or interaction with peers.

## **1.2. E-Learning**

In Anglo-Saxon countries, the term E-Learning has gained significant prominence in recent years. It refers to "electronic learning" and has been translated into French as E-Formation or E-Éducation. These terms encompass all online learning that relies on the use of the internet and multimedia resources as a channel.

The glossary of the French Ministry of Higher Education (2017) defines E Learning as:

"Any training system that uses a local network, a wide area network, or the Internet to distribute content, interact, or communicate. This includes distance learning in a distributed environment, as well as access to resources via download or online consultation."

Another definition states that E-Learning is: "Any form of learning using information technologies, with or without an instructor." According to Lebrun, ELearning is: "A tool, or rather a method driven by electronics, used to facilitate or extend teaching and learning." (Abric J.-C., 1994).

## **1.3. Online Courses**

Self-directed learning material is entirely designed using technology to facilitate distance learning. It is evident, in light of these definitions, that delineating the boundaries of these concepts is a delicate task, as they reflect the evolution of distance education in response to technological advancements.

In this context, Viviane Glickman highlights this terminological ambiguity and seeks to clarify the issue: "It is difficult to introduce a certain rigor into these terms, which all serve to describe and promote highly diverse training systems. Their only common characteristic lies in the fact that they do not prioritize the near-permanent copresence of teachers and learners, instead relying on mediatized educational supports." (Bertrand, 1990).

Thus, we can conclude that distance learning is a broad concept, encompassing various interpretations depending on the researchers. However, all agree on the autonomous nature of learning, where the relationship between teacher and learner is replaced by a purely mediatized interaction.

## **1.4. Social Representation**

First, we will examine the process of social imagery and its varied meanings.

Almost a century ago, Durkheim (1898) introduced the concept of collective representations, distinguishing them from individual representations. According to him, these "collective" or "social" representations emerge from the interaction between "elementary consciousnesses" within society.



They thus form a whole that goes beyond the sum of individual representations. These collective representations can manifest in "public opinion", thereby influencing actions in social life (Bonardi, 1999).

At the time, Durkheim's idea had little impact. It was not until sixty years later that Moscovici (1961) significantly expanded on this concept, establishing himself as the true founder of social representation theory. He defines social representations as follows: "A system of values, notions, and practices with a dual purpose. First, to establish an order that allows individuals to orient themselves within their social material environment and to dominate it. Second, to ensure communication members of a community by providing them with a code for their exchanges and a framework to name and classify the various parts of their world, as well as their individual or collective history." (Dumazedier, 2000). "A psychological organization, a particular mode of knowledge, a mediation process between concept and perception." (Durkheim, 1898) With this definition, Moscovici emphasizes the need to abandon the traditional distinction between subject and object. Unlike behaviorist models, he presents representation as a fusion of both. As he states: "There is no division between the external universe and the internal universe of the individual or the group. The subject and the object are not fundamentally distinct." He also underscores the importance of studying "naïve thinking" and "common sense," which reveal social representations.

Furthermore, the way in which an individual constructs their reality highlights the influence of their personal history, as well as their social and ideological contexts. As Moscovici points out: "The link between the subject and the object is an integral part of the social bond and must be interpreted within this framework." Building on this, Abric (1994) concludes that: "A representation is always a social representation," defining it as: "A form of knowledge, socially constructed and shared, with a practical purpose, contributing to the construction of a common reality within a social group." (Gilland, 1987).

In his book *Cooperation, Competition, and Social Representation*, Abric also emphasizes in *Social Practices and Representations* that "the object does not exist in itself" and that representation is not merely a reflection of reality but rather a manifestation of the relationship between the subject and the object. This dynamic reshapes the subject: "Representation is both the product and the process of a mental activity through which an individual or a group reconstructs the reality they face assigns it a specific meaning." Thus, it is a subjective phenomenon that depends on the object, the subject, and their position in society. In 1994, Abric referred to contingent factors (such as the nature of the situation and the immediate context) as well as general factors (such as the social and ideological context).

Abric's theory helps us better understand certain apparent contradictions in the representations studied. The analysis of the core and peripheral elements highlights both the rigidity and flexibility of a social representation, revealing its stable yet evolving nature. Thus, we understand that: "The identity of regulatory principles does not prevent the diversity of positions, which manifests through attitudes and opinions." An apparent multiplicity of positions can indeed emerge from common organizing principles.

## **2. The Organization of Social Representations: Content and Process**

Scholars generally agree that the content of a Social Representation consists of three dimensions: attitude, information, and field. In 1994, Jodelet grouped these dimensions under the term "content of representations", to which she added two processes of constructing Social Representations: objectification and anchoring.

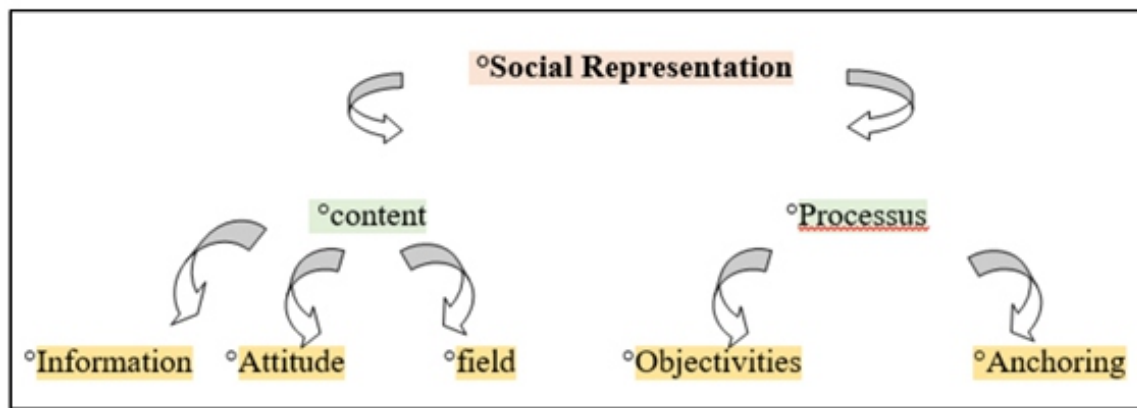


Figure 1 Structure and Components of Social Representation

### 3. The Content of a Social Representation

Information refers to the set of knowledge that an individual holds about an object (Moscovici, 1961). According to Jodelet (1994), this knowledge serves a practical purpose: it influences an individual's behavior towards a phenomenon or event, as well as the image they form of it. For example, professionals in child protection services typically have a better understanding of child development compared to parents receiving these services—who may have experienced a difficult childhood. This disparity in knowledge shapes their behaviors. Attitude represents the positive or negative orientation of an individual towards an object, whether it be a person or an element (Mayer & Ouellet, 1991; Moscovici, 1972). This orientation is crucial in selecting and prioritizing information within the representational field (Glikman, 2001). According to Gilly (1980), attitude is the most resistant aspect of social representations—it is not a fleeting opinion, but a deeply rooted cognitive stance. Within a Social Representation, attitude is closely linked to behavior and action, guiding individuals in regulating their conduct, shaping responses, and driving actions. Thus, Social Representations depend on attitudes, as people tend to inform themselves and construct representations only after taking a stance on an issue.

### 4. The Process of Constructing a Social Representation

The construction of a social representation relies on two key mechanisms: objectivation and anchoring (Bulletin officiel, n.d.). One convert abstract and theoretical elements into concrete images, while the other integrates the represented object into a pre-existing system of thought. These two processes demonstrate how society transforms an object, information, or event into a representation, and, in turn, how this representation shapes society.

#### 4.1. Objectivation

Objectivation is the process through which a group defines the object of representation, filtering scientific and technical information through their beliefs and values. It unfolds in three stages:

- Selection and Conceptualization – Information is filtered based on cultural criteria and existing representations.
- Formation of a Figurative Schema – Elements are organized into a structured image, omitting details

that do not align with the perceived idea of the object.

– Naturalization – The figurative core becomes self-evident and is perceived as reality by the group.

At this stage, the figurative core serves as the foundation for all social representations surrounding the object. According to Clémence & Lorenzi-Cioldi (1996), objectivation leads to a shared form of thinking, which is the final product of this transformation.

## **4.2. Anchoring**

Anchoring assigns a functionality to the representation (Herzlich, 1972). Its primary function is to make objective elements usable in everyday life by embedding them within a social framework that gives them a specific meaning (Jodelet, 1992). Through anchoring, representations are incorporated into existing systems, classifying and explaining new information in a familiar way. According to Jodelet, a system of representation provides the reference points that anchoring uses to categorize new information as familiar and explain it through pre-existing knowledge (Jodelet, 1984).

## **5. The Theory of the Central Core**

We have chosen this theory because we thought it was more appropriate for the subject. This is what we will try to prove through a simple analysis of the data received in the next section.

According to the theory of the central core, a social representation constitutes "a particular socio-cognitive system composed of two interacting subsystems: a central system and a peripheral system." (Lebrun, 2005, p. 269).

These two components are both complementary and specific in the study of social representations.

The central core is the most stable element of the social representation; it is more resistant to change. It is determined by the nature of the represented object, the relationship between the subject and the object, as well as the systems of values and norms that constitute the ideological environment.

The central core is attributed two dimensions according to the nature of the object and the purpose of the situation: a functional dimension and a normative dimension (Maeroff, 2003).

The functional dimension is present in situations oriented towards the completion of a task; it is associated with the immediate context of the production of representations and social practices. The normative dimension is present in situations where socioaffective, social (Moscovici, 1969), and ideological components, such as a norm, a stereotype, or an attitude, directly intervene.

For example, it is recognized that a value is maintained more durably than an opinion, as the latter can easily be modified or transformed through communication and social interactions.

The central core fulfills generative and organizational functions by giving meaning to the peripheral elements and determining the nature of the connections between the elements of the representation. The peripheral system is, in fact, more directly influenced by individual characteristics and the context in which individuals evolve. It allows for adaptation, differentiation based on personal experience, and the

integration of individual experiences.

However, identifying the central core presents a significant challenge: the identification of the silent zone of representations. Indeed, within the central core of a representation, there can be two types of dormant elements: “those that are inactive because they are not activated” and “those that are inactive because they are inexpressible” (Moscovici, Social Psychology, 1984).

To activate this silent zone, specific techniques must be implemented. If one seeks to know, understand, and act on a representation, it is therefore essential to identify its organization, meaning the hierarchy of the elements that constitute it and the relationships between these elements.

It is specified that a change in attitude only affects the peripheral system of the representation, whereas "the central core" remains independent of attitudes. In other words, a favorable or unfavorable attitude should not produce a difference in the central core, but rather only affect variations in the content of the peripheral system.

## **6. General Research Methodology**

### **6.1. Presentation of the Corpus and the Conducted Survey**

Social representations, as we have seen, consist of a set of information, opinions, attitudes, and beliefs organized around a central core. This complex set requires a multimethodological approach in order to be analyzed.

To study social representations, we will proceed in two stages: first, we will compile a collection of representations; then, we will analyze the data obtained.

#### **6.1.1. The Collection of Representations**

To establish the collection of representations of young people on aging, we used two techniques: Observation and Interview.

The interview is also a necessary technique for studying the social representations of a group. While quantitative data is collected through questionnaires, the in-depth and guided interview allows for the exploration of more qualitative aspects. However, when used unilaterally, the interview also has certain limitations. Indeed, it promotes production of discourse, an inherently complex activity. This discourse involves rules of enunciation, rationalization, control, a certain obligation of coherence, and even psychological, cognitive, and social filtering, all of which may bias its content. Furthermore, the context of the interview itself can influence the individual's discourse.

Finally, the interview requires a method of content analysis, which is dependent on the interpretation and subjectivity of the analyst.

We attempted to interview 22 students. Among them, 2 refused to accept our request, stating that they did not have accounts on the E-learning platform and therefore did not know how to respond (despite my explanations on the subject). The remaining 20 students responded positively to our request.

In total, we conducted 20 interviews based on a semi-structured interview guide, which focused on the following questions:

- Do you have online modules this year? (situation)
- How do you view these types of courses? (image)
- How do you perceive online courses? (attitude)
- What do you know about this type of training? (information)
- Do you consider it positive or negative? Why? (interaction)

After grouping identical words, synonyms, as well as very similar and frequently repeated words from a semantic perspective (nouns and adjectives with the same root, positive or negative...), we proceeded with the analysis.

The term most frequently associated with online courses relates to technical problems, which constitute a major obstacle to the smooth progress of learning, especially in the context of remote work. The lack of adequate equipment and the use of an unreliable Internet connection are the most commonly mentioned difficulties by students, particularly those living in remote rural areas or from conservative families who do not allow the acquisition of smartphones, thus limiting access to social networks.

Some students highlight the challenges they face during their online courses. They report that courses are often inaccessible or easily interrupted due to poor connectivity. One student also mentioned the socio-economic constraints that prevent some of her peers from fully engaging in their training due to a lack of sufficient technological resources. Many of them do not own a computer and must resort to working on their phones when possible.

The vast majority of expressions refer to technical obstacles related to equipment and lack of Internet access in the university environment. These problems are particularly mentioned by students, especially those living in remote rural areas.

The second major category includes mostly terms with a positive connotation. Indeed, this type of training is not limited to entertainment and access to social networks. Students state that they also use it for research, information gathering, and enhancing their learning skills. This approach promotes continuous contact with the teacher, unlike traditional education, even during vacations and outside working hours.

The third category groups terms related to emotions. A significant portion of respondents claim that online work fosters socialization and improves interactions. Thanks to the ability to blend into the crowd by writing pre-prepared comments, participants can interact anonymously within a large group. This new educational system allows learners to step out of their bubble, feel secure, and engage in autonomous and voluntary learning.

Other groups of students perceive these innovative learning strategies as a sign of success and a step toward modernity and scientific progress, similar to developed countries.

Some opinions highlight the importance of independence in education. Many students express the desire for all university programs to be online, as it allows them to work, live, and study without being required

to be physically present on campus.

On the other hand, some groups prefer traditional education, where students interact directly with their teachers and peers, thus promoting discussions and the exchange of ideas.

## CONCLUSION

In conclusion, the social image of online education among students reveals a diversity of opinions and experiences. For some, this learning modality symbolizes progress toward modernity, offering flexibility and accessibility while fostering autonomy. Students appreciate the ability to interact anonymously and integrate into a large group, allowing them to expand their network and share ideas. On the other hand, others prefer traditional education, valuing direct interactions with their teachers and peers, which are considered essential for in-depth learning.

This duality highlights the importance of adapting teaching methods to the different social perceptions students develop about learning. It is crucial to find a balance the benefits of online education and those of traditional approaches to create a rich and inclusive learning environment. Thus, the future of education may lie in the harmonious integration of these two modalities, enabling each student to thrive according to their preferences and learning objectives.

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# Domestic Violence and Adolescent Delinquency

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## ABSTRACT

The desire to study the topic of "Domestic Violence and Adolescent Delinquency" arose in order to demonstrate that one of the most important causes and primary motivations that drive adolescents to delinquency is domestic violence. Through this study, we aim to understand the relationship between domestic violence and delinquency in adolescents, to understand how domestic violence and delinquency affect adolescents, and to understand how domestic violence affects the inability to adapt.

We developed hypotheses for this research, most of which relate to domestic violence leading to the emergence of delinquency in adolescents. We relied on the clinical approach to study, observation, and interviews, in addition to the Lewis Corman Family Drawing Test. The study concluded that domestic violence leads to the emergence of deviant behaviors during adolescence.

**Keywords:** domestic violence, delinquency, adolescents

## 1. Problem Statement:

The family constitutes the foundational social institution tasked with the responsibilities of upbringing and normative regulation. It represents the initial social unit to which the child belongs and within which essential interpersonal interactions take place. The role of the family is pivotal in the development of the child's personality, as well as in the preservation of their psychological, social, and physiological equilibrium.

Furthermore, the family acts as a guiding force in behavioral formation and in the cultivation of individual potential. When a family is established on secure and supportive grounds, it fosters strong emotional connections and psychological alignment between the child and the parental figures.

Conversely, disruptions within the family structure, particularly parental abuse, whether physical, psychological, sexual, or characterized by severe neglect, have a detrimental effect on the child's emotional and personality stability. Such adversities expose the child to conditions that jeopardize their well-being, emotional state, and mental health. This disruption is directly linked to the deterioration of the parent child relational dynamic.

Jell (1975) defines child abuse as "the deliberate use of cruelty and violence, not incidental or accidental, by any party responsible for the child's care, whether parents, social institutions, or individuals, with the aim of harming the child or obstructing their healthy development" (Taha Abdel Azim Hussein, 2008, p. 42). Wolfe (1998) describes child abuse as "psychological and physical abuse, sexual exploitation, and neglect inflicted on children under the age of 18 by individuals responsible for their care" (Taha Abdel Azim Hussein, 2008, p. 42).

## Main Hypothesis:

\_ Domestic violence contributes to the development of delinquent behavior in adolescents.



## 2. Sub-Hypotheses:

- \_ Domestic violence increases the likelihood of adolescents running away from home.
- \_ Domestic violence contributes to the initiation of substance abuse.

## 3. Study Objectives:

This study is designed to fulfill the following objectives:

- \_ To investigate the correlation between domestic violence and adolescent delinquency.
- \_ To assess the impact of domestic violence on the adolescent's adaptive functioning.
- \_ To analyze the behavioral consequences of domestic violence, particularly in relation to delinquency and juvenile deviance.

## 4. Definition of Key Concepts:

### 4.1. Domestic Violence:

Domestic violence is one of the most significant and dangerous forms of violence. It has garnered considerable attention due to the pivotal role of the family as the foundation of society and its most essential structure.

Domestic violence represents a pattern of aggressive behavior in which a dominant individual exerts power and control over a weaker family member to fulfill personal goals, using all forms of violence, physical, verbal, or emotional. It is not necessarily limited to parental figures; the perpetrator may be any dominant family member. It is not surprising, therefore, that an aging or debilitated parent might become a victim of domestic violence.

Thus, domestic violence encompasses various forms of verbal, physical, or sexual abuse committed by a dominant family member against weaker members, resulting in physical, psychological, or social harm.

### Forms of Domestic Violence:

- **Physical Violence:** This is considered one of the most visible forms of abuse against a child. It can be defined as: "Physical injuries resulting from beating, ranging from minor bruises to bone fractures and internal bleeding that may lead to death. It includes hitting with the hand, kicking with the foot, pulling the hair, burning, biting, and strangulation" (Bachir Maamria, 2009, p. 12).
- **Psychological Violence:** Emotional or psychological abuse is among the most dangerous and widespread forms of mistreatment in human society, and one of the most difficult to identify. Despite this, it receives the same attention as physical abuse, perhaps due to the challenge of proving its occurrence. It consists of the failure to provide the child with the emotional support and care necessary for healthy emotional, psychological, and social development. It includes any behavior by parents or caregivers that conflicts with the child's psychological well-being or impedes their psychological and social growth. includes any behavior by parents or caregivers that conflicts with the child's psychological well-being or impedes their psychological and social growth.

• **Sexual Violence:** This involves engaging the child in sexual activities that they do not understand. According to the American Medical Association, child sexual abuse consists of engaging in sexual behaviors with a child who is completely unprepared and incapable of giving consent. This type of abuse may involve deception, the use of force, or coercion. Sexual abuse can be physical, verbal, or emotional, and includes:

\_ Exhibitionism, where the abuser exposes their genitals to the child or forces the child to watch another child's sexual behavior.

\_ Sexual harassment, such as rubbing, fondling, and sexually kissing the child. \_ Rape, involving the forced sexual intercourse with the child (Hassan Abu Riyash et al., 2006, pp. 96–97).

• **Severe Neglect:** This refers to the failure to meet the child's basic needs, such as depriving the child of food, clothing, shelter, or medical care, provided that this deprivation is not due to poverty or an inability to provide. Forms of neglect include physical, educational, and emotional neglect (Walid Hamada, 2008, p. 42).

• **Operational Definition:** This includes all forms of treatment that result in serious harm to the child by parents or guardians, whether through neglect, emotional deprivation, physical abuse, or psychological abuse.

#### 4.2. Adolescence:

There are many definitions of adolescence, each shaped by the perspective of scholar who studied a specific aspect of this stage. According to Winnicott, adolescence is a “normal pathological state,” and it is natural for the adolescent to encounter problems during this stage, it is actually abnormal not to experience them. Stanley Hall defines adolescence as “a phase of life in which a person’s behavior is marked by intense emotions, strong feelings, and severe tensions” (Ahmed Mohamed El-Zoghbi, 2001, p. 318).

Stanley Hall emphasized the emotional side of adolescent life and the intense tensions and upheavals it involves, sometimes described as a crisis in an adolescent's life. Jean Piaget, on the other hand, focused on the intellectual and cognitive aspect of adolescence. For him, adolescence represents the age at which an individual becomes integrated into the adult world, no longer perceiving themselves as inferior to older individuals but as equals, at least in terms of rights (Sami Mohamed Melhem, 2004, p. 314).

From the psychoanalytic perspective, led by Freud, adolescence is seen as a period of psychological imbalance due to the resurgence of libidinal drives. The superego weakens under the pressure of harmful id impulses, leading the adolescent to engage in various forms of aggressive and deviant behavior (Ahmed Mohamed El-Zoghbi, 2010, p. 28).

**Operational Definition:** Adolescence refers to the changes that occur in a child’s life, whether physical, psychological, intellectual, social, or sexual, during the transition from childhood to adulthood and maturity.

#### Forms of Adolescence:

Adolescence takes several forms, the most important of which are:

- 1. Well-adjusted Adolescence:** This form is characterized by calmness, moderation, and avoidance of violent traits, intense tensions, or emotional outbursts. It is also marked by harmony with parents, the family, and the external community. Stability and balanced gratification of desires are among its features, along with a complete detachment from fantasy and daydreaming, and the absence of religious doubt.
- 2. Withdrawn and Introverted Adolescence:** This form is distinguished by introversion and self-centeredness, hesitation, shyness, feelings of inferiority, excessive self-sexualization, and a tendency toward religious extremism in search of psychological relief and liberation from guilt, leading to isolation and seclusion.
- 3. Aggressive and Rebellious Adolescence:** This type is marked by rebellion and revolt against the family and school environment, and against all forms of authority over the adolescent. It may also include deviant sexual behaviors, as the rebellious adolescent engages in unlawful sexual relationships. Feelings of injustice and lack of recognition from others push the adolescent toward fantasy as a means to construct a personal, imagined world. It is also expressed through aggressive behaviors toward siblings, peers, and teachers.
- 4. Delinquent Adolescence:** In this form, the adolescent displays complete moral disintegration, psychological collapse, anti-social behavior, and a disregard for societal norms.

#### **4.3. Delinquency:**

Delinquency refers to behavior that deviates from the generally accepted and established norms of individual conduct within the social system. It denotes behaviors that are socially disapproved or unacceptable to a degree that they exceed the limits of tolerance within the local community (Samia Mohamed Gaber, 2004, p. 550).

#### **Categories of Delinquents:**

Identifying delinquents is a highly important task, as it helps distinguish between actual delinquents and quasi-delinquents.

- 1. Quasi-delinquents:** These are individuals who commit frequent minor misdeeds that do not cause harm to others. Many young people boast about reckless acts that do not result in visible harm to themselves or to society.
- 2. True Delinquents or Criminals:** These are individuals who habitually in criminal acts punishable by law and society, and which cause harm to others. Their actions may be carried out within organized groups such as gangs or terrorist groups, or may occur individually (Mohamed Thabet, 1992, p. 88).

#### **Operational Definition:**

Delinquency refers to any behavior by an individual that violates moral standards, societal norms, and religious values, and is categorically rejected by society. It is considered deviant behavior.

#### **Applied Section:**

### **First: Study Methodology**

We chose to use the clinical method, as it is the most suitable for the subject of this study. Wirmer defines it as “a research method based on the use of findings from the examination of many patients, studied one after another, in order to derive general principles suggested by observations of their competencies and deficiencies” (Louchahi, 2010, p. 155).

### **Second: Study Scope and Sample**

The study was conducted at a rehabilitation center in the Wilaya of Annaba. We selected two cases that met the criteria of our study, namely adolescents who had committed various forms of delinquent behavior.

### **Third: Study Tools:**

**1. The Clinical Interview:** A dynamic relationship and verbal exchange between two or more individuals (Melhem, 2001, p. 272). It is one of the tools used by clinical specialists to discuss different aspects of the patient's behavior to uncover and understand the psychological factors underlying the individual's current condition.

**2. Observation:** This involves identifying distinguishing traits, especially those difficult to interpret due to their emotional nature. It concerns both conscious and unconscious emotional expressions that help the examiner understand what the subject is experiencing at a given moment.

**3. The Family Drawing Test (Louis Corman):** This is a projective test that enables individuals to express themselves freely, revealing their internal conflicts, fantasies, and both conscious and unconscious thoughts.

The first concept of the family drawing test originated with Torab in 1935, based on his interpretation of children's drawings. He saw family drawings as a positive outlet through which children could express family-related conflicts. Mourisse later refined the application of the test, emphasizing that the test instruction should be: “Draw your family.” The child should be observed closely during the drawing process, and every detail of the drawing should be carefully noted and recorded.

The Family Drawing Test reveals:

- \_ The subject's emotional interests.
- \_ Significant conflicts between the child and a family member.
- \_ Conscious and unconscious identifications.
- \_ Ego defenses against anxiety.
- \_ Object relations and the Oedipus complex.
- \_ Insight into family-related adjustment disorders (Louis Corman, 1990, p.17).

The instruction for the test is for the psychologist to present the child with a blank sheet of paper, a pencil, and colored pencils, and then ask the child to “Draw your family.” Before conducting the test, several interviews with the child must be held to establish an atmosphere of trust and emotional safety. Once the child finishes drawing their family members, the psychologist asks them to draw an imaginary family and poses the following questions:

- Who is the kindest person in your family, and why?
- Who is the least kind, and why?
- Who is the happiest, and why?
- Who is the least happy, and why?
- And you, would you want to be part of this family? (Louis Corman, 1990, p.1).

### **Forth : Case Presentation**

#### **Case One:**

Name: Mourad

Age: 14

Gender: Male

Educational level: 3rd year of middle school

Number of siblings: 2

Birth order: 3rd

Father's occupation: Unemployed

Mother: Deceased

Economic status: Average

#### **Interview Summary for Case One:**

Mourad is an adolescent living in a five-member household consisting of his father and stepmother. He dropped out of school in the third year due to severe family issues and difficult life circumstances. Mourad had a relatively stable childhood until the death of his mother. He stated, "Ever since my mom died, everything went downhill. Her death ruined my life. My stepmother is always punishing me; she made life unbearable in that house. I started staying out from night to night just to avoid seeing her. I live alone now.

My dad forgot he even had a son. He insults and curses me, treats me harshly, and his wife turns him against me. He kicked me out of the house, I slept in the streets for four days. I met a group of people and joined them. You know what happens in the streets, you see everything. I started with glue and pills, then tried everything. I followed that group because there was no one to advise me until it was too late. Everything was lost, my education, my life. Now I just hustle to bring in some money."

#### **Direct Observation of the Subject:**

During the interview, the following observations were made:

- \*A miserable expression.
- \*A sad mood.
- \*Frequent sighs.

#### **Family Drawing Test:**

#### **Real Family:**

**Line-Level Analysis:**

Based on Mourad's drawing of his family, the following observations were noted:

- He began drawing from left to right, which suggests a maternal focus and an orientation toward the past.
- The use of heavy lines indicates intensity and hostility.
- The lack of balance in the drawing reflects impulsive tendencies and emotional vulnerability, as well as a need for social connection.

**Shape-Level Analysis:**

- Gender differences are shown through hairstyle, indicating developmental maturity.
- The family members are drawn far apart, reflecting a desire for closer interpersonal relationships.
- Some lines are straight, suggesting reality-based aggressive defense mechanisms.
- The depiction of hair, especially in adolescence, reflects sexual expression and narcissism, as well as a desire to draw attention.
- Open hands are a sign of a need for safety and emotional care.

**Content-Level Analysis:**

- The absence of color implies emotional emptiness, anxiety, and inhibition.
- Open hands express a longing for security.
- A small head indicates difficulty in communication.
- The mouth is drawn to reflect aggression.
- Long upper limbs suggest ambition.
- Drawing himself far from the family illustrates his rejection of living with them.
- The mother was drawn first, indicating her importance and status within the family.

**Imaginary Family:****Line-Level Analysis:**

- Starting the drawing from left to right indicates a gradual developmental progression.
- The placement of the drawing in the upper section of the paper reflects a wide imaginative capacity.

**Shape-Level Analysis:**

- The parents are drawn close together, suggesting a sense of bonding and a cognitive-emotional pattern.
- Gender differentiation is shown through hairstyles and clothing, reflecting psychological growth and maturity.
- Open hands again suggest a craving for affection and emotional security.

**Content-Level Analysis:**

- The lack of colors once again signals emotional emptiness.

- Wide-open eyes indicate fear and anxiety.
- Beginning with the mother's figure underscores her high value in his emotional world.
- Omitting himself from the drawing points to a rejection of belonging to the family unit.
- Not drawing the father's hands implies diminished paternal value and an unconscious rejection of the father figure.
- His brother is drawn with large eyes, signifying strong emotional attachment to him.

### **General Analysis of Case One:**

Through the interviews conducted, along with the application of the Family Drawing Test and direct observations of the subject, it became evident that the adolescent is a victim of parental abuse, particularly physical abuse in the form of beatings. As Mourad stated: "My father beats me."

However, the more critical issue is neglect, as the child has been deprived of paternal affection following the death of his mother and the loss of her nurturing presence. In contrast, he is exposed to mistreatment by his stepmother. He expressed: "She ruined my life, I hated that house, I started staying out from night to night." This reflects his attempt to escape, to drift into the streets, and to become involved with harmful peer groups, leading eventually to substance abuse.

From this, we conclude that the subject has suffered from emotional deprivation. Norbert Sillamy defines this as "an identification and insufficiency in affection; humans need to love and feel loved in order to sense their own existence. A person's need for love and care exceeds that of other living beings" (N. Silamy, 1990, p. 40). This deprivation led to psychological frustration. The abuse and severe lack of paternal tenderness, coupled with the negative treatment from the stepmother, made Mourad feel rejected within his own family.

School dropout, in this case, is the result of a lack of family support and social exclusion. The father's mistreatment, emotional deprivation, and absence of care led the subject to escape reality through drug use. The lack of intimate relationships within the family leaves children vulnerable to addiction.

Thus, drug use is interpreted here as a coping mechanism, a way to escape the harsh reality he lives in and a means of seeking psychological balance and stability.

### **Case Two:**

Name: Ryad  
Age: 13  
Gender: Male  
Educational Level: 3rd year of middle school  
Number of Siblings: 4  
Birth Order: 4th  
Father's Occupation: Unemployed  
Mother: None  
Economic Status: Average



**Interview Summary for Case Two:**

Ryad is an adolescent living in a six-member household consisting of his parents, two sisters, and one brother. He said: "My situation is just like some of the other teens whose parents don't care about them. What can I say? It's a mess. I'm just an extra in this life, no home, no school. Misery follows me everywhere. My suffering started the day I had to leave school because of our poor circumstances. I found myself in the street, surrounded by bad influences. One thing led to another until drugs got ahold of me. I started with weed to forget the pain I was in, to forget my worries, especially the family problems. My father fights with my mother every He blames her, says she's the one who spoiled me, gives me money, and then starts yelling at both of us.

He hits her and hits me. He's harsh, not tender. He doesn't talk to me. It kills me to see a kid walking with his dad, calling to him. I have no one to support me or call my name. I hate everything. God willing, I'll stop this garbage that ruined my future and destroyed me, at least to make my mother happy. My friends' parents supported them with money, with love, but I had nothing. I tried to come back, and they threw me out again. No one cared for me."

**Direct Observation of the Subject:**

During the interview, the following observations were made:

- Dark circles under the eyes due to drug use.
- A sad mood.

**Family Drawing Test:****Real Family:****Line-Level Analysis:**

In Ryad's drawing of his family, the following observations were noted:

- The drawing is centered, indicating a deep need for safety and protection.
- Thin lines suggest the child's heightened sensitivity and perception of harshness.
- The use of heavy pressure while drawing the father indicates anxiety.
- The drawing is positioned on the right side of the paper, symbolizing rejection of current reality.

**Shape-Level Analysis:**

- The drawing is primitive, reflecting a regression to early developmental stages.
- Open hands express a need for security and care.
- Numerous straight lines point to reality-based aggressive defense mechanisms.
- The depiction of hair carries sexual connotations, particularly in adolescence. It also reflects narcissism and a desire for attention.

**Content-Level Analysis:**

- The eyes are the windows of the soul and are key tools of connection.
- The mouth is drawn as a line, indicating repression and inner pressure.
- The head symbolizes the ego's center.
- The mother and two brothers are drawn first, and the mother is colored, this highlights her emotional importance and elevated status within the family.

**Imaginary Family:****Line-Level Analysis:**

- The drawing occupies nearly the entire page, indicating expansive inner vitality.
- It starts from left to right, signaling progressive emotional development.

**Shape-Level Analysis:**

- Gender differences are represented in hairstyle and clothing, suggesting a degree of psychological maturity and emotional liveliness.
- The parents are drawn close together, symbolizing a strong wish for parental unity.
- Open hands again reflect the desire for security, affection, and emotional comfort.

**Content-Level Analysis:**

- Drawing himself apart from the family indicates rejection of being part of that familial unit.
- A torso shaped like a square signals anxiety symptoms.
- Wide-open eyes symbolize fear and terror.
- The absence of color again reflects emotional emptiness and deprivation.

**General Analysis of Case Two:**

Following the interview and the application of the Family Drawing Test with Ryad's case, and after conducting our analysis, it became clear that the subject suffers from neglect. As he stated, "Our situation is not good, my friends all take private lessons, and their parents support them." From this, we deduce that the subject has emotional deprivation, which led to severe psychological frustration. As Anna Freud explains, "Certain parental attitudes may result in frustration, particularly when the family environment fails to provide protection from anxiety and fear."

The subject also expressed psychological pressure arising from family conflicts, particularly between his parents. He said, "My father blames my mother for ruining my education. He keeps insulting her and beating her. I've had enough." This demonstrates the emotional toll of parental conflict.

Furthermore, the rejection and marginalization he experienced within the school environment caused him deep emotional wounds as a result of dropping out. The lack of attention, carelessness, and mistreatment from the father and the school environment, combined with familial conflict, led to a behavioral disorder manifested in his withdrawal into the streets and subsequent drug use.

These behaviors served as an attempt to escape internal conflicts, a response to the painful reality he lived, and a form of retaliatory reaction to his experiences. As Mohamed Abdel Moumen noted, “Neglect leads to feelings of guilt imposed by the parents and a sense of being unwanted, which gives rise to various forms of disturbed behavior.”

### **General Analysis of Results:**

Adolescent drug use is often underestimated by society; however, it conceals seated and perilous psychological roots. At the forefront of these causes is parental maltreatment and neglect, particularly from figures of authority such as parents and teachers. These experiences frequently lead to withdrawal, escape behaviors, and ultimately, substance abuse.

Based on data collected through interviews, direct observation, and administration of the Family Drawing Test for both subjects, the findings clearly indicate that the adolescents in question had experienced physical and psychological abuse within the family environment. Among the various forms of mistreatment, neglect, especially from both parental and educational figures, was found to be the most detrimental. Such neglect exerts a lasting psychological toll on the adolescent.

At this sensitive developmental stage, adolescents require structured guidance, emotional support, and close monitoring from both parents and educators. The absence of sustained follow-up and the presence of overt rejection contribute significantly to the emergence of psychological and behavioral disorders.

Parental abuse has a marked effect on the adolescent’s emotional equilibrium, as evidenced by the emergence of symptoms such as feelings of guilt, despair, social isolation, and deviant behavior. These behavioral manifestations are indicative of a destabilized psychological state and are often precursors to substance abuse. For many adolescents, drug use becomes a dual mechanism: a retaliatory gesture against perceived injustice and a maladaptive coping strategy for alleviating emotional suffering.

Furthermore, the interlinked consequences of abuse, neglect, and addiction extend far beyond the immediate crisis, embedding long-term psychological damage. In both examined cases, the adolescents exhibited a pronounced absence of hope and a pessimistic outlook toward the future.

### **Conclusion:**

The findings of this study unequivocally demonstrate that parental mistreatment is a serious issue with increasing prevalence, particularly among adolescents. The psychological and emotional repercussions are profound, manifesting in compromised mental stability, disrupted personality development, and enduring emotional distress.

Adolescents who are unable to process or cope with the trauma resulting from parental abuse are more likely to experience depressive symptoms and internal psychological conflict. These emotional struggles often give rise to outward expressions of aggression and anti-social behavior, which can be interpreted as a form of rebellion directed toward the broader social context. In many cases, such rebellion escalates into behavioral and psychological deviance.

Accordingly, the sub-hypotheses proposed in this study were substantiated by both cases: parental

mistreatment was directly linked to adolescents fleeing the family home and resorting to drug addiction as a means of emotional release and pressure relief. Consequently, the main hypothesis was also validated: parental mistreatment leads to adolescent deviance and delinquency.

These results underscore the critical importance of parental engagement, care, consistent supervision in supporting the adolescent's psychological and personal development. They also point to the urgent need for systematic diagnosis, psychological intervention, and the reinforcement of mechanisms that protect the fundamental rights of children and adolescents.

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# Needs of National Defense and Vulnerability in the Context of the Information

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## ABSTRACT

All national defense needs in the information revolution have become arguments for military governance regarding the possibility of resolving controversial strategic issues between great powers, as well as the importance of collective management of problems arising from vulnerability, so that the suspicion and fear that typically govern international military relations disappear, or at least diminish, as is common in the realist/neorealist tradition. <sup>1</sup> Therefore, the primary goal of military governance in the information revolution is to demonstrate the high potential for controlling military relations through collective will and multilateral strategic dialogues, which provide each party with a complete picture of the other's intentions and enable it to correct distorted perceptions. The ultimate goal, of course, is to spare the world the tragic effects of all-out wars.

**Keywords:** National defense, security, information revolution, strategy, military security.

## Introduction:

The demands of national defense have evolved in direct response to the escalating instability characterizing both the local and regional security evolution has intensified security concerns among policymakers, prompted by the emergence of both traditional and non-traditional threats, ranging from military and civilian to humanitarian and natural in origin. These developments unfold within the expanding influence of what Robert R. Tomes <sup>1</sup> and other strategic thinkers describe as the "Information Revolution in Military Affairs." <sup>2</sup> In effect, the influence of this revolution has become what Thomas Bruneau and Harold Trinkunas term a "global trend," impacting all societal sectors in ways that are simultaneously beneficial and detrimental.

From a theoretical standpoint, the information revolution has been posited as a response to the intricate challenges of security. Strategists contend that its core objective is to diminish what Clausewitz famously referred to as "the fog of war." However, the central dilemma lies in the dual nature of this revolution: while it addresses issues of information scarcity and enables integrated situational across strategic and operational combat landscapes, thereby meeting certain national defense requirements, it also introduces profound gaps and vulnerabilities. These risks affect not only military targets but extend significantly into the civilian domain as well.

Within this broader framework of inquiry, several critical questions emerge: What precisely does the revolution in military affairs entail? What are the conceptual and analytical implications of the information revolution in military contexts? How it reshaped strategic approaches? What are its operative tools? What specific defense needs have arisen from this transformation? What operational and tactical challenges accompany its application in contemporary warfare? And most importantly, significant vulnerabilities are exposed as a result of its implementation? These inquiries will be addressed through the following thematic areas:

**First: Conceptual Definitions****Second: Technology and the Information Revolution in Military Affairs****Third: The Information Age and the Changing Nature of Combat****Fourth: Components of the Information Revolution in Military Affairs****Fifth: Adapting to the Requirements of the Information Revolution****Sixth: The Cracks within the Information Revolution in Military Affairs****First: Conceptual Definitions****Definition of the Revolution in Military Affairs**

Although the term “Revolution in Military Affairs” is not yet universally entrenched within the discourse of strategic analysis and international relations, its usage gained considerable momentum following the Second Gulf War in 1991. Nonetheless, a substantial number of definitions remain dispersed across scholarly works that examine the transformative influence of emerging military technologies on contemporary combat systems.

One prominent definition is provided by Robert R. Tomes, who describes the revolution as “a significant change in the nature of combat driven by the innovative application of new technologies in combination with fundamental changes in doctrine, operational practices, and military organizations... [It requires] radical changes in the management of military operations and, at times, even in the very nature of warfare itself.”<sup>3</sup>

Similarly, Williamson Murray and MacGregor Knox emphasize that “Revolutions in military affairs always occur within a context of politics and strategy, and that context is everything.”<sup>4</sup>

Brian M. Downing, for his part, defines the revolution in military affairs as “the process by which small feudal armies were replaced by large armies financed by a centralized state and equipped with complex and expensive weapons.”<sup>5</sup>

The military revolution is primarily a political process in terms of its definition and consequences, rather than being solely of a purely military nature. It reflects the complex politico-military transformations that characterized the 16th and centuries in Europe, which took place under social and political conditions shaped by war.”<sup>6</sup> This definition emphasizes that the evolution in military structure and capability cannot be isolated from the broader sociopolitical transformations that accompanied the consolidation of state power and institutional modernization during this historical period.

In the same context, William S. Cohen, who served as the U.S. Secretary of Defense under President Bill Clinton during the 1990s, offered a definition that situates the revolution within the broader context of systemic military transformation. He “A revolution in military affairs occurs when the military dimensions of the offer the opportunity to transform its strategy, military doctrines, training, education,



organization, equipment, operations, and tactics in order to achieve decisive military outcomes in fundamentally new ways.”<sup>7</sup>

The underlying principle in Cohen’s definition highlights a comprehensive transformation that spans both tangible and intangible dimensions of military development. It encompasses strategic thinking, doctrinal evolution, and operational adaptation, as well as the practical demands of training in newly developed weaponry, communication systems, computerized operations, and digital warfare infrastructure.<sup>8</sup> Yet, despite the evolving methods and tools, the strategic objectives remain fixed, namely, to optimize military efficiency in service of political ends through the application of force.<sup>9</sup>

Turning to the contributions of Colin Gray on the subject of the revolution in military affairs, several noteworthy definitions emerge from his work. In one instance, he defines it as “a radical change in the nature and conduct of war... Unlike strategy and war, defining this concept requires great care regarding what is included and what is excluded [from developments and changes in military affairs].” This caveat underlines the complexity of characterizing such a revolution, which cannot be reduced to merely technological or tactical innovation, but must also consider what developments qualify as truly transformative within the conduct of warfare.<sup>10</sup>

In another formulation, Gray describes the revolution in military affairs as “the peak event in battle where new systems, operational concepts, and organizations are employed, which clearly demonstrates the dramatic change in the conduct of warfare.” This definition underscores the operational visibility of change, transformations that are not merely theoretical but observable in the field through the application of advanced systems and novel forms of organization. Elsewhere, defines it more succinctly as “a fundamental change in the nature of combat,” thereby reinforcing the foundational shift implied by such a revolution.<sup>11</sup>

In a further analytical context, Gray asserts that “the revolution in military affairs is better described as a process rather than an event. It serves the same conceptual function as the idea that strategic concepts developed since the modern era play a role in shaping the nature of combat through continuous global transformation.” interpretation places emphasis on the revolution as an ongoing progression rather than a discrete moment in time, aligning it with the broader evolution of thought and military doctrine under the pressure of global change. He also offers an additional definition, describing it as “the changing means and methods of combat,” further highlighting its dynamic nature.

Jeffrey R. Cooper provides another perspective by defining the revolution in military affairs as “a significant break in military capability and effectiveness [between two distinct eras or periods in the history of international strategy].” This focuses on the temporal discontinuity it introduces, marking a clear departure from past practices and heralding a new phase in the strategic capabilities of military forces.

Andrew F. Krepinevich contributes yet another significant definition: “What is a military revolution? It is what happens when new technologies are applied to a significant number of military systems, accompanied by innovative operational concepts and organizational adaptations, in a way that fundamentally alters the nature and conduct of conflict. It therefore results in a significant, whether large or small, increase in the potential lethality and military effectiveness of armed forces.” This statement encapsulates the essence of the military revolution by linking technological innovation to systemic



transformation, leading to enhanced combat potential and operational efficacy.

The revolution in military affairs is also defined as “revolutionary changes derived from fundamental, qualitative changes in the tools of armed conflict, methods of battle, force organization, and military training and education.”<sup>12</sup>

As for the meaning of the term in Soviet military thought, it was “associated with the new development of a set of concepts, arguments, and theories. It relates to the parallels between advanced conventional capabilities and the longstanding over decades about multifaceted changes in strategy and combat involving nuclear weapons.”<sup>13</sup>

From the perspective of the RAND Corporation: “The revolution in military affairs necessitates a change model in the nature and conduct of military operations, in which outdated or inappropriate [competencies and combat methods] are discarded in favor of the more essential competencies of the dominant player, or where a fundamental or more modern competency is created.”

Others consider the revolution in military affairs as “the [process] that alters the way in which action is taken... [targeting three essential components]: technological innovation, operational concept (or doctrine), and organizational adaptation.”<sup>14</sup>

Strategy, conceptually, can be defined in its relationship to the revolution in military affairs as “the art and process of conceptualizing the forms of military power required for national security or defense strategy, managing resources to provide military power, and using that power effectively to achieve the objectives outlined in the national strategy. At the most fundamental level, strategy involves the instrumental relationship between ends and means, a relationship partially defined by decisions about resource allocation.”<sup>15</sup>

In the broader sense of the relationship between strategy and revolutions in military affairs, the term “grand strategy” was introduced, which for Colin Gray refers to “the deliberate deployment of all state assets, not merely the use of military power.”<sup>16</sup>

Some view the concept of strategy from the perspective of the information revolution in military affairs as “a way to rationalize the application of modern technology in combat.”<sup>17</sup>

Strategy is also defined as a concept that expresses “the process by which military power is translated into political effect. Therefore, strategy is not war itself; rather, it is the process through which war functions as a political act.” Or, put differently, it is “the process that transforms military power into political impact.”<sup>18</sup>

Military transformation. Since the notion of revolution inherently involves (partial or complete) changes in methods, doctrines, tactics, and the art of operations, some strategic theorists have proposed the term “Military Transformations” as a synonym for the “Revolution in Military Affairs<sup>19</sup>.” However, for a transformation to truly reflect the meaning of revolution, it must entail an element of discontinuity. This requirement remains relative, given that revolutions in military affairs typically unfold over extended and overlapping periods of time.

Historically, the concept of transformation in military affairs has been reflected in the emergence of several military strategies, which, in fact, signify profound developments in military doctrines and the art of operations. Examples of such strategies include the concept of strategic containment in the 1940s, nuclear deterrence and then limited war in the 1950s, strategic stability and arms control in the 1960s, détente in the 1970s, ballistic missile defense and competition strategies in the 1980s.

These transformations have continued up to the present day and will persist into the future, for instance, the emergence of the U.S. missile shield strategy and the countermeasures adopted by Russia and China, as well as the emergence of combat strategies for asymmetric warfare in the 1990s and early 21st century.

## **Second: Technology and the Information Revolution in Military Affairs**

One of the dominant and driving forces behind the information revolution in military affairs is the emergence of complex new technologies, which have imposed a new combat paradigm and necessitated the formulation of new strategic and operational concepts to match the significant advancements introduced in combat tools.

This influence has become dominant due to the astonishing tools employed by the U.S. military in modern conflicts such as those in Afghanistan and Iraq, as well as in other regions like the Horn of Africa and Yemen. Among these tools, a notable example is the “Predator”, the name given to Unmanned Aerial Vehicles (UAVs), which the U.S. military deployed during the 2001 war in Afghanistan.

In truth, the year 2001 merely marked the ignition point for internal conflicts, the war on terror, guerrilla warfare, and secessionist battles, which collectively became a vast experimental ground for testing, modifying, and further refining the tools of the information revolution in military affairs. It also became a testing ground for newly developed doctrines aligned with this revolution in addressing all forms of unconventional conflicts.

What is even more alarming is the fact that several countries have joined the race for dominance in the information revolution in military affairs, including Russia, China, India, Israel, Germany, and others, such that the use of information revolution technologies is no longer limited to states but has also extended to armed non-state groups.

The first known use of UAVs by such groups was by Hezbollah during its conflict with Israel in 2006, followed by Hamas in the 2014 war on the Gaza Strip, and there were attempts by ISIS to use them during the Battle of Mosul in October 2016.

The growing international investment in the information revolution and the pursuit of acquiring military information technologies is the most compelling argument used by proponents of the information revolution in military affairs. They argue that it has redefined the concept of war and reshaped the understanding of threats and risks, in addition to drawing a preliminary picture of what future warfare might look like. The basic assumption proposed in this regard is that the rapid development in innovative technologies will contribute to reshaping war management in a way that previously did not exist. Accordingly, countries that succeed in gaining superior technological advancement will also gain strategic weight in the future.

These advanced technologies require vast financial resources, highly developed infrastructure, professional and technical competencies, and scientific expertise. This implies that countries with such resources are likely to enjoy strategic superiority on the battlefield in the future, or at the very least, new powers may emerge in the military field with greater strategic advantage alongside traditional powers.

The persistence of operational and tactical challenges posed by unconventional warfare has amplified the practical relevance of the information technology revolution rather than diminishing it. This is due to the increasing tendency among modern armies to rely more on technology than on human soldiers to manage the battlefield, in other words, replacing human combatants with robotic ones (such as unmanned aerial vehicles).

Put differently, the escalating military risks in unconventional wars have deepened the transformations in military affairs driven by the information technology revolution, which now pervades almost all combat, intelligence, support, and reinforcement activities involved in managing modern warfare.

At the same time, these changes have accelerated in parallel with technological developments in military strategy formulation, doctrines, operational art, and even combat tactics. An example of this is the development of the "AirLand Battle" principle, which is in fact inspired by the "Battle in Depth" doctrine devised by the Soviet army during World War II. It refers to the conceptualization of the frontline as a box rather than a line, a box that contains a number of simultaneous operations, characterized by superior firepower used to crush enemy forces.<sup>20</sup>

One of the earliest advocates of the dominant role of technology in reshaping the nature of future combat was former U.S. Secretary of Defense William Cohen, who stated in 1997 that information technology would enable U.S. armed forces to "collect and distribute the rapid flow of information to U.S. forces across the battlespace, while denying the enemy the ability to do the same."

More explicitly, the information revolution in military affairs enables combat units to fight as if in broad daylight by transmitting all information, data, and soldiers about what is happening on the battlefield, under all possible combat conditions, including adverse weather and nighttime darkness. Meanwhile, it forces enemy forces to fight in total darkness by depriving them of any information about the battlefield environment.

In the past, traditional methods were used to train soldiers to fight in environments where they lacked prior information, including nighttime combat. One notable example comes from the Prussian military academy, which used to simulate real combat scenarios for its cadets by having them play chess while blindfolded.

The students had to memorize the layout of the chessboard, understand the opening moves, anticipate the opponent's reactions, and rely on memory and rational deduction to assess what their opponent might do. When a student held a chess piece, he needed to know the enemy's previous position and assess his possible offensive or maneuvering options. <sup>21</sup>The key to winning a blindfolded chess match was extreme caution and using powerful pieces only at the right time or when the conditions of play allowed. An error in calculation would cost the game, but on the battlefield, it could cost one's life. The use of powerful chess pieces in this context resembles Clausewitz's concept of deploying overwhelming force at the decisive point.

Supporters of the information revolution in military affairs hope that technology will help remove the blindfold from the chess player at the Prussian military academy by enabling combatants to access critical information about the terrain they are fighting on, the enemy's nature, environmental conditions, sociological characteristics, and accurate assessments of enemy strength, logistical capabilities, and ability to recover from combat losses. In more technical terms, it aims to enable combat units to achieve "Full-Spectrum Dominance" over the combat theater, thereby reducing the likelihood of vulnerability, deadly enemy responses, or surprise due to factors not accounted for in battle plans.<sup>22</sup>

Mikkle Vedby Rasmussen metaphorically articulated the promised potential of the information revolution when evaluating the U.S. military's "Joint Vision 2010" by stating: "This is a guiding principle of Joint Vision 2010 for the Joint Chiefs of Staff, aimed at ensuring that U.S. military operations play the game of war without a blindfold, while ensuring the enemy remains blindfolded. By connecting U.S. military infrastructure (such as tanks or aircraft carriers) to the 'System of Systems,' American forces become capable of integrating existing military systems into a unified information system, allowing them to achieve 'Dominant Battlespace Awareness.'"<sup>23</sup>

This is not merely a theoretical operational description, it has become a set of practical applications tested on the battlefield. Combat units have been trained to use and adapt to them in ways that ensure effective and professional engagement. Statistically speaking, during its 2003 invasion of Iraq, the U.S. military deployed more than 100,000 GPS units to track and monitor the locations of American soldiers across the vast combat environment that is Iraq.<sup>24</sup>

As a result, Central Command managed the battle remotely, observing combat operations on screens, identifying the positions of its forces, understanding their support needs and the dangers they faced, and directing concentrated firepower and air support toward high-risk threat zones.

### **Third: The Information Age and the Changing Nature of Combat**

The main hallmark that defines the revolution in military affairs is the fundamental transformation in the nature of combat, driven by a dominant variable that imposes itself on the strategic environment, and which varies from one context to another. In the information age, the technological developments, especially those that emerged in the civilian sector, have imposed significant changes on the character of warfare.

These changes first manifested clearly on the battlefield during the international war on Iraq in 1991. Although the roots of this revolution are relatively deep within strategic history, the year 1991 is often marked as the point of departure for the information revolution in military affairs.

At the core of smart weapons warfare lies the computer, software, and information systems, all integrated into the new generation of weapons installed on aircraft, tanks, submarines, ships, and missiles. These technologies effectively, at least theoretically, and to a large extent practically, enhance targeting precision, reduce soldier casualties, and accelerate the resolution of conflict.<sup>25</sup>

For this reason, the information revolution in military affairs, particularly as implemented by the United States Armed Forces, has been built upon the pillars: information dominance or knowledge superiority over the battlespace; networking of forces to exploit that information dominance; and precision

targeting. The common thread linking all these elements is advanced technology, the principal driver of the information revolution.

In practical terms, however, these elements have proven most effective in conventional warfare, where rules of engagement are typically well-defined. In contrast, their effectiveness in irregular warfare remains limited, despite initial indications of their potential to address strategic challenges posed by asymmetric conflict.

The most prominent and tangible manifestation of the information revolution in military affairs, especially in conventional combat, has been summarized by U.S. military theorists as superiority in: Command, Control, Communication, Computing, Intelligence, Surveillance, Targeting, and Reconnaissance, abbreviated as CISTAR.<sup>26</sup>

Through this superior strategic capability, no conventional army in the world is theoretically able to win on the battlefield against such dominance. Nonetheless, this remains a theoretical claim, since the element of surprise continues to be an inseparable feature of war, as emphasized by Clausewitz.

At the same time, this operational and tactical superiority, through the lens of neorealism, generates increasing concern among other actors, quickly translating into major drivers for the development of counter-strategies or preparations for counterrevolutions that the U.S. military might not be fully prepared to face.<sup>27</sup>

#### **Fourth: Components of the Information Revolution in Military Affairs**

##### **1. The Revolution in Military Doctrine, Operational Art, and Combat Tactics**

Like other military revolutions, one of the most evident outcomes of the information revolution is the remarkable innovation in military doctrines, operational art, and combat tactics. These developments were driven by growing strategic challenges encountered by both American and Soviet forces in Eastern Europe and Afghanistan during and after the Cold War, many of which were discussed earlier in our analysis of military revolutions from the mid-20th century through the early 21st-century conflicts.

The core premise behind strategic thinking in this revolution is the development of combat capabilities and operational and logistical potential to conduct warfare without resorting to nuclear weapons. That is, it centers on the question of how win a war against a nuclear-armed adversary (particularly in Europe) without actually using nuclear arms. Victory in such a war would only be possible if the military doctrine empowered the armed forces to seize the initiative, control the strategic environment, and keep enemy forces under fire and within range of attack.

These conceptual components of the information revolution in military affairs were clearly embodied in the 1991 Gulf War through surveillance, targeting, decision support, and precision-guided weapon systems, all seamlessly integrated into high levels of command, control, and improved coordination across the depth and breadth of the vast battlefield.<sup>28</sup>

In reality, there is no single "ideal" doctrine for this revolution, but rather a set of sub-doctrinal ideas and principles that were tested in direct battlefield scenarios, among them Rapid Dominance and Rapid

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## Dominance and Rapid Decisive Operations.<sup>29</sup>

Practically speaking, bold steps were taken to develop the U.S. Army's combat doctrine, operational art, military organization, and training in new combat tactics. These innovative developments took place under the leadership of General Abrams, head of the Joint Chiefs of Staff, despite the fact that he faced significant political and financial obstacles: weak political and budgetary support for new weapons systems, growing opposition to any increase in military spending, and general unwillingness to prepare for a new regional conflict following the Vietnam War.

Among the most practical steps taken toward innovating doctrine, operational art, and combat tactics was the establishment of the Training and Doctrine Command (TRADOC). This institution was tasked with reorganizing and modernizing doctrinal development and defining combat roles within the Army, in a manner that could persuade American political leaders and members of Congress of the necessity to allocate funding to support the technological modernization of new combat equipment.

## **2. The Promising Role of Air Power in Harnessing the Information Revolution**

One of the key manifestations of the information revolution in the air power sector is the emergence of what came to be known as the AirLand Battle Doctrine in American strategic thought. Its tenets were outlined in a special manual for the U.S. Air Force in 1971, titled United States Air Force Basic Doctrine (AFM 1-1). The AirLand Battle Doctrine was introduced in response to the challenges facing the "Flexible Response Doctrine" against Soviet forces in Europe. It offered an alternative formula for engagement using highly equipped conventional forces capable of rapid deployment, air superiority, and containment of counterattacks.

The primary mission of the air force was defined as providing essential support to ground forces during their engagement with the enemy, or while advancing into the strategic depth of enemy territory, utilizing advanced technologies for guidance, precision targeting, and identification of hostile fire sources.

The conceptualization of new roles for air power introduced substantial shifts in aerial combat thinking and gave rise to new doctrines for managing air warfare or supporting ground operations. These were applied extensively during Desert Storm in 1991 and the invasion of Iraq in 2003. In both wars, air demonstrated its capabilities and effectiveness in executing these new roles.<sup>30</sup> Notably, it facilitated the construction of a strategic air bridge, aerial refueling for fighter jets, fuel tankers, and heavy airlift aircraft. This signified a significant development in the AirLand Battle Doctrine, enabling mobile armored and troop transport units on the ground to be accompanied and shielded from enemy air strikes.

As Robert R. Tomes put it, the air force began delivering fighter pilots to the battlefield rather than merely bombers with bombs and missiles, increasing the number of tactical support aircraft. By the mid-1980s, B-52 bombers had started training for conventional warfare and played a major role in the air campaign during the 1991 Gulf War.

The rapid modernization of the air force led to strategic rethinking about expanding its missions to include striking any target anywhere in the world, day or night, that posed a threat to American interests. In the second decade of the 21st century, Russia began to emulate the U.S. strategy in developing the



capabilities of its air force to conduct combat operations on a global scale.

The main driver behind this global expansion of air power capabilities lies in technological advances and innovations in aerospace industries, communications, and highly complex radar systems. In the United States, for example, a major milestone occurred in April 1973 when communication systems and coordination across different military sectors were unified into a single advanced communication program known as the Defense Navigation Satellite System. Later in September, this program was enhanced by adapting satellite orbits to naval time systems and the signal frequencies proposed by the Air Force.

The effectiveness of air power in global engagement missions was further reinforced by the innovation of the Global Positioning System Navstar (GPS), which enables precise location targeting and rapid response. Since 1974, efforts to improve GPS performance have continued by installing the system on satellites that conduct daily geographical scans of the Earth. In this context, the U.S. launched its first space rocket, Atlas, carrying a satellite named Block-1 equipped with GPS technology in 1974.

Strategic theorists view GPS as a revolutionary advancement in military communications. Over time, it was generalized for civilian use in sectors such as environmental monitoring and public services, similar to the evolution of the Internet from military to commercial use.

The information revolution in U.S. military affairs was also bolstered by new generations of advanced fighter aircraft, including the Lockheed F-117 Nighthawk stealth bomber and the Northrop B-2 Spirit. Moreover, a military program was launched to design new bombers, motivated by challenges faced by U.S. bombers due to Soviet air defense systems employed by the Viet Cong during the Vietnam War. Strategic statistics indicate that 5% of those aircraft were downed in that war.

Credit for the development of the aforementioned stealth aircraft goes to the mathematical research of Bill Schroeder and software engineering of Denys Overholser. Schroeder based his work on the 19th-century equations of physicist James Clerk Maxwell on reflected energy in spaces, as well as radar reflectivity studies by German engineer Arnold Johannes Sommerfeld, and early 1960s research by Soviet scientist Pyotr Ufimtsev on electromagnetic reflections.

Schroeder was able to solve the problem posed by anti-aircraft missiles targeting B52s by designing an aircraft with angular panels that deflected radar waves, preventing detection on enemy radar screens. These aircraft were also equipped with highly complex onboard computer systems, developed by Schroeder and Overholser, which enabled physical assessments for target identification and precision strikes using what is known as the Radar Cross Section (RCS).<sup>31</sup>

### **3. The Superior Role of Information**

Strategic historians point out that the earliest signs of electronic warfare emerged during World War II, when the British intercepted encrypted German communications originating from Poland, using the encrypted communication machine known as ENIGMA. As a result, all German plans, particularly those related to Hitler's preparations for invading the Soviet Union and conducting airborne operations in Greece, were exposed to the British.



The use of the Enigma system ceased in 1974, after which F. W. Winterbotham published his book on the interception of encrypted German calls and messages under the title *The Ultra Secret* (1974). “Ultra” was the codename given to the British operation of intercepting and obstructing encrypted communications through the Enigma cipher machine.

In reality, the British were not the only ones who succeeded in intercepting German communications during the war; the Americans also succeeded by intercepting calls between Japanese military commanders and breaking the code, which enabled them to win the Battle of Midway. One of the most strategically significant that sparked a shift in how modern warfare was perceived was the revelation of information’s dominant role in increasing situational awareness on the battlefield, providing insight into the enemy’s offensive or defensive capabilities, and redefining the role of intelligence in combat operations.

Put simply, information’s dominant role in the combat environment lies in its ability to provide continuous surveillance capabilities over the theater of war and achieve complete control over the enemy’s military forces.<sup>32</sup>

One of the most vital areas of superiority enabled by the information revolution is what is commonly referred to as electronic warfare, a domain powered by computers and the computational skills of engineers, and waged in the realm of communications. Historically, electronic warfare was introduced as a new domain of modern conflict in 1978, when NATO defense planners classified it among six core issues for modernizing conventional forces. The other five were: “protective aircraft for defense against surprise attacks; anti-armor weaponry; war reserve stocks to provide deep logistical support for potential defense; mobile air defense to shield ground forces against Soviet air navigation; and advanced air-delivered munitions to improve firepower.”<sup>33</sup>

Electronic warfare was activated in the late 1970s through what was then called the System of Systems, the actual operational engine of the young information revolution. It functioned by linking advanced ground radar systems with airborne or satellite-mounted sensor systems to support and enhance the process of information gathering and distribution to combat units.

This was done through what became known as the Joint Tactical Information Distribution System (JTIDS). In other words, preparations for electronic warfare were carried out by creating an integrated information system across all defensive and offensive units involved in the battlefield, including warships and submarines. Ultimately, this produced an interactive operational picture, enabling centralized geospatial awareness for strategic defense transformation at the dawn of the new millennium.<sup>34</sup>

#### **4. Operational Capabilities on the Battlefield**

What most captivated the attention of military leaders regarding the information revolution in military affairs was the operational, even tactical, capabilities enabled by rapidly advancing information technologies. These technologies are evolving toward increased digitalization, virtualization, and a dramatic reduction in the constraints of time and space on the conduct of warfare.<sup>35</sup>

The profound, observable transformation in the nature of combat due to the information revolution is

best captured in new operational by Robert R. Tomes and other strategic theorists as: “temporal and spatial control, boldness, and flexibility, core components of the approach to winning open Temporal control refers to the speed in dealing with threats before they materialize, while spatial control implies destroying enemy forces before any direct engagement by ground units or others.<sup>36</sup>

Temporal control under the information revolution is evident in the compression of movement and engagement timelines, closing distances that were once measured in hours to mere minutes. Similarly, spatial control has shifted through improved targeting capabilities. Advances in computer technology have enhanced the performance of self-guided or “smart” munitions that can distinguish their targets from among many similar or decoy targets.

Moreover, the development of computer software has brought the combat environment onto computer screens, enabling the tracking of a missile’s trajectory toward its target, monitoring enemy movement on the ground, and viewing engagements between aircraft or missiles across expansive airspaces. These objects move at supersonic speeds, yet they are now traceable on screens. In essence, computer technology has compressed thousands of miles into mere centimeters.

There was a clear determination within the Joint Chiefs of Staff and among field commanders to pursue “precision munitions, advanced automation, and other capabilities emerging from the digital age and the computer revolution” in order to gain operational superiority over Soviet forces, and later, over Russia and China.<sup>37</sup>

Naturally, this intense pursuit of strategic superiority is driven by the distinct American strategic culture, characterized by an offensive mindset and a desire for dominance. Historically, this culture traces its roots back to the early settlers who conquered the “New World” and exterminated its indigenous inhabitants.

### **Fifth: Adapting to the Demands of the Information Revolution**

The rapid advancements in precision military technology have necessitated the adaptation of institutional structures, combat doctrines, operational art, and tactics to the demands of the information revolution in military affairs. Due to its and multi-level superiority in this field, the U.S. military is considered the pioneer swiftly adapting to the requirements of digital warfare. The awareness of this need among American military commanders and strategic theorists is grounded in Carl von Clausewitz’s proposition that “a sound theory of war never collides with reality.”<sup>38</sup>

Indeed, superiority in warfare tools generates a strategic condition that compels military organizations to adapt rapidly, demanding change not only in their institutional frameworks but also in thinking, practical application, and combat conduct on the battlefield. This need for transformation and adaptation was expressed by General Eric K. Shinseki during the annual meeting of the U.S. Army Association on October 12, 1999, when he declared: “We are working to transform the Army as quickly as possible.” His underlying assumption was that recent developments had laid the foundation for rapid and radical change under the banner of Army Transformation, aimed at making the military lighter, more agile in defeating adversaries, and less dependent on heavy and burdensome logistical support.<sup>39</sup>

This Army transformation process was envisioned to be driven by a combination of: information

technologies, enhanced battlefield sensors, robotics, new equipment, and further innovations in doctrine, organization, and provisioning, all leading toward the creation of an entirely new combat force known as the Objective Force.<sup>40</sup>

From the perspective of Andrew W. Marshall (Director of the Office of Net Assessment within the U.S. Department of Defense during the 1990s), the transformation process targets three essential domains critical to effectiveness: technological innovation, operational concept (or doctrine), and organizational adaptation. While militaries are often inclined to imitate and resist change, the painful legacy of the Vietnam War, combined with the allure of emerging technologies, fostered a level of flexibility that paved the way for the emergence of new doctrines and strategic ideas. These include concepts such as systems of systems, information dominance, and asymmetric warfare.

All of these terms encapsulate major developments in military technology, such as precision-guided munitions, remote-controlled battlefield and reconnaissance satellites, which typically operate in synchronization through digital communications. This interconnectivity crystallized the concept of network-centric warfare as a central element of the information revolution in military affairs.

Combat adaptation and military transformation were not limited to technical or engineering domains. The process expanded, driven by urgent operational demands in modern warfare, to encompass the revision, development, and even creation new strategies, doctrines, operational methods, and combat approaches. One doctrine that emerged from advancements in military technology is the concept of Active Defense, first innovated by the Israeli army and used during the 1973 war against Arab forces. It was later adopted by the U.S. Army in the early 1980s.<sup>41</sup>

According to Thomas K. Adams, Active Defense involves: “the full integration of all capabilities, land, sea, and air combat systems, along with rapid shifts of firepower and maneuver to concentrate decisive combat force at the right time and place on battlefield.” Conceptually, Active Defense is built on a simple idea: that the defense is a proactive offensive that targets enemy territory and strategic centers before they can be used in military action. This is achieved by deploying combat units across various sectors to produce the desired strategic effect. In other words, the optimal means of achieving strategic defense is through tactical offense.

Another innovation stemming from the impact of the information technology revolution in military affairs is the concept of the Information Army, closely tied to the digitalization of the battlefield. In fact, this concept is a necessary outcome of the increasing digitization of modern combat tools, particularly relevant to warfare environments. One of its most prominent applications occurred during the U.S.-led international coalition’s war against ISIS in 2014.

In the United States, the military structure that embodies the concept of the Information Army is known as Army XXI, which adopted capability-based operations in place of the former threat-based doctrine. The rationale behind this was the absence of a traditional external threat similar to the Soviet Union during the Cold War. Instead, the prevailing threat facing American military power had become the rise of terrorism, which struck deep into U.S. territory in 2001.<sup>42</sup>

Strategic priority for the Information Army was not centered on achieving strategic balance, as is the case in the realist tradition of strategic defense. Instead, it focused on confronting threats posed by actors

that are unorganized, whose capabilities are unknown, and whose locations are undefined, yet are highly dangerous, with attacks that inflict deep and damaging blows to national security.<sup>43</sup>

Therefore, the core of military confrontation shifted to the accurate collection of information regarding such threats, their tracking, surveillance, the execution of carefully selected special operations, and ensuring civilian separation from military operations. These are all essential elements that characterize this particular combat environment. In this sense, information becomes the heart of the battlefield.<sup>44</sup>

In other words, the operational orientation moves toward the increasing digitization of the battlespace, through the preparation of an army that no longer relies on massive offensive power to break through enemy defenses, but instead operates by managing computerized systems and electronic sensors.

From a theoretical standpoint, uncertainty in the context of neorealism is addressed by increasing military force through numerical superiority and the accumulation of equipment. In contrast, for Army XXI, uncertainty is tackled through "emerging technologies that can enhance effectiveness across various future battlefields... This means that information technology connects sensors and combat units, microcomputers, and enabler units, contributing to situational awareness and allowing commanders to make fast and accurate tactical decisions."<sup>45</sup>

In this view, the armed forces become lighter, more agile, and capable of rapid deployment to areas of conflict and international crises. They are also more responsive to diverse unconventional threats in ways that align with the objectives of rapid dominance and control over the combat environment, while impeding or even preventing enemy attacks. Achieving this depends on skillful utilization of emerging technologies for expanded reconnaissance and enhanced intelligencegathering capabilities. When deployment occurs, it must be supported by fast and effective logistical backing.<sup>46</sup>

More precisely, the digital army is prepared to realize what is known as Full Dimensional Dominance, a mission that reflects modern armies' adaptation to the digital revolution in military affairs. This concept signifies the ability to deter or win conflicts during direct military intervention across all dimensions planning: strategic, tactical, operational, and intelligence/situational awareness of the battlefield. It also includes efficient handling of various forms of non-traditional threats such as counterinsurgency, counterterrorism, and everything falling under the term Operations Other Than War, typically associated with low-intensity conflicts in areas deemed to be vital spheres of state influence.<sup>47</sup>

Another noteworthy aspect of military transformation and adaptation, prominently observed during the Kosovo War of 1998, was the growing digitization of warfare, specifically through the use of the internet in military communications combat. Soldiers became increasingly proficient in using digital communications, whether to obtain critical battlefield information or to transmit data back to command centers. This was achieved via complex communication systems linked to groundbased relay stations, satellite networks, and airborne platforms, all managed by a vast array of experts, specialized engineers, contractors, and consultants.

This interconnected system became known as the Tactical Internet, which ensured the smooth flow of information between central command, field commanders, and small unit leaders. Technically, the Tactical Internet includes "a networked radio system composed of the Enhanced Position Location Reporting System (distinct from GPS), a Single Channel Ground radio, and an Airborne Radio

System.”<sup>48</sup>

The widespread implementation of the Tactical Internet in the combat zone serves the broader goal of dispersing the fog of war, a challenge famously identified by Carl von Clausewitz, and aligns with the aim of attaining full situational awareness of the battlefield, as advocated by proponents of the info-communicative theory in strategic analysis. However, citing the benefits of digitization does not imply that all communication problems have been solved or that the challenges of uncertainty have been entirely overcome.<sup>49</sup>

Rather, battlefield units now face fewer difficulties in tracking enemy movements, anticipating possible surprise attacks, assessing the enemy’s capacity for mobilization, and determining their ability to secure the necessary logistical support. Put differently, the Tactical Internet has enabled what is now widely referred to by strategic theorists and military analysts as the creation of the Operational Common Picture, achieved through the digitization of the battlefield.<sup>50</sup>

### **Sixth: The Fractures of the Information Revolution in Military Affairs**

Despite the multiplicity of sources available for disseminating information about the battlefield environment, sources that appear instantaneous and unrestricted by governmental oversight, these sources themselves suffer from significant fractures in their credibility and coherence. They are often subject to manipulation, saturation, misinformation, exaggeration, and black propaganda, all employed in pursuit of particular strategic goals. Thus, instead of dispelling uncertainty, information can become a source of confusion among international actors on the one hand, and a tool for spreading fear and disarray among public opinion on the other.

A pertinent example of this fracture in the information revolution's role of clarifying battlefield realities is what the media dubbed the "Battle of Aleppo" in August 2016. During this episode, both the Syrian government and opposition factions vying for control over the northern city of Aleppo waged a parallel media war centered on the portrayal of military successes and failures. The conflict evolved into an information war more than a physical one, with each side claiming territorial gains or refuting those of the other, often inflating the significance of controlling an uninhabited street or village as if it were a major military breakthrough.<sup>51</sup>

In this context, the information revolution turns into a mechanism for generating suspicion and confusion, casting ambiguity over the actual events occurring on the battlefield. Suspicion, within the information age, stems from deception, disinformation, or what Clausewitz referred to as “the fog of war”, along with gray propaganda as identified by communication experts, and cognitive saturation of public perception with fabricated visuals and contradictions that lead to a general state of distrust in everything.

Proponents of cognitive theory in foreign policy analysis, Robert Jervis being a prominent example, have long discussed the epistemic and behavioral obstacles, and even technical limitations, that can hinder the delivery of appropriate information to decision-makers at the right time for proper response. These challenges include information overload, omission, excessive addition, concealment, data surplus, and the cognitive fatigue that affects personnel working on computers to receive and process data.



This was evident in sudden terrorist attacks in major cities around the world, despite these cities being equipped with extensive surveillance camera networks, as well as in online recruitment of fighters and clashes between armed groups and government forces in various conflict zones. Often, following tragic incidents, officials from ministries of defense or foreign affairs announce that they are working to identify the attackers and their motives, or issue warnings to the public about potential upcoming attacks, which often never occur, since the timing and location of the attack are at the discretion of the perpetrators.

Worse still, there are numerous cases where terrorist groups publicly announce their intent to launch attacks against specific states or regions and then execute them as threatened. For instance, the Paris attacks carried out by ISIS on November 13, 2015, killed 149 people and injured 352, 99 of them critically. Likewise, ISIS executed three attacks in Belgium following the arrest of Salah Abdeslam on March 18, 2016, resulting in 34 deaths and over 230 injuries. These attacks occurred just three days after the arrest, on March 22, 2016.

Thomas Kane and his colleague provide a real-world example from World War II that underscores the critical importance of information in generating strategic advantage in actual war environments. During the North African campaign the Allies and Germany, “General Montgomery received intelligence from Ultra [British intelligence], which made him aware of the severe logistical difficulties facing Rommel.

However, Montgomery's inherent caution prevented him from pursuing Rommel's forces with effective offensive vigor, thereby missing the opportunity to destroy them.”<sup>52</sup> Thus, the challenge is not merely obtaining accurate information to secure military gains, but deploying that information effectively on the battlefield to neutralize, halt, or exhaust enemy forces, this being the objective and essential condition for winning a war.<sup>53</sup>

Quoting Gray, Kane and his co-author summarize the role of actionable intelligence: “As Colin Gray emphasized, it is good to have accurate information, but on its own, it does not destroy a single piece of enemy equipment.” The same principle applies to the relationship between information and uncertainty: it is not the acquisition of data that matters most, but its use in dispersing the fog of war and forming a comprehensive and clear picture of the strategic environment and enemy capabilities, in line with the info-communicative theory of security construction.<sup>54</sup>

The emphasis on the idea that obtaining accurate information has neither operational nor strategic impact, nor does it inherently influence the combat environment or the course of war, unless accompanied by effectiveness in exploiting and employing that information to achieve tactical or operational objectives, underscores the nature of warfare, regardless of the evolution or conceptual shifts brought by various military revolutions.<sup>55</sup> The Information Revolution in military affairs, like earlier revolutions, represents merely a phase in the ongoing evolution of strategic-military affairs at the levels of tools, concepts, and methods. However, the essential nature of war remains unchanged as an act of violence involving the use of weapons to accomplish political aims.

According to Clausewitz, the nature of war comprises four elements that persist across time and space, regardless of how combat tools, methods, or tactics develop. These elements are: engagement with the enemy, the climate of war, and the polymorphic character of warfare. Together, they form the enduring structure of war throughout strategic history.<sup>56</sup>

From a critical standpoint, the Information Revolution in military affairs has not altered the intrinsic nature of war. Instead, it has added further layers of complexity to combat methods and tactics. While it may have reduced human casualties, it simultaneously escalated security concerns and expanded their scope to encompass both military personnel and civilians. In effect, it has drawn civilians into the battlefield alongside the military, as in the case of cyber warfare in the digital domain.

## **Conclusion**

Clausewitz captured one of the manifestations of the unchanging nature of war with the term "the climate of war", which includes the elements of danger, uncertainty, exhaustion, and opportunity. In other words, the contextual conditions of warfare reveal it to be an inherently complex process with multifaceted dimensions.<sup>57</sup>

The Information Revolution, with its advantages and fractures, has merely added more complexity to the equation: in combat methods, operational art, and tactical approaches. Inevitably, this has led to the emergence of compound military strategies, strategies that incorporate an undefined array of factors, components, considerations, and operational domains.



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