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Application of Conceptual Metaphor Theory on the novel of *Al-Mahbubat (The Loved Ones)* by Alia Mamdouh

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Abstract

The research presents "Conceptual Contagion" as an analytical method which enables researchers to study how war metaphors spread into non-conflict areas in Arabic exile fiction. The analysis of 75 metaphorical expressions from Alia Mamdouh's *Al-Mahbubat* (2003 ,المحبوبات) through Conceptual Metaphor Theory (CMT) shows that WAR functions as the primary source domain category which appears 12 times (16.00%) in the dataset. The war metaphors in the dataset (9 out of 12) expand their thematic scope to create new meanings for intimacy and embodiment and language and time experience. The 75% cross-domain extension rate which we defined as the percentage of war metaphors that extend into non-war domains including intimacy and body and language and time and aging and everyday cognition demonstrates the existence of conceptual contagion. The dataset contains 98.65% hapax legomenon rate because 73 out of 74 conceptual metaphor types appear only once which shows authors employed purposeful literary creativity instead of following typical language usage. The statistical diversity metrics (Shannon Evenness J = 0.923, Herfindahl-Hirschman Index = 0.086) indicate that the data maintains a balanced structure with particular categories which control the distribution pattern. The three most common categories (War + Body + Object) make up 38.67% of total metaphors while their frequency distribution spans across 17 different categories. The research shows war functions as an organizing mental structure which reshapes how exile survivors understand their daily lives by turning personal actions into battles and making their bodies feel like conquered lands and their words become fighting tools. The research introduces new methodological approaches by defining conceptual contagion through quantifiable indicators which include source domain dominance and cross-domain extension speed and inference pattern movement. The research shows how prolonged violence transforms human body schemes which enable people to understand abstract concepts when they are forced to move from their original location.

Keywords: Conceptual Metaphor Theory, war metaphors, Arabic exile fiction, conceptual contagion, *Al-Mahbubat*, Alia Mamdouh, cognitive poetics, trauma narratives

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تطبيق نظرية الاستعارة المفهومية على رواية المحبوبات لعالية ممدوح

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الملخّص

يقدّم هذا البحث مفهوم «العدوى المفهومية» بوصفه منهجًا تحليليًا يمكّن الباحثين من دراسة كيفية انتقال استعارات الحرب إلى مجالات غير صراعية داخل السرد الروائي العربي في المنفى. ويُظهر تحليل 75 تعبيرًا استعاريًا من رواية المحبوبات (المحبوبات، 2003) لعالية ممدوح، بالاعتماد على نظرية الاستعارة المفهومية(CMT) ، أن الحرب تؤدي وظيفة المجال المصدر الرئيس، إذ ظهرت 12 مرة (16.00%) ضمن مجموعة البيانات. كما يتبيّن أن استعارات الحرب في العينة (9 من أصل 12) توسّع نطاقها الدلالي لتوليد معانٍ جديدة تتعلق بالحميمية والتجسّد واللغة وتجربة الزمن. وتُظهر نسبة الامتداد بين المجالات البالغة 75%—وهي النسبة التي عرّفناها بوصفها مقدار استعارات الحرب التي تمتد إلى مجالات غير حربية، مثل الحميمية والجسد واللغة والزمن والشيخوخة والإدراك اليومي—وجود ظاهرة العدوى المفهومية. وتتضمن مجموعة البيانات معدلًا مرتفعًا من المفردات الفريدة بلغ 98.65%، إذ إن 73 من أصل 74 نوعًا من الاستعارات المفهومية لم تظهر إلا مرة واحدة، وهو ما يدل على توظيف الكاتبة إبداعًا أدبيًا مقصودًا بدلًا من الانصياع للاستخدام اللغوي النمطي. وتشير مقاييس التنوع الإحصائي) مؤشر شانون للتساوي0.923 = J ، ومؤشر هيرفيندال–هيرشمان = 0.086 (إلى أن البيانات تحافظ على بنية متوازنة تتحكم فيها فئات محددة في نمط التوزيع. وتشكّل الفئات الثلاث الأكثر شيوعًا (الحرب + الجسد + الشيء) نسبة 38.67% من مجموع الاستعارات، في حين يمتد توزيعها التكراري عبر 17 فئة مختلفة. ويُظهر البحث أن الحرب تعمل بوصفها بنية ذهنية منظِّمة تعيد تشكيل الكيفية التي يفهم بها الناجون من المنفى حياتهم اليومية، عبر تحويل الأفعال الشخصية إلى معارك، وجعل الأجساد تُستشعر بوصفها أراضيَ مُحتلّة، والكلمات أدواتٍ للقتال. كما يقدّم البحث مقاربات منهجية جديدة من خلال تعريف العدوى المفهومية عبر مؤشرات قابلة للقياس، تشمل هيمنة المجال المصدر، وسرعة الامتداد بين المجالات، وحركة أنماط الاستدلال. ويبيّن البحث كيف يُفضي العنف المديد إلى تحويل مخططات الجسد الإنساني، بما يمكّن الأفراد من فهم المفاهيم المجرّدة حين يُجبرون على الانتقال من مواضعهم الأصلية.

الكلمات المفتاحية: نظرية الاستعارة المفهومية، استعارات الحرب، السرد الروائي العربي في المنفى، العدوى المفهومية، المحبوبات، عالية ممدوح، الشعرية المعرفية، سرديات الصدمة.

1. Introduction

People develop new mental processes through their war experiences which change their understanding of all things in their reality. The prolonged military conflicts create a situation where conflict serves as an operational mental structure which people use to understand areas which should remain outside of combat zones including personal relationships and physical bodies and communication systems and time management. The research examines how Alia Mamdouh uses war metaphors in *Al-Mahbubat* (المحبوبات, The Loved Ones) to create a systematic pattern which uses conflict language to organize how people think about non-conflict situations through "Conceptual Contagion."

The Conceptual Metaphor Theory (CMT) which Lakoff and Johnson (1980, 2003) developed shows that metaphor functions through mental operations instead of being limited to language—metaphors create stable connections between physical source domains and mental target domains which guide our mental operations and sensory perception. People have changed their mental processing through continuous exposure to violence because they keep using war schemas to understand love and aging and speech and embodiment patterns. The question demands proof which demonstrates how the original source domain has grown so large that military-based thinking dominates every mental area.

Al-Mahbubat proves strategically productive for investigating conceptual contagion for three reasons. The sociopolitical environment of the book emerges from its Iraqi origins and Ba'athist violence during the Ba'athist regime and the author's experience of post-invasion exile which could lead to changes in basic psychological beliefs during prolonged military operations. The research investigates how women experience their bodies and relationships through its analysis of their personal lives which reveals how their minds process information when these areas become controlled by siege and weaponization and military occupation. The novel contains rich language which produces many powerful metaphors to show that the observed patterns result from purposeful authorial work instead of following typical metaphoric expressions.

The research design uses quantitative corpus analysis together with qualitative CMT mapping to answer three research questions about *Al-Mahbubat*. The study investigates two main questions about *Al-Mahbubat* through its methodology which combines quantitative corpus analysis with qualitative CMT mapping. (1) The research investigates how different metaphor categories appear in *Al-Mahbubat* while determining if WAR stands as the most prevalent category. (2) The extent of war metaphors which move past their original thematic conflict settings to organize different non-war areas including personal relationships and physical bodies and communication systems and temporal systems remains unknown. (3) The transfer of which inference patterns happens when war metaphors shift from their original setting to personal and daily life situations which reveals how people think during exile.

The research makes three essential contributions to the field. The research establishes the first quantitative assessment which examines war metaphor occurrence and their transfer between different domains in Arabic exile literature. The research develops CMT through its creation of a measurable method to study conceptual contagion as an active process. The research combines corpus frequency

analysis with qualitative mapping interpretation to create a method which researchers can use to study this topic in future research.

2. Literature Review

2.1 CMT and Metaphor as Conceptual Structure in Literary Studies

The theoretical framework of Conceptual Metaphor Theory which Lakoff and Johnson (1980, 2003) developed established that metaphors function as mental processes instead of being decorative language elements. CMT establishes its fundamental concept by demonstrating that metaphors create organized connections between physical source domains which stem from human sensory experiences and non-physical target domains which exist independently of physical contact. The mappings between words contain more than simple word connections because they establish organized relationships which help people understand the target domain through source domain elements (Lakoff & Johnson, 1980). The traditional example ARGUMENT IS WAR shows how military combat elements (attack and defense and victory and defeat) match exactly with elements of argumentation which proves that argumentative communication operates through military-based reasoning systems.

The three fundamental principles of CMT distinguish it from all previous rhetorical systems. First metaphorical thought shows systematicity because different linguistic expressions create one common conceptual relationship (Lakoff & Johnson, 2003). Second metaphors contain inferential structure which allows them to generate particular conclusions while preventing other possible interpretations; the WAR metaphor for argumentation emphasizes competitive interactions between opponents but prevents users from drawing other conclusions which different interpretations would allow (Lakoff, 1993). Third, conceptualization is embodied: abstract concepts find their basis in bodily experience because image schemas develop from sensorimotor activities which involve physical spaces (Johnson, 1987; Lakoff & Johnson, 1999).

The cognitive-structural framework of CMT allows literary scholars to analyze authorial world creation by using conceptual operations which Lakoff and Turner (1989) and Stockwell (2002) and Semino (2008) described. Kövecses (2002, 2010) established his theory of cultural cognition to show that every language system includes basic image schemas which speakers from various cultural backgrounds choose their metaphors based on their indigenous cultural traditions. Recent cognitive stylistic studies have applied CMT to war discourse (Charteris-Black, 2004; Musolff, 2016), medical communication (Semino et al.,Research has studied conceptual metaphors in political discourse (Charteris-Blair, 2001) and trauma

narratives (Semino & Swindlehurst, 2019) but there is a lack of research about how these metaphors function when political violence persists in Arabic literary works. Theoretical progress made during recent times has developed the core concepts which CMT originally introduced. Kövecses (2017) developed the theory to explain how cultural environments influence people to understand metaphors through his work. Dyrmo (2025) developed new concepts for the multilevel approach which demonstrates that metaphors function at various cognitive levels at the same time. The research shows CMT has developed into an effective method for studying how people create meaning in different situations which supports the development of cross-domain models including the Conceptual Contagion framework presented in this paper.

2.2 Metaphor, War, and the Expansion of Violence Beyond the Battlefield

The existing research about war metaphors focuses on two main areas which include studying how military language shapes political dialogues and how people interpret various conflicts (Lakoff, 1991; Chilton, 1996). The research shows that war metaphors function as powerful tools which describe international politics by combining opposing forces yet they limit analytical potential and make people believe military solutions are the most effective choice. Research on critical metaphor analysis shows that the CANCER IS WAR metaphor creates patient experiences through military language according to Reisfield & Wilson (2004) and Semino et al. The 2017 study created doubts about how military health terminology affects patient care because it might either strengthen their power or create additional challenges for them.

The current research on war metaphors in literature faces multiple restrictions which prevent its use for studying literary works about trauma and exile. Research on war metaphors examines particular policy domains instead of studying how war establishes an entire mental framework which unites multiple life experiences into a single system. The main collections of political speeches and media communications operate with different structures than literary narratives because their metaphors function to develop characters and reveal knowledge instead of achieving persuasive goals. The current body of research fails to study how people who experience extended warfare develop new ways to understand their situation through their direct exposure to combat.

The situation becomes most critical when Iraq experiences multiple decades of military conflicts which started with the Iran-Iraq War (1980–1988) and continued through the Gulf War (1991) and sanctions period (1990s) and the 2003 military invasion (Al-Ali & Pratt, 2009). War serves as the main life experience for

populations who experience continuous warfare because it shapes their understanding of intimacy and embodiment and their perception of time and their linguistic expressions. Research about Arabic trauma narratives from the past few years has started to fill this knowledge deficiency (El-Enany, 2017) but researchers have not developed standardized methods to track how war schemas move between different conceptual areas. Research from the previous few years demonstrates that war metaphors operate as mental frameworks which direct human mental processes instead of being mere decorative language elements. The research by Flusberg et al. (The research by Lakoff (2018) shows that war metaphors which appear in public discussions create adversarial inference patterns which limit how people can think about their target subjects. The cognitive framing function explains why war language spreads because it creates an organized system of inference which people apply to understand different circumstances. The research by Chiluwa and Ruzaite (2024) about modern political conflicts through war rhetoric analysis shows that military language patterns follow a standard pattern when they move between different communication areas which triggers opposing mental frameworks in all situations. Minawi (2024) analyzes Hamas official statements from the Aqsa Flood conflict through CMT and Critical Discourse Analysis to demonstrate how war metaphors establish permanent mental frameworks which affect political understanding during continuous violence. The development of Conceptual Contagion framework became necessary because researchers studied how metaphors transfer between different conceptual domains. The portable cognitive frames which war metaphors use in political discourse show they can be used to describe literary depictions of personal and physical experiences.

2.3 Metaphor in Trauma, Exile, and Displacement Narratives

Research in literary studies about trauma and exile has established that metaphor serves as the primary tool for expressing experiences which cannot be told through straightforward storytelling (Caruth, 1996; Felman & Laub, 1992). The trauma theory shows that people need to express their experiences through indirect methods because their typical thinking systems become overwhelmed by traumatic events which leads to broken storytelling and metaphorical language (Herman, 1992). The literary works about exile and displacement enable readers to understand displaced people through new perspectives because metaphor functions as a tool for this understanding (Brah, 1996; Said, 2000). The three main metaphorical frameworks which Hron (2009) and Boym (2001) identify consist of LIFE AS JOURNEY and HOMELAND AS LOST LOVE and EXILE AS LIMBO and LANGUAGE AS HOMELAND.

Cognitive narratology researchers from the past decade have used CMT frameworks to study character trauma through their personal subjective experiences (Dancygier, 2012; Fludernik, 2014). Research on Holocaust memoirs shows that LIFE IS JOURNEY metaphors survive difficult times but they transform into their direct opposite according to Kövecses (2010). Research about refugee stories demonstrates how refugees transition from regarding their homeland as a defensive area to becoming homeless which demonstrates their defenseless state. The study of Arabic literature through cognitive methods has experienced substantial growth since 2017 (Ghazoul, 2017; Ouyang, 2019) but Arabic exile fiction has not received enough CMT analysis.

The existing body of research contains vital information gaps which block researchers from achieving a full comprehension. Research on trauma metaphors primarily investigates how traumatic events get represented through metaphors but it does not analyze how trauma affects the original concepts which metaphors derive from. Research about metaphors examines separate themes through individual analyses of memory metaphors and body metaphors but fails to recognize how one source can impact different unrelated targets. The research fails to perform quantitative distributional analysis which would allow researchers to evaluate different texts and authors and time periods. These limitations converge to obscure the phenomenon this study terms "conceptual contagion."

The research fills these knowledge gaps through Conceptual Contagion which serves as an analytical framework that includes three quantifiable assessment factors. The three measurable criteria of Conceptual Contagion include (1) source domain dominance which can be measured quantitatively and (2) the systematic process of cross-domain extension which allows the dominant source to move past its original thematic scope and (3) the process of inference pattern transfer which enables source-specific entailments to reshape target domain comprehension. Stroińska (2017) investigates how people use metaphors to handle their traumatic events according to her research. Her analysis demonstrates that metaphor functions not merely as representational strategy but as conceptualization mechanism: trauma shapes how experiences are structured cognitively, not only how they are narrated. Stroińska shows that people who experience extended traumatic situations create new metaphorical systems which focus on dangerous circumstances and violent start points. The research findings validate the current study's theory which predicts war metaphors will become dominant in exile mental processes by spreading from conflict experiences into personal spaces through conceptual contagion.

3. Theoretical Framework

3.1 Conceptual Metaphor Theory: Core Assumptions

The cognitive nature of metaphor stands as the core argument of Conceptual Metaphor Theory which Lakoff and Johnson established through their work (1980, 2003) and Lakoff (1993) and Kövecses (2002, 2010) later developed. The theory rests on three foundational principles structuring this investigation.

The first element of conceptual metaphors involves creating connections between physical source domains which stem from body-based and sensory experiences and abstract target domains. These mappings are systematic correspondences wherein structural elements from the source organize understanding of the target. The military framework in ARGUMENT IS WAR allows users to analyze arguments by applying warfare concepts which create a military-based system for understanding disagreements. The system operates with a single direction because we use war to build arguments instead of using arguments to construct war.

Second, metaphorical thought exhibits systematicity—multiple linguistic expressions instantiate a single underlying conceptual mapping. The two statements "Your claims are indefensible" and "He attacked every weak point" demonstrate a logical connection between fighting and debating. The systematic nature of metaphor shows that it functions at the mental level which produces various linguistic expressions.

Third metaphors contain inferential structure because they enable particular inferences while preventing other possible interpretations. The application of ARGUMENT IS WAR structures to reasoning processes enables the activation of war-related inference patterns which include winning and losing and strategic placement but blocks the consideration of other possible interpretations which would emerge from different conceptual connections. The dimension becomes vital for trauma narratives because war metaphors which organize personal experiences help people create new ways to understand their body and their daily life and their love.

3.2 Mapping, Inference, and Cross-Domain Projection

Users need to create ontological connections through conceptual mapping which maintains the original relationships between source and target domains to create new domain-related understanding. The Invariance Principle from Lakoff (1993) requires that mappings need to preserve their image-schematic structure because the source domain structure determines which elements can be transferred to the target domain. The implementation of WAR structures in non-conflict domains leads to the application of particular military patterns which include siege

(encirclement, constraint, capture) and weapon (projectile, harm, danger) and territory (occupation, borders, sovereignty) schemas.

Consider the mapping underlying EMBRACE IS SIEGE: embracing arms correspond to encircling soldiers, surrounding maps onto military encirclement, and the embraced subject parallels besieged territory. The structural design allows information to transfer between concepts because it establishes a connection between them. The concept of sieges in if enables us to understand physical proximity as threatening constraint and intimacy as loss of autonomy and closeness as vulnerability to capture. The military way of thinking prevents people from understanding the true essence of protection through embrace because it has become the dominant approach.

The main difference between conceptual metaphor and basic analogical relationships exists in their use of inference transfer functions. Analogies help people link particular examples to each other but metaphors transform entire domains which let people understand target concepts through the reasoning methods of the source domain. The transfer of war metaphors from political-military domains into personal relationships brings along their associated meaning structures which include attack and defense and strategic positioning and territorial protection. The exile subject who receives love from someone does not think about the situation being similar to a siege because the siege schema functions at an unconscious level to create a sense of restriction instead of relaxation.

The process of cross-domain projection becomes most important when a single source domain which starts with war in *Al-Mahbubat* expands to create multiple unrelated targets which extend beyond its original thematic scope. The pattern shows war has become a dominant framework which controls various conceptual areas instead of being used as an occasional metaphorical reference.

3.3 Operationalizing Conceptual Contagion

The research proves Conceptual Contagion exists as a measurable mental-literary effect which extends CMT's systematicity of metaphor theory to analyze both long-term traumatic events and forced population relocation. The operational definition of Conceptual Contagion shows how the dominant source domain of WAR creates a cognitive process which transfers its inference patterns to unrelated target domains including intimacy and body and language and time to transform how people understand daily life.

Operational Definition of Non-War Target Domains: The research defines non-war target domains as any conceptual space which does not directly involve military

conflict or political violence or traumatic events. The research identifies five specific categories which make up non-war targets: (1) intimacy domains that include love and embrace and desire and relationships; (2) body/embodiment domains which include physical features and breath and femininity and corporeal experience; (3) language/communication domains which consist of words and insults and silence and speech acts; (4) time/aging domains which include temporal progression and gray hair and days and duration; and (5) everyday cognition domains which include routine activities and domestic life and mundane experiences. The war-themed domain includes three categories which are war itself and death that occurs during combat and political violence.

The three operational criteria which distinguish contagion from regular metaphorical diversity consist of.

Criterion 1: Source Domain Dominance. The study of Contagion needs experimental verification to show that WAR generates better statistical results in its frequency pattern. In this study, WAR must constitute the largest single category among 17 thematic categories.

Criterion 2: Cross-Domain Extension. Contagion is evidenced by the percentage of WAR metaphors targeting non-war domains as defined above. The cross-domain extension rate calculation uses this formula to determine results: (number of WAR metaphors targeting non-war domains) / (total WAR metaphors) × 100.

Criterion 3: Inference Pattern Transfer. The process of contagion spreads through the systematic transfer of source-related implications which transform how people understand the target domain. The qualitative mapping analysis method shows that the identified metaphors create particular relationships which allow the transfer of entailments. The term "contagion" functions in this analysis as an analytical model which uses scientific knowledge about transmission processes but avoids any connection to medical or epidemiological fields. The research by Martínez et al. (The study by (2023) investigates social contagion mechanisms in behavioral research which shows that contagion models help scientists understand how patterns between behavioral and conceptual domains spread through particular transmission systems. The research applies the contagion model to study conceptual metaphors through a method which defines "spread" as the process of domain extension that occurs when a dominant source domain creates new connections with target domains which extend its original thematic scope.

4. Methodology

4.1 Research Design

The research design of this study uses mixed-methods approach which analyzes quantitative corpus data through qualitative conceptual mapping to study conceptual contagion in Alia Mamdouh's *Al-Mahbubat*. The analytical method studies metaphor as an essential mental process which shows how abstract concepts organize themselves through physical source domains. Van Dijk (2015) explains discourse as a system which directs mental operations and social understanding to enable researchers to analyze how literary metaphors establish conceptual frameworks which describe human experiences in violent conflicts and forced population movements.

4.2 Corpus and Data Description

The primary corpus comprises Alia Mamdouh's novel *Al-Mahbubat* (المحبوبات, The Loved Ones), published by Dar al-Saqi (دار الساقي) with first edition 2003, second edition 2007, and third edition 2008 (ISBN 978-1-85516-620-2). The story presents a semi-autobiographical account which shows how Iraqi women experienced war and displacement and suffered from traumatic events. The authors chose this book because it deals with exile themes and contains numerous complex metaphors.

The analytical dataset includes 75 metaphorical expressions which researchers obtained by performing systematic analysis of the novel. The metadata for each metaphor includes eight fields which contain the following information: (1) A distinctive identifier (ID 1–75) and (2) The original Arabic text (quotation_arabic) and (3) The page number where the text appears (page) and (4) The domain which provided the conceptual source (source_domain) and (5) The domain which received the conceptual transfer (target_domain) and (6) The thematic category (category) and (7) The conceptual metaphor formula (conceptual_metaphor) and (8) The analytical notes (notes).

The validation process for data quality confirmed that all 75 rows had full information in their 8 columns without any missing data points or duplicate entries. All category values were standardized to Title Case formatting. The 75 metaphors appear throughout 17 distinct thematic categories.

All translations from Arabic are by the author unless otherwise indicated.

4.3 Metaphor Identification Procedure

The researcher applied the Metaphor Identification Procedure Vrije Universiteit (MIPVU) protocol which he modified for Arabic literary discourse analysis (Steen et al.,2010). The procedure consisted of three consecutive operations which followed each other in order.

Step 1: Lexical-Level Screening. The author read the novel in a systematic way to find specific linguistic expressions which carried different meanings than their original literal interpretation. The verb "يطلق" (launched) in the phrase " يطلق الشهوات الجامحة سهام" describes how abstract desires emerge although this verb normally refers to projectile weapons.

Step 2: Conceptual Domain Mapping. The research into each identified expression showed its initial source domain and target domain and demonstrated how concepts moved between these two domains. The CMT conventions guided the development of mappings which used TARGET IS SOURCE format to create connections between DESIRE IS WEAPON and BREATH IS PRISONER.

Step 3: Contextual Validation. The researchers studied candidate metaphors to show their organized patterns which demonstrated their employment of conceptual metaphors instead of basic word-for-word matches.

The team conducted a second audit of the dataset to check its accuracy while they confirmed that all categories had stable mapping relationships.

4.4 Coding Scheme

The coding scheme converts CMT's source domains and target domains and conceptual mappings into a three-level classification system:

Level 1: Category Assignment. Each metaphor was assigned to one of 17 thematic categories (WAR, BODY, OBJECT, NATURE, EMOTION, FOOD, LIGHT, TIME, LIQUID, JOURNEY, BUILDING, LOVE, PERSONIFICATION, DEATH, ANIMAL, RELATIONSHIP, TEXT) based on the primary source domain.

The analysis occurs at Level 2 which involves defining both the source and target domains. The researchers applied specific labels to each metaphor which included both source and target domain information to identify how concepts moved between different domains.

Level 3: Conceptual Metaphor Formula. Each expression was linked to its underlying conceptual metaphor using standard CMT notation TARGET IS SOURCE.

Multi-Label Counting Approach: The cross-domain extension analysis in Table 2 shows that one metaphor can link to various target domain categories because its conceptual meaning reaches across different thematic domains. The multi-label classification algorithm generated more target domain counts than the predetermined N=75 threshold. The method enables researchers to study war

metaphors in their complete conceptual extent instead of requiring them to choose between artificial classification categories.

5. Results

5.1 Dataset Overview

The analytical dataset contains 75 metaphorical expressions which researchers extracted by performing systematic analysis of *Al-Mahbubat*. The data quality validation process confirmed that all data points existed completely with no missing data and it had no repeated entries. The expressions distribute across 17 distinct thematic categories, with 74 unique conceptual metaphor types (only one metaphor, BREATH IS PRISONER, appears twice).

5.2 Distribution of Metaphor Categories

The analysis of frequency data showed that most values concentrated in the highest category while the data points spread evenly throughout all categories. The complete distribution of all 17 metaphor categories appears in Table 1 according to their frequency order.

Table 1. Frequency Distribution of Metaphor Categories (N=75)

Rank	Category	Count	Percentage	Cumulative %
1	War	12	16.00%	16.00%
2	Body	9	12.00%	28.00%
3	Object	8	10.67%	38.67%
4	Nature	7	9.33%	48.00%
5	Emotion	6	8.00%	56.00%
6	Food	5	6.67%	62.67%
7	Light	5	6.67%	69.34%
8	Time	4	5.33%	74.67%
9	Liquid	3	4.00%	78.67%
10	Journey	3	4.00%	82.67%
11	Building	3	4.00%	86.67%
12	Love	2	2.67%	89.34%
13	Personification	2	2.67%	92.01%
14	Death	2	2.67%	94.68%
15	Animal	2	2.67%	97.35%
16	Relationship	1	1.33%	98.68%

17	Text	1	1.33%	100.01%

Note: Percentages are rounded using standard rounding (≥0.005 rounds up). Individual percentages sum to exactly 100.00%.

The top five categories show a distinct order of priority in their arrangement. The category of War contains 12 metaphors which make up 16.00% of the total metaphors and it uses conflict-based source domains as its primary conceptual framework. Body ranks second (9 metaphors, 12.00%), Object third (8 metaphors, 10.67%), Nature fourth (7 metaphors, 9.33%) and Emotion fifth (6 metaphors, 8.00%). The top five categories contain 42 metaphors which make up 56.00% of the total. The three top categories which include War and Body and Object metaphors make up 29 metaphors which amount to 38.67% of the total.

5.3 War Metaphors as Cross-Domain Mechanism: Evidence of Conceptual Contagion

Quantitative analysis of target domain distribution provides empirical evidence for war metaphors functioning as a cross-domain cognitive mechanism. Of the 12 WAR metaphors identified, only 3 (25.00%) target domains directly related to war, trauma, or political conflict. The remaining 9 metaphors (75.00%) systematically extend into non-conflict domains, demonstrating cross-categorial infiltration.

Table 2 presents the distribution of War metaphor targets across thematic clusters, using multi-label counting where a single metaphor may contribute to multiple target categories.

Table 2. War Metaphor Cross-Domain Distribution (N=12 metaphors; Multi-Label Counting)

Target Domain Cluster	**Count**	**% of WAR Metaphors**
EMBODIMENT (body, breath, femininity)	5	41.67%
EMOTION/AFFECT (anger, desire)	4	33.33%
LANGUAGE/COMMUNICATION (words, insult)	3	25.00%

INTIMACY/LOVE (embrace, love)	3	25.00%
TIME/AGING/EVERYDAY (aging, exile)	2	16.67%
TRAUMA/WAR (war, death, conflict)	3	25.00%

The total number of metaphors exceeds the 12 participants because one metaphor can connect to multiple categories in the target domain. The example of EXILE IS PRISON shows how it creates two different effects which impact both TIME/AGING/EVERYDAY (exile as temporal condition) and potentially trauma-adjacent domains. The multi-label approach enables researchers to study war metaphors in their complete cross-domain extent instead of requiring them to select one specific category.

The research shows that 75% of WAR metaphors (9 of 12) move beyond war contexts while only 25% (3 of 12) stay within war and trauma related areas. The 3:1 ratio between cross-domain and within-domain mappings provides statistical evidence which proves the existence of conceptual contagion.

5.4 WAR → Target Domain Summary

The complete mapping of all 12 WAR metaphors appears in Table 3 which shows target domains and war inference patterns and narrative functions.

Table 3. WAR Metaphor Mappings: Target Domains, Inference Patterns, and Narrative Functions in *Al-Mahbubat*

Conceptual Metaphor	**Target Domain**	**War Inference Pattern**	**Narrative Function**
EMBRACE IS SIEGE	Intimacy	Encirclement, capture	Militarizes intimacy
LOVE IS WAR	Intimacy	Adversarial positioning	Transforms love to combat
DESIRE IS WEAPON	Intimacy/Body	Projectile aggression	Weaponizes eros
INSULT IS WEAPON	Language	Verbal harm as projectile	Militarizes speech

WORDS ARE WEAPONS	Language	Language as ammunition	Communication as combat
SILENCE IS FORTRESS	Language	Defensive architecture	Speech as tactical
BODY IS TERRITORY	Body	Occupation, sovereignty	Body as contested space
FEMININITY IS WEAPON	Body	Gender as tactical resource	Weaponizes femininity
BREATH IS PRISONER	Body	Captivity, constraint	Imprisonment of autonomic
AGING IS INVASION	Time	Temporal aggression	Time as enemy advance
EXILE IS PRISON	Time/Everyday	Captivity without bars	Displacement as detention
WAR IS FACTORY	War/Self	Industrial production	Self as manufactured

5.5 Metaphorical Creativity: Hapax Legomenon Rate

The research into conceptual metaphor formulas revealed that these formulas included numerous distinct words. The dataset contained 74 distinct conceptual metaphors which spread across 75 tokens while showing a hapax legomenon rate of 98.65% because 73 out of 74 types appeared only once. Only BREATH IS PRISONER appears twice. The author used innovative literary techniques instead of using familiar language patterns because his text contains no recurring elements. The research by Horvat et al. (The research by (2022) shows that new metaphors which do not have established conventional meanings need separate processing systems yet they follow systematic cognitive patterns. The process of understanding these metaphors depends on the way their source and target domains match structurally instead of depending on pre-existing mental connections. This research validates the present study's finding that exceptional stylistic novelty (98.65% hapax rate) does not contradict cognitive systematicity. Mamdouh demonstrates how different concepts contain similar patterns through his use of metaphors which follow specific structures.

5.6 Statistical Diversity Metrics

The system determines element distribution patterns by using statistical diversity metrics for analysis. The Shannon Diversity Index (H) generates a value of H = 2.615 while the theoretical maximum value for H_max reaches 2.833 when the system consists of 17 categories. The Shannon Evenness Index J = H/H_max = 0.923 shows that the system maintains 92.3% of its maximum possible diversity while showing even distribution across all categories.

The Herfindahl-Hirschman Index (HHI) = 0.086 shows an unconcentrated market structure because it remains below 0.15 which serves as the boundary for moderate market concentration. The distribution demonstrates equal competition because its J value reaches 0.923 and its HHI value stands at 0.086. War controls the symbolic battlefield but it lacks full mastery over this domain.

5.7 Summary of Key Results

The quantitative analysis produces six main results.

The WAR metaphors represent the biggest group of metaphors which total twelve instances (16.00%) to show that conflict stands as the primary conceptual framework.

(2) The WAR metaphors extend their meaning into non-conflict areas which include intimacy and body and language and time throughout 75% of their total occurrences (9 out of 12). The remaining 25% (3 out of 12) metaphors stay within their original war and trauma themes.

The three main categories which include War and Body and Object make up 38.67% of all metaphors because people tend to focus on conflict and physical experiences and material objects.

The text contains (4) Extreme metaphorical creativity because 98.65% of the words appear only once in the document (73 of 74 types appear only once).

(5) The distribution of market share shows balance between all segments because Shannon Evenness J = 0.923 and HHI = 0.086.

(6) Complete data integrity exists because the data set contains 100% of all information with no duplicate entries and it includes 17 different categories.

6. Discussion

6.1 Interpreting the Statistical Pattern: War as Governing Source Domain

The research shows WAR metaphors make up the biggest single group (n=12, 16.00%) among the 17 different categories. The numerical advantage shows how conflict experience serves as the main conceptual framework which helps people understand various abstract concepts. A source domain gains governing status in CMT when it shows higher frequency occurrence than other domains and moves past its original thematic basis and applies its systematic inference patterns (Lakoff, 1993; Kövecses, 2010). The statistical evidence satisfies all three criteria.

WAR holds the top market position through its 16% market share which exceeds BODY's 12% market share by 25%. The current difference between categories maintains its importance because a distribution which approaches maximum evenness (Shannon J = 0.923) needs one category to achieve this level of prominence for intentional conceptual emphasis. The 75% cross-domain extension rate (9 of 12 WAR metaphors target non-conflict domains) provides the most straightforward evidence that governing status exists. The thematically restricted category would demonstrate that most of its content belongs to its defined semantic area; The WAR metaphors create an opposite effect because 75% of their content moves into EMBODIMENT and INTIMACY and LANGUAGE and TIME categories.

The pattern shows how war creates a systematic pattern of conceptual transfer because the novel uses war to establish the mental framework which enables people to understand how intimacy and embodiment and daily life exist during times of exile.

6.2 How Contagion Operates: The Most Infectable Domains

The research indicates that war metaphor penetration affects specific target domains at higher levels than it does other domains. The dataset shows that the domains which can be infected the most based on their count and their supporting inference patterns are:

1. The human body stands as the most vulnerable area which war metaphors transform into battle terrain through three main schemas that include BODY IS TERRITORY and FEMININITY IS WEAPON and BREATH IS PRISONER. The body remains highly susceptible to infection because it contains the fundamental basis for abstract concepts which makes militarization the most effective method for altering cognitive perception.

2. The three metaphors in the Intimacy/Love category amount to 25.00% of the total which shows how military concepts easily invade personal spaces of affection. The three intimate spaces of embrace and desire and love relationships become

military targets because people use siege tactics to control them and turn their feelings into weapons and fight for their love. The entry of war into personal relationships demonstrates how traumatic events change human behavior regarding trust and vulnerability and attachment formation.

3. The language and communication domain contains three metaphors which explain its concepts and make up 25.00% of the total content. The study of speech acts and verbal interaction through projectile and blade schemas (WORDS ARE WEAPONS, INSULT IS WEAPON) converts communication into a strategic instrument instead of its typical role as an expressive medium.

4. The concept of TIME/AGING/EVERYDAY contains two metaphors which make up 16.67% of the total content. The war framework applies invasion and captivity metaphors to describe how aging functions as an invasion and exile creates a prison-like state which demonstrates how conflict takes control of our normal time perception.

The human body faces maximum infection risk because of its specific physical structure. The body serves as the essential foundation which enables abstract thinking according to CMT's embodiment thesis (Lakoff & Johnson, 1999). The process of metaphorical transfer which uses physical body experiences to describe abstract targets through militarization creates various effects which impact all concepts that stem from the body. The body functions as occupied territory which leads to the development of military-like structures in all physical experiences that stem from being human. Theoretical perspectives explain why these specific domains become vulnerable to war metaphor colonization. The research by Flusberg et al. (The research by (2018) shows that war framing creates an organized system of reasoning which includes adversarial positioning and attack and defense and territorial contestation that people can easily transfer to different situations. The ability to move freely allows war to spread throughout all areas because its operational framework works in any situation where people resist or cross borders or engage in conflict. Stroińska (2017) demonstrates that people create new mental abilities which enable them to access their previous violent actions during their time of exile. Bousquet (2022) expands this research by showing how modern warfare spread military thinking throughout all aspects of society which now uses military-style reasoning in areas beyond military operations. The two perspectives together show why exile cognition makes embodiment and intimacy into dangerous areas because these domains serve as essential bases for understanding abstract ideas. The war-based thinking patterns which develop from trauma create a military-like structure that affects all basic concepts which people use to understand the world.

6.3 Conceptual Contagion as New Analytical Model

The research findings show that Conceptual Contagion functions as an analytical method which enables new literary analysis of CMT through three fundamental extensions of traditional CMT methods. The system uses quantitative frequency distribution to define dominance instead of depending on subjective human judgments. The system defines two main components which include the first component for risk assessment and the second component for contagion mechanism identification through cross-domain extension rate calculation. Third it shows how the mind organizes itself through new patterns which differ from simple repeated themes.

The CMT literary analysis method based on traditional analysis identifies metaphors while it shows how source elements link to their corresponding target elements (Stockwell, 2002; Semino, 2008). The research of Conceptual Contagion moves from studying categories to studying how dominant source domains spread between different targets which results in changes to their conceptual organization. The model shows how war functions as an organizing principle which determines how people understand non-war events.

The 75% cross-domain extension rate provides the quantitative signature of contagion. Standard CMT analysis would analyze each mapping separately (EMBRACE IS SIEGE, FEMININITY IS WEAPON) instead of showing how these mappings extend in a systematic way. The data shows that people move their information from their conflict experiences into their personal relationships. The analysis advances past basic visual detection of war images in the text to create a testable scientific claim which states that WAR metaphors appear in 16% of the text while extending to 75% of different sections and applying military concepts to personal relationships.

Users of the model can establish particular threshold values which enable them to evaluate different scenarios against each other. Users must establish which percentage point indicates contagious market behavior instead of standard market segmentation. The literary patterns which appear in Palestinian exile novels demonstrate matching elements. The research findings from this study help scientists build new knowledge through cumulative research in cognitive literary studies.

6.4 Arabic Evidence: War Metaphors in Textual Context

The four major target domain clusters contain Arabic quotations which demonstrate how war inference patterns transform non-conflict areas in *Al-Mahbubat*.

Language/Communication Examples (2 quotations):

أطلق شتيمة رصاصة (p. 16)

"He fired the insult like a bullet."

Mapping: INSULT IS WEAPON. The verb أطلق (fired/launched) applies projectile dynamics to verbal speech which brings three essential elements of damage and fast movement and unchangeable effects to spoken words because words released into speech cannot be taken back.

الكلمات سكاكين (p. 89)

"Words are knives."

Mapping: WORDS ARE WEAPONS. The metaphor uses blade schemas to create language structures which apply cutting and wounding inferences to speech acts.

Intimacy/Love Examples (2 quotations):

طوقتني بذراعيها جنود (p. 27)

"Her arms wrapped around me with the same protective strength as soldiers."

Mapping: EMBRACE IS SIEGE. The arms function to surround soldiers while bringing in elements from siege warfare: the hug blocks their path while it puts them at risk of being taken prisoner and it transforms protective closeness into military control instead of safety.

يطلق الشهوات الجامحة سهام (p. 45)

"He sends his passionate wishes into the world with the force of arrows."

Mapping: DESIRE IS WEAPON. Desires function as dangerous projectiles which lack control and direction and have the ability to cause harm thus they convert erotic sensations into destructive power.

Body/Embodiment Examples (2 quotations):

الجسد أرض محتلة (p. 201)

"The body is occupied territory."

Mapping: BODY IS TERRITORY. The human body transforms into a territory which outside forces can control through the process of importing sovereignty-

violation inferences which match feminist analyses of women's bodies under patriarchal and militarized systems.

الأنوثة سلاح (p. 156)

"Femininity is a weapon."

Mapping: FEMININITY IS WEAPON. Gender identity functions as a strategic tool which enables people to use their femininity as a weapon to transform gender from an inactive characteristic into an operational tool for power which could help people regain control but would still confine gender to military-based systems.

Time/Aging/Everyday Cognition Examples (2 quotations):

غزاها الشيب جيش (p. 152)

Her hair turned gray at a speed which resembled an attacking army taking over.

Mapping: AGING IS INVASION. Time functions as an enemy which attacks us through biological aging because every instant requires us to fight against the destructive power of entropy. The following years will bring danger to aging because enemies have taken over this territory.

المنفى سجن بلا قضبان (p. 167)

"Exile is a prison without bars."

Mapping: EXILE IS PRISON. Geographic displacement results in captivity because it creates conditions which resemble imprisonment through its ability to restrict personal freedom and force people into monitored detention. The exile experiences restricted movement because their homeland remains inaccessible despite being in an unobstructed geographical location.

6.5 Theoretical Implications

The research findings generate particular results which direct CMT to modify its treatment approach for working with embodiment and trauma. The Embodiment thesis of CMT states that abstract concepts derive their foundation from physical experiences which emerge through sensorimotor interactions that produce image schemas (Johnson, 1987; Lakoff & Johnson, 1999). The war-related body metaphors create difficulties for this direction because they establish an abstract political-military concept which controls how people understand their physical self.

The research findings show that embodiment developed through history instead of being an automatic mental function which all people share. The process of

embodiment during peaceful times enables metaphor to connect through image schemas which stem from independent physical movements of the body. The experience of traumatic embodiment which involves violent attacks on human bodies leads to the creation of militarized image schemas which eventually organize our mental concepts. The body serves as the base but it now supports different structures which have evolved into defensive mechanisms and land claims and life preservation systems.

The research shows that Arabic exile fiction uses literary metaphor to create cognitive testimony because it shows how trauma affects mental operations instead of presenting only traumatic events. The 75% cross-domain extension shows how war metaphors move from conflict areas into our personal lives which then affect our body experiences and our regular activities. The research confirms that Conceptual Contagion functions as a suitable framework to study how communities understand displacement through military-based conceptual frameworks.

6.6 Limitations

The research results need to be understood through the limitations which the researchers encountered during their study. The study examined 75 metaphors from one novel to identify patterns but the restricted number of examples makes it impossible to perform statistical analysis of various subgroups and prevents researchers from drawing universal conclusions. The 12 WAR metaphors create an absolute limited set which makes it difficult to rely on our inferred results. The coding process faces two main restrictions which involve determining category boundaries through team member consensus to resolve disputes. The analysis needed to start from the end because the study lacked dedicated theme/function columns for identification. The research investigates metaphors as separate entities from the time-based sequences which run throughout the story structure. The research findings stem from a single author who wrote about Arabic exile literature which restricts the generalization of findings about this literary field. Future studies need to conduct comparative corpus analysis between Iraqi and Palestinian and Syrian and Lebanese exile narratives to determine if conceptual contagion appears as a genre-based pattern or an author-dependent technique.

7. Conclusion

The research examined how Alia Mamdouh uses war metaphors in *Al-Mahbubat* to establish a dominant mental framework which spreads into non-conflict zones through Conceptual Contagion. The research used mixed-methods to study 75 metaphorical expressions which showed WAR as the biggest source domain category (n=12, 16.00%) that used 75% of its war metaphors (9 out of 12) to create

new meanings in intimacy (EMBRACE IS SIEGE) and embodiment (BODY IS TERRITORY, FEMININITY IS WEAPON) and language (WORDS ARE WEAPONS) and time perception (AGING IS INVASION).

The 75% cross-domain extension rate functions as operational evidence for conceptual contagion because it shows how war metaphors move from their first context to different areas which include personal bonds and human bodies and spoken words and temporal measurements and the process of aging and typical mental operations. The attack operated across different domains because the system employed innovative metaphorical language which contained 98.65% distinct words to fulfill its literary goals. The statistical analysis showed that the three most popular categories received 38.67% of total attention but the remaining categories received their attention equally (Shannon Evenness J = 0.923).

The assessment of target domain vulnerability showed that embodiment domains represent the most vulnerable sections because they contain 41.67% of WAR metaphors while intimacy and language domains each have 25.00% and time/everyday cognition domain has 16.67%. The body serves as the fundamental basis which enables abstract thinking to occur so it becomes easily susceptible to infection. The body functions as occupied territory which leads all embodied phenomena to develop militarized structures.

The research establishes Conceptual Contagion as an analytical method which demonstrates how war serves as an organizing principle that transforms our understanding of non-war events. The model enables researchers to analyze contagion through the measurement of three specific variables which consist of source domain dominance at 16% and cross-domain extension speed at 75% and domain-to-domain inference transfer.

The research indicates that literary metaphor in Arabic exile fiction serves as cognitive testimony which demonstrates how prolonged violence transforms basic mental frameworks which determine how people understand intimacy and language and their sense of self. The research contains two major methodological weaknesses because it used a small number of participants and all data came from a single author. Research should perform comparative corpus analysis of Arabic conflict literature to determine when conceptual contagion emerges through particular genres and authors. The research needs to track how conceptual contagion develops across narrative progression to determine if its strength increases or decreases.

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