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Conceptual Blending in Visual Discourse: Cognitive Insights from Socio-Cultural Cartoons

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Abstract: The present study examines conceptual blending as a fundamental cognitive mechanism involved in the production and comprehension of socio-cultural press cartoons. It is based on the assumption that such visual texts employ complex cognitive processes to convey abstract concepts, humor, and social criticism. Drawing on the conceptual blending framework proposed by Fauconnier and Turner (2002), the study adopts a qualitative and frequency-based approach to analyze a corpus of 1,000 socio-cultural cartoons collected from the "Iran Cartoon" website. The primary aim is to identify and classify instances of conceptual blending in these cartoons. The analysis shows that conceptual blending is a highly prevalent cognitive strategy in this genre: 310 out of the 1,000 cartoons examined contain at least one instance of conceptual blending. The distribution of blending types reveals a clear pattern. Double-scope blends are the most frequent, with 210 cases, followed by single-scope blends with 100 cases, while mirror and simple blends are entirely absent. These findings suggest that socio-cultural cartoons predominantly rely on complex blending structures that integrate distinct conceptual domains or exploit internal metaphorical relations to achieve their communicative goals. The high frequency of double-scope and single-scope blends demonstrates their effectiveness in generating novel, insightful, and often humorous critiques of social phenomena. By offering a systematic analysis of a socio-cultural cartoon corpus a genre that has received comparatively less scholarly attention than political cartoons this study contributes to the existing literature and provides new insights into the cognitive processes underlying the communicative power of visual satire.

Keywords: cognitive semantics, conceptual blending, editorial cartoons, socio-cultural genre.

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1.Introduction

As a powerful tool in the media, cartoons play a vital role in expressing and conveying various political, social, economic, and cultural concepts beyond simple entertainment. They provide a place for criticism and interpretation in publications, magazines, news websites, and even virtual webs, and in this way, they guide the audience to a deeper understanding of current issues. By utilizing metaphor and conceptual blending as cognitive processes and communication-discursive tools, these works are able to present the most complex concepts in an understandable and effective format. Among them, metaphors are often of the visual type or a combination of visual and linguistic elements that allow cartoonists to portray abstract ideas in tangible and understandable ways. Despite the recognition of the communicative function of cartoons, the underlying cognitive mechanisms that enable their ability to persuade and critique have been less explored, especially in the sociocultural genre. Most previous research in this field has focused on political cartoons. This focus has created an important gap in our understanding of how cartoons that criticize cultural and social issues, such as family relationships, traditions, and social norms, function. Examining this genre can shed new light on conceptual blending and show how the theory functions as a tool for critiquing social discourses. Aiming to fill this gap, this research seeks to achieve the following objectives:

- Identify and analyze examples of conceptual blending in a selected corpus of sociocultural cartoons.
- Quantify the frequency of conceptual blending and their specific types.
- Interpreting the distribution of the types of blends to gain insight into the cognitive strategies used in this genre.

The present article consists of five parts. The present part, which is part one, contains an introduction and a review of previous research. In the second part of the article, we have discussed the theoretical foundations of the research. The third part is dedicated to examining the data of the article, which are press cartoons. In the fourth part, we present the analysis of the data of this research, and in the fifth part, the conclusions of the research will be discussed.

1-2. Literature review

This section reviews previous research on conceptual blending, with particular attention to cognitive-linguistic analyses of media discourse and press cartoons. Existing studies can be grouped into three main thematic strands.

The first strand consists of theoretical and methodological explorations of conceptual blending theory. Dancygier et al. (2009), in "What Can Blending Do for You?", provide a comprehensive account of the explanatory scope of conceptual blending within cognitive poetics. Similarly, Adiguzel (2024) clarifies the distinction between conceptual blending and conceptual metaphor theory, illustrating the creative potential of blending through Turkish examples. Razavian et al. (2024) further demonstrate that the structure and function of blends vary systematically across literary and scientific genres, emphasizing the role of genre in shaping blending configurations. These studies primarily elaborate on the theoretical foundations and cross-genre applications of conceptual blending.

The second strand includes research applying conceptual blending to verbal media discourse, particularly news headlines. Kia et al. (2021) examined 1,000 political news headlines from the "Ebtekar" newspaper, demonstrating the effectiveness of conceptual blending theory in interpreting compressed journalistic discourse. In a subsequent study, Kia et al. (2023) extended this approach to economic, political, and sports headlines, confirming the flexibility of blending theory across textual genres. These studies rely largely on qualitative analyses, even when large corpora are involved, and focus predominantly on verbal rather than visual discourse.

The third strand comprises cognitive analyses of political and advertising cartoons. Delibegovic Dzanic and Omazic (2011) explored the role of conceptual blending in political cartoons, particularly in explaining humor as a form of critique. Malek et al. (2021) investigated meaning construction in English political cartoons within the blending framework. In the Iranian context, Ansarian (2023) analyzed 24 political cartoons through conceptual metaphor and blending theories, while Ghaderinejad (2023) examined 21 advertising cartoons from a cognitive-linguistic perspective. Zibin and Altakhaineh (2023) analyzed 30 political

cartoons related to the "Deal of the Century," combining conceptual blending with multimodal metaphor theory.

Although these studies significantly contribute to understanding the cognitive mechanisms underlying cartoon discourse, they share three methodological characteristics:

(1) a primary focus on political or advertising genres;

(2) reliance on relatively small datasets; and

(3) predominantly qualitative approaches to blending analysis.

The present study builds upon this body of research while differing from it in several fundamental respects. First, it shifts the analytical focus from political and advertising cartoons to the socio-cultural genre, which has received comparatively less attention. Second, it examines a large-scale corpus of 1,000 cartoons, enabling a systematic frequency-based classification of blending network types. Third, it integrates quantitative distributional analysis with in-depth qualitative cognitive interpretation, thereby offering a more comprehensive methodological framework for investigating conceptual blending in visual discourse. By addressing these gaps, the study expands the empirical scope of blending research and provides statistically grounded evidence for the cognitive strategies employed in socio-cultural press cartoons.

2. Theoretical foundations of the research

2.1. Conceptual Blending Theory

Conceptual Blending Theory, proposed by Fauconnier and Turner (2002), is a framework within cognitive linguistics that explains how emergent meanings are constructed in the human mind. In this regard, the theory bears a close resemblance to Mental Space Theory, both in terms of its underlying structure and its analytical application. Indeed, Fauconnier and Turner conceptualize blending as a developed and expanded version of mental space theory, introducing additional concepts and analytical complexity into earlier approaches in cognitive semantics. The central premise of conceptual blending theory is that meaning construction results in structures that go beyond the mere combination of input elements. Semantic information derived from different mental inputs interacts dynamically in the human mind, giving rise to new meanings and conceptual structures that are not explicitly present in the original inputs (Evans & Green, 2006, p. 400).

To illustrate the operation of this theory more clearly, the press cartoon presented in Figure 1 is examined as an example of conceptual blending in visual discourse. In this image, two input

Figure 1. About the Declaration of Human Rights
www.radiozamane.com

spaces are activated: "Government Institution" and "Security Check." In the mental space of the "Government Institution", state authorities are represented as monitoring and regulating the private sphere of individuals. In contrast, the mental space of the "Security Check" involves security officers whose institutional role is to protect individuals, property, and public spaces and to maintain order. Within this space, the presence of security personnel is generally perceived as legitimate and necessary for ensuring public safety. The generic space is formed on the basis of abstract and shared elements common to both inputs. These include the "agent" (rulers and security forces), the "affected entities" (members of society, residents, or visitors), the "goal" (ensuring security and protecting rights), the "means" (legal frameworks such as human rights declarations and technical devices such as security gates), the "process" (the implementation of regulations and the inspection of individuals and their belongings), and the "setting" (society and public spaces). The generic space thus emerges through the recognition of structural similarities between the two input domains. Once these shared structures are identified, the viewer establishes cross-space mappings between corresponding elements of the two input spaces. In this cartoon, rulers are mapped onto physical security officers, the protection of human rights is mapped onto the provision of security, and human rights regulations are mapped onto security-check procedures. These correspondences give rise to a set

of relationships known as vital relations (Fauconnier & Turner, 2002, pp. 90–102), which play a central role in the compression of meaning within the blended space. Among the activated vital relations in this example are "role–value", "cause–effect", "representation", and "analogy". Following this compression, selected elements from each input space are projected into the blended space. In this cartoon, the elements of "human rights" and "inspection at a security gate" are selectively integrated. As a result, an emergent meaning arises that is absent from either input space in isolation. Specifically, the blend gives rise to the negative concept of the "inspection of ideas and thoughts". Importantly, the cartoon does not portray the security gate itself as an inherently illegitimate or ineffective tool for maintaining public order. Rather, the critical force of the blend stems from the "mode of application" of security measures to domains that should remain protected under fundamental human rights, such as freedom of thought and belief. While security gates are designed to inspect personal belongings, not mental or ideological content, the cartoonist subverts this expectation by placing thought bubbles inside the gate and depicting them as objects of inspection by a security officer.

Beyond composition, the process of completion plays a crucial role in meaning construction. This process draws on shared background knowledge, particularly the conventional schema of how security checks operate in everyday life. When this schema is integrated with the mental space of "Government Institution", it enables the viewer to infer a broader pattern of state behavior toward citizens. Finally, through the process of expansion, the blend develops into a wider critique, leading the viewer to the emergent concept of "the inspection of beliefs and thoughts and, consequently, the violation of human rights". The blending network of this cartoon is illustrated in Figure 2.

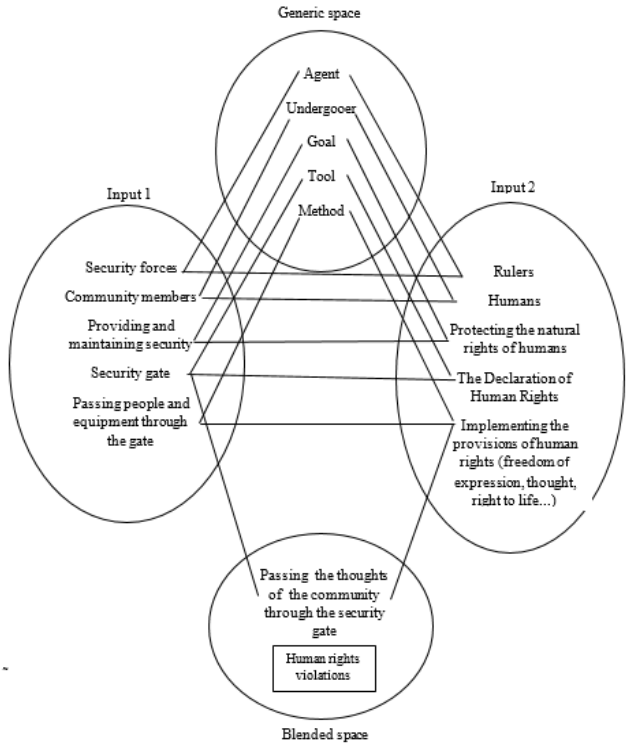

Figure 2. Blending Network of the Cartoon "On the Declaration of Human Rights"

2-2. Types of Conceptual Blending

Conceptual blending networks can be classified into several major types based on the way input spaces are structured and how they are mapped onto the blended space (Fauconnier & Turner, 2003, p. 60). According to the standard typology proposed in the literature, four main types of blending networks are distinguished: simple networks, mirror networks, single-scope networks, and double-scope networks. Fauconnier and Turner (2002, pp. 120–135) describe these network types in detail and illustrate them with various examples. In the present study, however, these blending types are introduced and explained through examples drawn from press cartoons.

The first type of conceptual blending network is the simple network. In this type of blending, two input spaces are involved: one

provides a role structure, while the other supplies the value that fills that role. The organizing frame in such networks remains relatively simple because the role–value relationship is already conventionalized in the audience's knowledge. As an example, consider the caricature of Cristiano Ronaldo. This image activates two input spaces. The first input contains the role of a professional football player, which includes elements such as athletic performance, competition, football skills, and sporting fame.

Figure 3. professional football player Cristiano Ronaldo
https://onlineartgallery.ir

The second input contains the specific individual Cristiano Ronaldo, who serves as the value that instantiates this role. The blended space emerges through the direct integration of these two inputs, allowing the viewer to interpret Ronaldo as a particular realization of the category "professional football player." Figure 4 depicts the conceptual blending network of the cartoon shown in Figure 3.

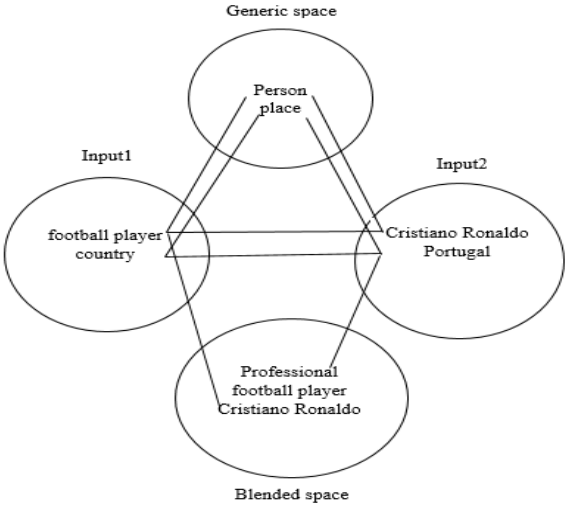

Figure 4. Simple Blending Network

The second type is the mirror network. In this type of conceptual integration network, both input spaces share the same organizing frame and conceptual structure. Because the inputs are structured in a parallel manner, the blended space is also organized by the same frame. Meaning emerges not from a clash between different conceptual domains, but from the comparison, alignment, and projection of corresponding elements across similar mental spaces (Fauconnier & Turner, 2002: 122–123).

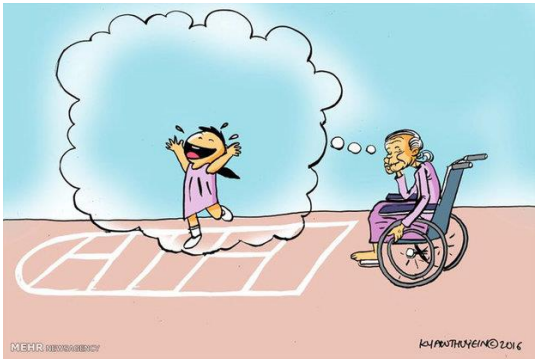

Figure5. The Reflection of Childhood in Old Age
https://ku.mehrnews.com

Editorial cartoon No 5 provides an example of a mirror network. The image depicts an elderly woman sitting in a wheelchair while looking at a hopscotch grid. Above her head appears a thought bubble in which she imagines herself as a young girl happily playing hopscotch. The cartoon juxtaposes two stages of the same individual's life and invites the viewer to compare them within a shared experiential framework. The first input space represents childhood. It includes a young girl, physical vitality, mobility, playfulness, freedom of movement, and the enjoyment associated with childhood games. The second input space represents old age. It contains the same individual in a later stage of life, characterized by physical decline, limited mobility, dependence on a wheelchair, and the passage of time. Although the participants differ in age, both input spaces are organized by the same underlying frame: the life experience of a single person engaged with the same environment and activity. In the generic space, both inputs share common elements such as a human being, personal identity, physical existence, movement, and interaction with the surrounding world. These shared structures allow the viewer to establish correspondences between the child and the elderly woman as different manifestations of the same person across time. Within the blended space, the elderly woman and the child are mentally integrated into a single conceptual scene. The thought bubble functions as a bridge connecting present reality with personal memory. Several vital relations contribute to the blend, most notably Identity, since both figures represent the same person; Time, which links two distant stages of life; and Change, which highlights the transformation from physical vitality to physical limitation. Through composition, the viewer recognizes that the joyful child and the elderly woman are the same individual at different stages of life. Through completion, background knowledge concerning aging, memory, and nostalgia is recruited. Through elaboration, the viewer imagines the emotional contrast between childhood freedom and the physical limitations of old age. The emergent meaning produced by this blend can be expressed as "the continuity of personal identity across the life cycle" or "nostalgic longing for lost youth." The cartoon highlights the contrast between the vitality of childhood and the vulnerability of old age while simultaneously emphasizing that both belong to the same human life trajectory. Its emotional impact

stems from the viewer's recognition that aging transforms the body but does not erase personal identity or cherished memories.

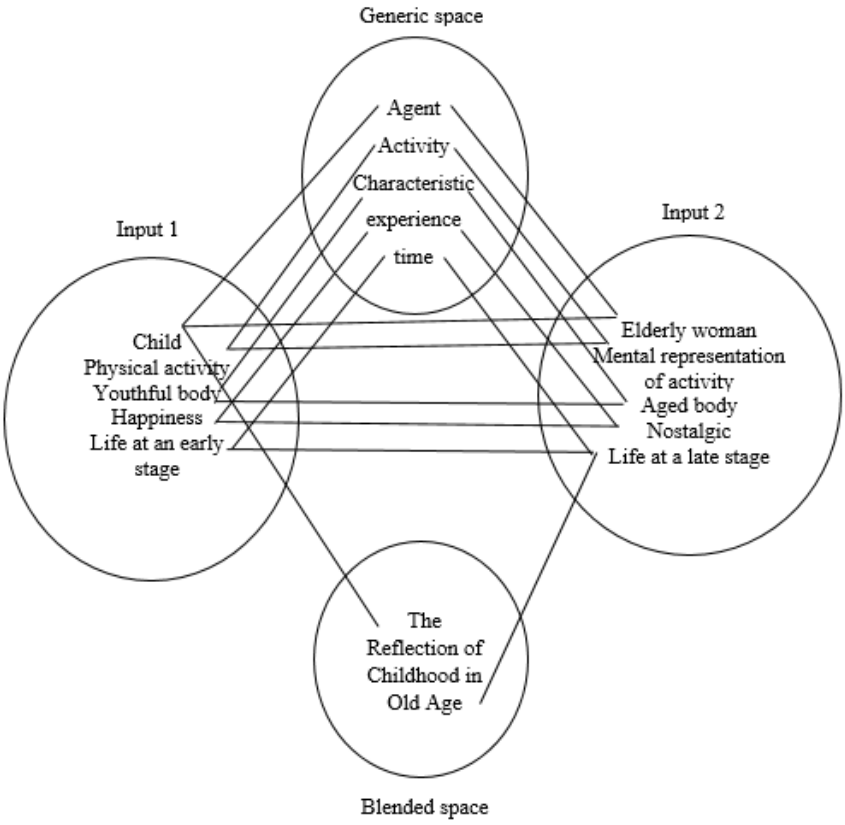

Figure 6. Mirror Blending Network

Since both input spaces are structured by the same organizing frame, the life stages of one individual and neither input imposes a different conceptual structure on the other, this cartoon can be classified as a mirror network. The conceptual integration network corresponding to this cartoon is illustrated in Figure 6.

The third type is the single-scope network. In this type of blending, each input space possesses a different semantic frame and conceptual structure; however, only one of the inputs provides the organizing frame of the blended space. In other words, although both inputs contribute to the formation of the blend, the organizing structure is projected from only one of the domains into the blended space (Fauconnier & Turner, 2002: 122–123). This type of blending is commonly found in direct and relatively simple metaphors, where one domain is used to understand and structure another.

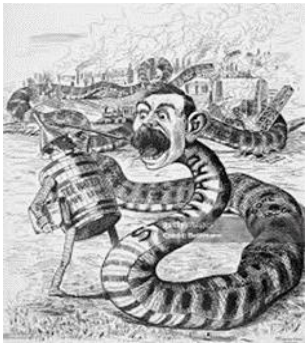

Figure 7. Oil Pipes
www.gettyimages.com

Press cartoon No. 7 illustrates an example of a single-scope blend. In this image, John D. Rockefeller is represented as a gigantic snake whose body extends underground in the form of oil pipelines. By combining two distinct mental spaces, the cartoon seeks to portray the monopolistic nature of the Standard Oil Company in a critical and cautionary manner. The first input space is that of a snake, a dangerous and stealthy creature associated with characteristics such as crawling movement, attack, constriction, coiling around its prey, and the ability to evoke fear. The second input space concerns Standard Oil and Rockefeller's business activities, which are characterized by concepts such as economic monopoly, control of oil pipelines, secret agreements, capitalist power, and market domination. In this network, the generic space is structured around relations such as control, domination, movement along a path, and the exercise of power. However, the blended space is organized exclusively by the frame of the first input, namely the

snake. As a result, the characteristics of the snake are projected onto Rockefeller's business activities, and the oil company is conceptualized as a dangerous and creeping creature. Mappings between the two input spaces are systematically established. For instance, the characteristic of crawling is mapped onto the gradual expansion of oil pipelines; stealth corresponds to the secretive and monopolistic practices of the Standard Oil Company; and danger and attack are associated with economic domination and the harmful consequences of capitalist monopoly. In this image, the snake becomes a symbol of threat and control a threat that has wrapped itself around industry and the economy. In this example, meaning is generated through the one-way projection of the snake frame onto the domain of business. In other words, the viewer understands Rockefeller and his oil company through the characteristics of the snake, rather than through an equal integration of both domains into

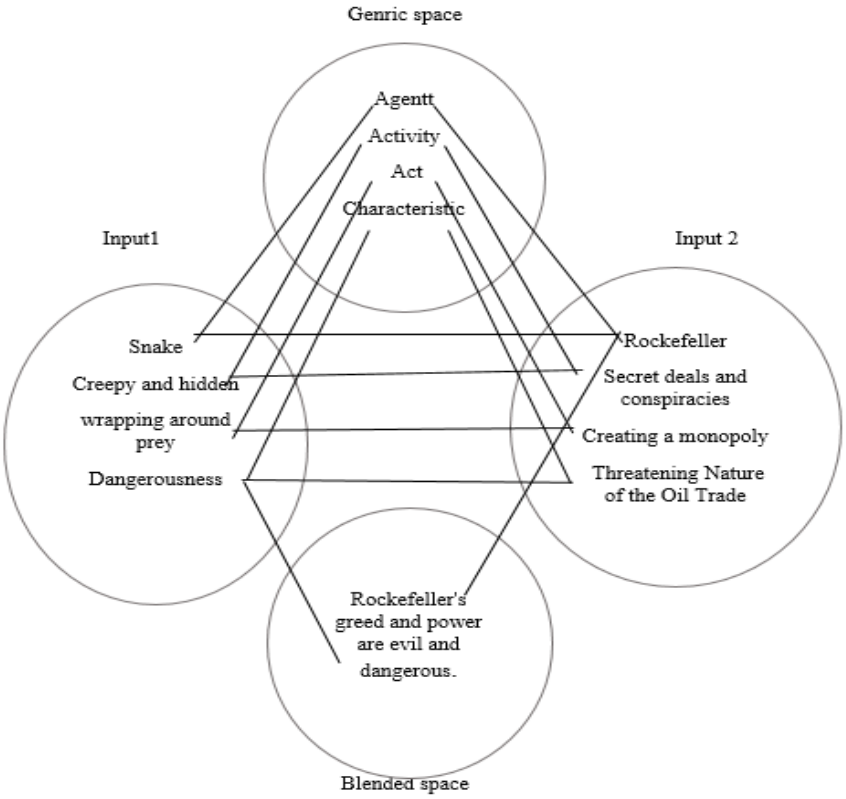

Figure 8. Single-scope Blending Network

a new conceptual structure. Therefore, this cartoon can be classified

as a single-scope network, since only the organizing frame of the first input plays the primary role in structuring the blended space. The conceptual blending network corresponding to Figure 7 is presented in Figure 8.

Through a compact and powerful visual metaphor, this cartoon represents complex political and economic issues in a comprehensible and persuasive manner. It also demonstrates how editorial cartoons can employ cognitive mechanisms to make abstract concepts such as economic monopoly and capitalist corruption accessible and understandable through concrete and experiential imagery (Fauconnier & Turner, 2002: 123; Ziaei, 2007: 45).

Finally, double-scope networks involve blends in which each input space possesses a distinct semantic frame and conceptual organization, and both inputs play an essential role in the construction of the final meaning. Unlike single-scope networks, in which only one input provides the organizing structure, in double-scope networks both mental spaces actively contribute to the formation of the blended space, and the emergent meaning results from their simultaneous interaction (Fauconnier & Turner, 2002: 126–131). Press cartoon No. 9 illustrates an example of a double-scope blend.

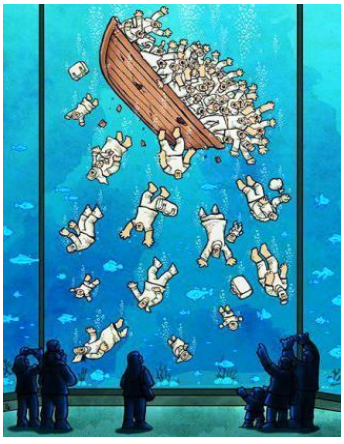

Figure 9. Refugee Boat Tragedy
www.art.irancartoon.ir

By combining two entirely different mental spaces, the cartoon creates a powerful and critical meaning. At first glance, the viewer

encounters a scene depicting refugees drowning; however, this event is not represented in the sea but rather inside an aquarium or exhibition space. This unexpected spatial displacement produces a moment of cognitive surprise and encourages the viewer to reconsider the meaning of the image .The first input space concerns "illegal migration and the drowning of refugees." This space contains elements such as an overcrowded and fragile boat, migrants, a sea route, the risk of drowning, death, human tragedy, and emotions such as fear, helplessness, grief, and injustice. In contrast, the second input space relates to an aquarium, museum, or art gallery, characterized by features such as public display, passive spectators, a calm and controlled environment, protective glass, and the treatment of objects or phenomena as sources of entertainment and observation .In this cartoon, the two mental spaces are integrated into a blended space. During the composition process, the real event of refugees drowning is represented as an exhibit displayed within an aquarium. During completion, the viewer's background knowledge becomes activated, linking aquariums and galleries with concepts such as observation, safe distance, entertainment, non-intervention, and visual consumption. Finally, during elaboration, the viewer develops these relations and arrives at a meaning that extends beyond the literal image. The emergent meaning of this blend is the transformation of the human tragedy of migration into a spectacle for observation. Through this conceptual integration, the cartoon criticizes the indifference of modern media-oriented society toward human suffering. The spectators standing behind the glass do not respond emotionally or practically; they merely observe people drowning, as if they were looking at an artwork or an entertaining display rather than a real humanitarian crisis. Consequently, emotional detachment and the normalization of human suffering become the central critical message of the cartoon. Neither input space alone is capable of generating this meaning. Rather, the message emerges through the integration of the two distinct conceptual structures of "human tragedy" and "museum display." Therefore, this cartoon can be classified as a clear example of a double-scope network. Fauconnier and Turner regard double-scope blends as the most creative type of conceptual integration because they combine two independent conceptual structures and produce a novel and unpredictable conceptual

organization (Fauconnier & Turner, 2002: 131; Fauconnier & Turner, 2003: 5). The conceptual blending network of Cartoon No. 9 is illustrated in Figure 10.

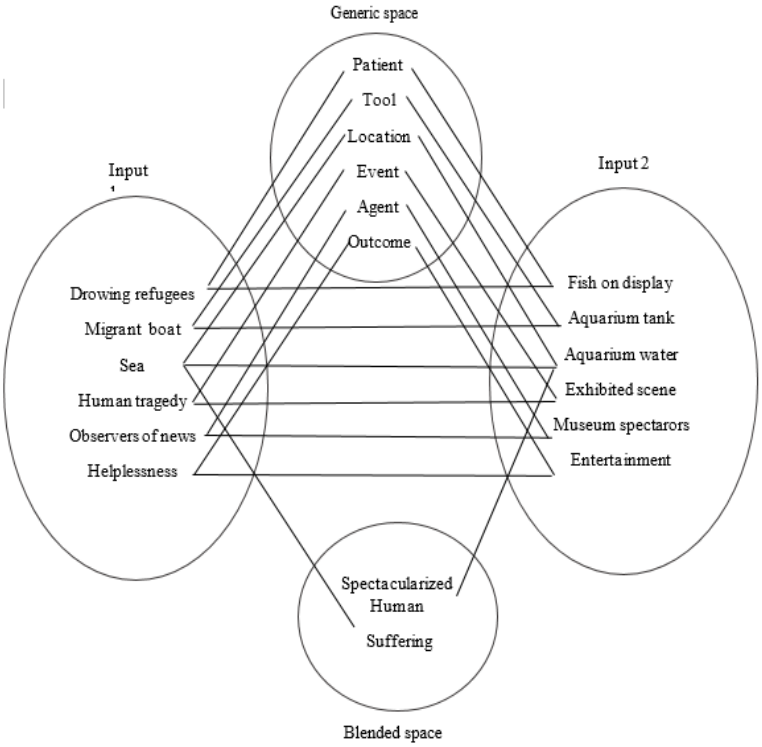

Figure 10. Double-scope Blending Network

Based on the foregoing discussion, it can be argued that the interpretation of form in cartoons depends on the acceptance of a particular arrangement of visual elements an arrangement that moves viewers beyond the literal meaning of the image and guides them toward metaphorical, critical, and social interpretations. In fact, by employing defamiliarization and the displacement of elements across mental spaces, editorial cartoons encourage viewers to establish conceptual connections between what is visually presented and the deeper meanings embedded within the image.It is precisely this process that makes editorial cartoons an effective medium for communicating social and political criticism (Ziaei, 2007: 15–18).

3. Research method

In terms of methodology, the current research has a mixed approach and uses the combination of descriptive frequency analysis methods and cognitive qualitative analysis. This approach allows the research to identify the general patterns of conceptual blending in press cartoons, and to deeply analyze the cognitive mechanisms of meaning and humor production. The body of the research includes Iranian press cartoons in the socio-cultural genre, which were randomly selected from among the cartoons published in different genres on the "Iran Cartoon" website from 2016 to 2024. This stage is done with the aim of obtaining a general and unbiased picture of the state of conceptual blending in the press cartoon genre. The review of 1000 press cartoons in this research has been done with the aim of achieving corpus adequacy and identifying stable patterns of conceptual blending. Since conceptual blending is a phenomenon with high diversity and dependent on the discourse context, the use of a wide corpus provides the possibility of distinguishing between dominant patterns and exceptional cases. This amount of data also provides the possibility of combining frequency-based analysis with cognitive-qualitative analysis and avoids relying on case or limited interpretations. As a result, the present corpus provides a valid basis for the analysis of blending structures in the socio-cultural genre. This study adopts a distinction common in cartoon scholarship between institutional political critique and broader social commentary (Press, 1981; Simpson, 2003; El Refaie, 2009), defining socio-cultural cartoons as those centered on everyday social and cultural concerns rather than formal political actors. In this research, socio-cultural press cartoons refer to works whose main axis is representation, criticism or interpretation of lifestyles, attitudes, values, daily concerns and cultural developments of the society, without directly referring to the official actors of political power, government institutions, government policies or political competitions. On the other hand, political cartoons directly deal with the actors, structures, or official decisions of power (such as the government, parties, politicians, elections, international relations and government policies) and their criticism is directed at the institutional level and official decision-making. Accordingly, the main difference between these two genres

is in the level of their discourse reference. In this research, the cartoon should be focused in the socio-cultural genre (such as environment, lifestyle, technology, artificial intelligence, books and reading, virtual space, social relations and daily concerns) and should not have direct reference to activists, institutions or official political policies.

In the first step, all 1000 cartoons were examined from the point of view of the presence or absence of conceptual blending. The results of this preliminary study showed that 310 cartoons have a conceptual blending structure, while other examples were either based on simple visual representations or only used direct visual metaphors. In the second step, 310 cartoons with conceptual blending were categorized based on the type of blending network. The results of this classification showed that:

- 100 cartoons have single-scope blending (simplex / single-scope);
- 210 cartoons had double-scope blending;
- In the examined body, no significant example of mirror or simple blending was observed.

This phase of the research has a quantitative-descriptive nature (The quantitative dimension of the study is descriptive and frequency-based, aiming to identify distributional patterns rather than to test statistical significance) and its purpose is to present a general picture of the distribution of types of conceptual blending in Iranian press cartoons, not to statistically generalize the results to the entire community of cartoons.

In the third step, among 310 cartoons with conceptual blending, 3 economic cartoons were purposefully selected. The selection criteria of these samples included the clarity of the blending structure, the prominence of visual elements, and direct connection with socio-cultural discourse (such as virtual space, books and reading, artificial intelligence, environment, air pollution). These samples are the basis of deep qualitative analysis and are used as the main data to investigate the cognitive mechanisms of conceptual blending in the socio-cultural genre. Qualitative data analysis was conducted based on the conceptual blending theory of Fauconnier and Turner (2002). In the analysis of each cartoon, entrance spaces, public space, inter-space mappings, vital relationships and triple processes of composition, completion and expansion have been

identified and explained. The focus of this section is on the cognitive interpretation of meaning and how to create humor and social criticism through conceptual blending. Based on this, the current research is neither purely qualitative nor completely quantitative, but by using frequency-based analysis in the stage of identifying and classifying data and qualitative analysis in the stage of cognitive interpretation, it presents a comprehensive picture of the role of conceptual blending in the socio-cultural press cartoons of Iran.

4. Discussion

Data analysis is based on the four-space model of Fauconnier and Turner (2002). In examining each cartoon, first the input spaces are identified, and then the general space, interspatial mappings and vital relationships between elements are extracted. In the following, the mixed space is examined as a place for the formation of new meaning and the triple processes of composition, completion and elaboration are explained in it. This analytical approach makes it possible to show how socio-cultural press cartoons produce meanings through the selective projection of conceptual elements from different fields, which are not attainable in each of the input spaces alone, but only as a result of conceptual blending.

Among the socio-cultural cartoons identified in the distributional phase of the research, three press cartoons were selected as representative samples for in-depth qualitative analysis. The selection criteria of these samples included the transparency of the blending structure, the prominence of image elements, and the image's ability to critically represent the socio-cultural issues of the day. These three cartoons have been chosen in such a way that they represent the dominant types of conceptual blending in the socio-cultural genre and provide the possibility of comparing the cognitive mechanisms of meaning production. For each sample, a four-space grid is drawn to present the blending structure in a systematic and visible manner.

In Figure 11, the cartoon belongs to the socio-cultural genre and adopts a critical stance toward the transformation of human cognition in the age of artificial intelligence. From the perspective of Fauconnier and Turner's (2002) Conceptual Blending Theory, the image exemplifies a double-scope blend in which two independent conceptual spaces"the human brain" and "a tea bag" interact to produce a novel emergent meaning. In the first input

space, the human brain represents cognition, consciousness, and complex learning processes that are traditionally understood as gradual, effortful, and experience-based. In the second input space, the tea bag symbolizes speed, convenience, standardization, and reduced quality, drawing on everyday cultural knowledge associated with instant consumption.

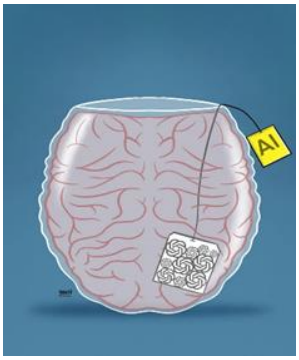

Figure 11. Artificial Intelligence
www.art.irancartoon.ir

The generic space connects these inputs through a shared schematic structure of "processing and production": in one case, raw tea leaves are transformed into a consumable drink; in the other, data and information are transformed into thought. This shared structure enables the cross-space mappings that support the blend. In the blended space, the brain is visually represented as a transparent cup containing a tea bag, with an "AI" label attached. This configuration is cognitively striking because it compresses a traditionally deep, organic, and temporally extended mental process into a rapid, mechanical, and consumable action. The blend thus reconfigures thinking itself as an act of instant brewing.

Several vital relations are compressed in this blend. Temporal compression equates long-term cognitive development with instantaneous preparation; quality compression contrasts depth and

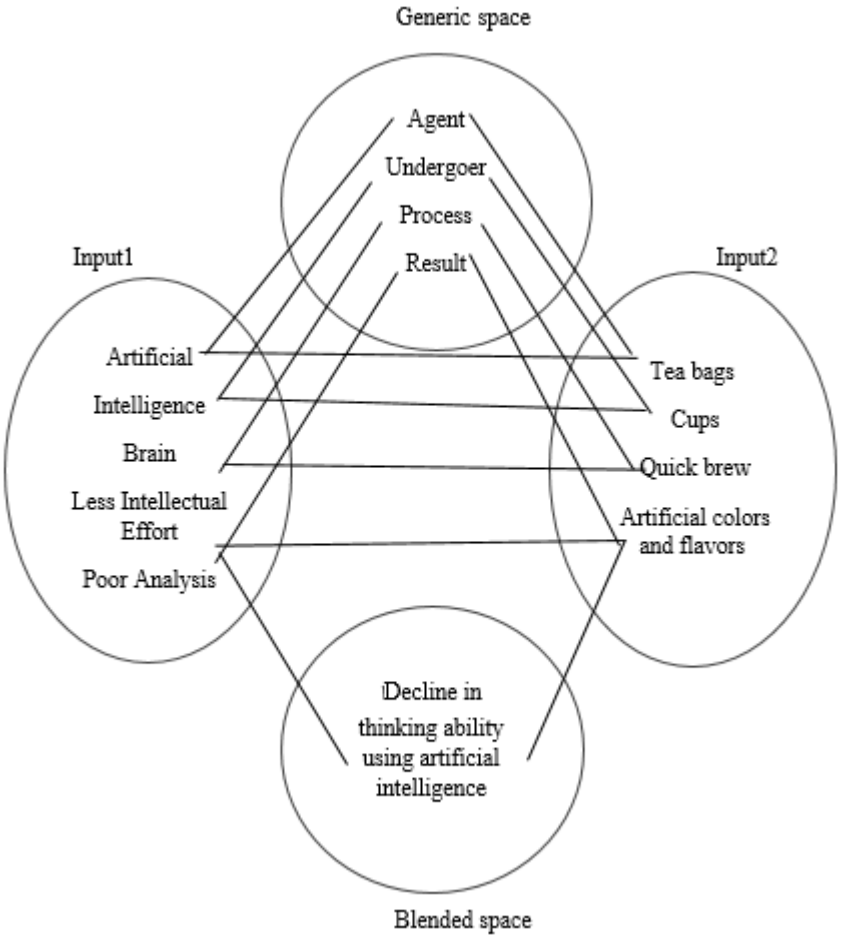

Figure 12. "Artificial Intelligence" Double-scope Blending Network

originality with convenience and superficiality; and causal compression frames technological intervention as a force that reshapes the nature of human cognition. These compressions intensify the critical force of the image by transforming efficiency into a source of epistemic loss. The blending process unfolds across the standard stages. In the composition stage, visual elements from both domains are integrated into a single coherent image. In the com pletion stage, viewers rely on their cultural knowledge of instant tea and artificial intelligence to infer a broader critique of contemporary

knowledge practices. In the elaboration stage, this inference is extended into a reflection on how technological mediation may prioritize speed over depth and availability over understanding. The emergent meaning of the blend is that thinking in the age of artificial intelligence is conceptualized as a "cognitive tea bag": fast, ready-made, and efficient, yet shallow and rootless. This meaning does not exist in either input space independently, but arises from their interaction in the blended space. Figure 12 illustrates the conceptual blending network corresponding to this cartoon.

In figure 13, a press cartoon can be seen in which the image combination of the Wi-Fi symbol with the wall structure has created a pattern of double-scope blending. In this blending, the elements of the source domain (wall and physical enclosure) and the destination

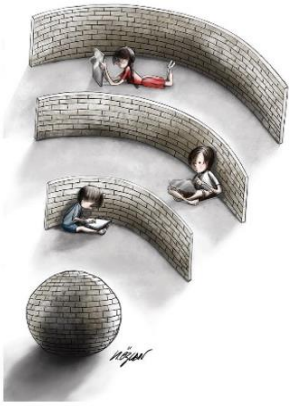

Figure 13. Human communication in the digital age
www.art.irancartoon.ir

domain (signal and virtual connection) have been integrated into a unified space that metaphorically shows the contemporary human condition; A person who is connected on the outside and isolated on the inside. The walls, arranged in the form of Wi-Fi signal lines, represent the paradox that technology, instead of opening borders, has become structures of separation and isolation. As illustrated in blending network 14, there are two input spaces: The first entry belongs to the field of communication technology, where the Wi-Fi symbol indicates access, freedom, and connection between people. In this space, the concept of free flow of information and global communication prevails. The second entry is taken from the realm

of human confinement, where stone walls symbolize barriers, isolation, and social distance.

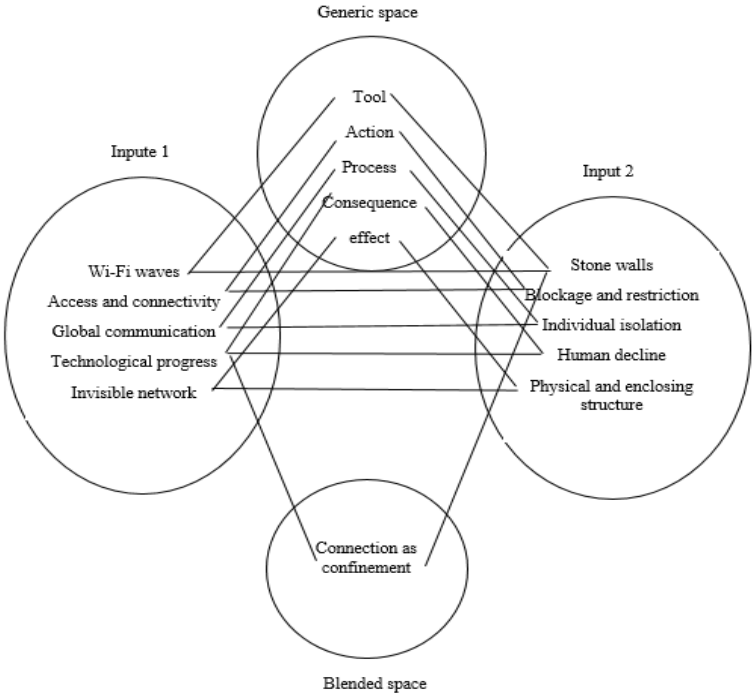

Figure 14. "Connection as Confinement" Double-scope Blending Network

In this space, people are deprived of freedom and trapped in their mental and physical cages. In the mixed space, the curved lines of the Wi-Fi signal are replaced by stone walls, creating a paradoxical contradiction: the symbol of freedom becomes a sign of isolation. Critical relations between the inputs are structured through conceptual oppositions such as connectivity versus isolation, global communication versus individual confinement, and technological advancement versus human decline. This blend is particularly effective because it exploits the viewer's strong pre-existing association between the Wi-Fi symbol and positive notions of openness, accessibility, and liberation. By compressing these expectations with the opposing schema of imprisonment, the cartoon generates a sharp cognitive dissonance that forces a reassessment of the assumed benefits of connectivity. In the composition stage, the viewer's mind integrates the familiar visual design of the Wi-Fi signal with the heavy, rigid elements of stone

walls, producing a new image that expresses “imprisonment at the heart of connection.” The completion stage draws on shared cultural knowledge about the Internet and social media: although humans appear more connected than ever, they are increasingly confined within psychological, emotional, and social barriers. This compression of spatial openness into physical enclosure intensifies the emotional impact of the blend, evoking feelings of claustrophobia and entrapment rather than mere irony or satire. The expansion stage extends this metaphor further: the stronger and more pervasive the signal becomes, the greater the internal isolation it produces. This blending is classified as a double-scope network, since both input domains retain their organizing structures in the blended space, and the emergent meaning arises from the unresolved tension between them. The cartoon thus demonstrates how communication technology, while promising connection, simultaneously reproduces new forms of isolation and loneliness.

A conceptual blending is formed to criticize extreme industrialization and its environmental consequences in cartoon number 15.

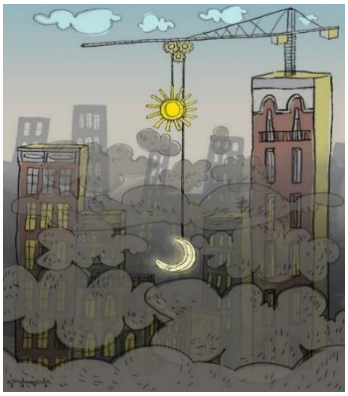

Figure 15. Nature and industry
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The image depicts a crane among tall buildings and polluted air, lifting the sun and the moon like artificial objects with its hook. This blend draws on two main input spaces. The first input is the natural world, including cosmic elements such as the sun, the moon, the sky, and clouds, which conventionally symbolize natural order, beauty, and the cyclical continuity of life. The second input is the industrial world, represented by cranes, high-rise buildings, and

factory smoke, symbolizing technological dominance and human intervention in nature. In the composition stage, elements from these two domains are selectively projected into a single visual scene in which the sun and moon are displaced from their natural positions and subjected to industrial control. This visual compression is cognitively striking because it collapses a vast, untouchable cosmic scale into the limited and mechanical scale of human engineering. In the completion stage, viewers draw on their background knowledge of environmental degradation, air pollution, and ecological crises to interpret the image as a metaphor for humanity's attempt to regulate and redesign natural systems. The familiar expectation that celestial bodies operate beyond human reach is violated, creating a strong sense of conceptual and moral tension. In the elaboration stage, this tension is extended into a broader critique: by seeking total control over nature, humanity not only disrupts ecological balance but also undermines the very conditions that sustain life. The blend thus transforms industrial progress into a form of existential loss rather than advancement. This is a double-scope blend, as both input spaces retain their organizing structures while interacting to generate a new, emergent meaning. Key vital relations include causality (industrial activity leading to environmental degradation), role compression (the crane replacing natural or divine forces), and time–space compression (celestial cycles being relocated into an industrial setting). Ultimately, the cartoon functions as a powerful rhetorical critique of modernity, evoking feelings of unease and alienation. By visually staging the engineering of the cosmos, the blend intensifies the viewer's awareness of the ethical limits of technological domination and frames industrial intervention not as progress, but as a profound rupture with the ecological and spiritual order of life. Figure 16 depicts the conceptual blending network of the cartoon shown in Figure 15.

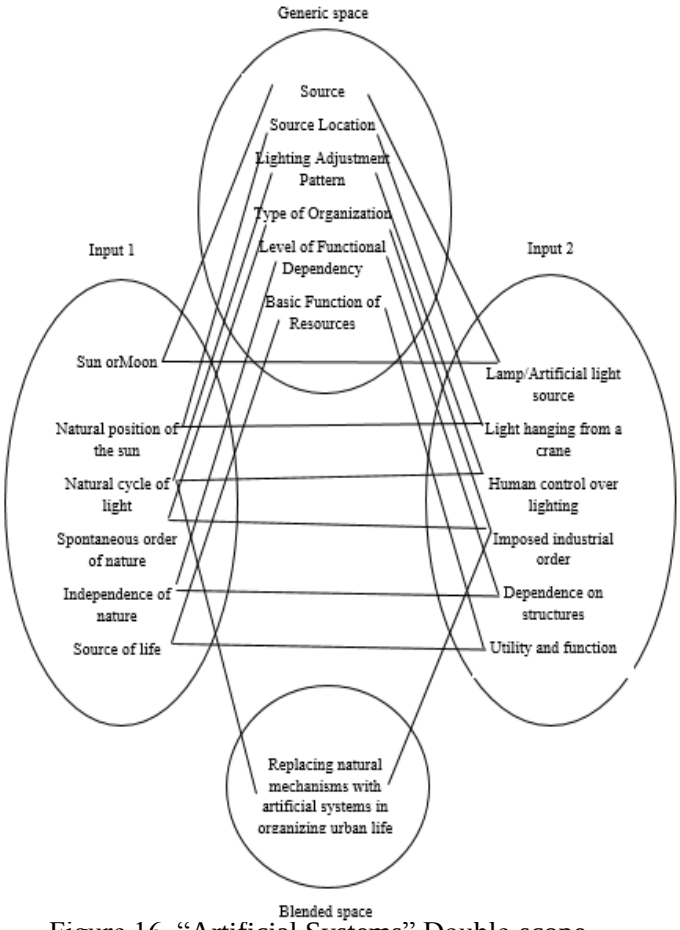

Figure 16. "Artificial Systems" Double-scope Blending Network

5.Analysis

The corpus of the present research consists of 1,000 socio-cultural press cartoons selected from the website "Iran Cartoon". This website is widely recognized as a reliable and representative source of contemporary Iranian visual discourse, and its cartoons are extensively circulated in cyberspace. Focusing on the socio-cultural genre makes it possible to examine phenomena such as the criticism of behaviors, values, and social norms, and distinguishes this study from previous research, which has predominantly concentrated on political cartoons.

The data analysis was conducted in several stages. First, each of the 1,000 cartoons was carefully examined to determine

whether it contained instances of conceptual blending. Subsequently, each identified case was classified according to its type, simple, mirror, single-scope, or double-scope, based on the theoretical definitions presented in the theoretical framework section. This analytical procedure was carried out with the aim of quantifying the findings and providing a detailed statistical account of the distribution of blending types.

Out of the 1,000 press cartoons analyzed in this study, 310 contained at least one instance of conceptual blending. These findings indicate a high frequency of conceptual blending in the socio-cultural genre and confirm the hypothesis that conceptual blending constitutes a major cognitive mechanism in the production and interpretation of meaning in these cartoons. This substantial proportion highlights the central role of cognitive processes in both the creation and comprehension of socio-cultural visual discourse. As can be seen in Table 17, the frequency data reveal the following distribution of blending types.

Table 17. Distribution of Conceptual Blending Types in the Cartoon Corpus

Types of blending	mirror	simple	Single scope	Double scope	Total
Number of samples	0	0	100	210	310
Percentage of total blends Item 310	0%	0%	32.3%	67.7%	100%

The observed frequency pattern provides valuable insight into the cognitive strategies employed by cartoonists and the mental expectations of the audience. Double-scope blending, with 210 instances, was the most frequent type identified in the corpus. Several factors may account for this predominance. First, press cartoons, as a form of textual–visual media, move beyond a purely documentary function and provide cartoonists with significant creative freedom. Given that press cartoons must convey a clear and impactful message within a very limited time frame, conceptual blending due to its synthetic nature and expressive efficiency offers

an effective means of meaning construction through the integration of two distinct conceptual domains. Moreover, double-scope blending possesses a high degree of rhetorical and expressive power. By creating cognitive dissonance or semantic conflict between reality and visual representation, this type of blending captures the audience's attention and delivers critical messages in a concise, striking, and often humorous manner. This expressive capacity turns press cartoons into a powerful medium for social and cultural critique. In particular, the pictorial nature of double-scope blending allows abstract social problems to be represented through tangible and familiar objects or scenarios, thereby enhancing their persuasive impact. These features help explain the widespread use of double-scope blending in socio-cultural press cartoons.

Single-scope blending, with 100 instances, ranked second in terms of frequency. Its relatively high occurrence can be attributed to the fact that single-scope blending often relies on familiar and conventional metaphorical structures that are cognitively accessible to a broad audience. This type of blending strikes a balance between conceptual complexity and ease of comprehension, making it an efficient strategy for conveying critical messages that are both intelligible and conceptually rich. By contrast, the very low frequency or absence of simple blending represents a significant finding. It can be argued, with some flexibility, that simple blends closely resemble caricatures rather than cartoons. Caricatures typically focus on exaggerating the facial features and physical traits of individuals, most often celebrities or political figures. In contrast, socio-cultural cartoons primarily aim to critique ideas, concepts, or social situations rather than individuals. Consequently, simple blending does not provide sufficient conceptual depth to convey the layered social criticism that characterizes the socio-cultural genre. A cartoon may include caricatured elements; however, the primary focus of caricature is typically a specific individual occupying a particular position or role. As illustrated in Figure 3, the caricature of Cristiano Ronaldo exaggerates distinctive facial and bodily features while preserving the viewer's ability to identify the individual. This emphasis on a specific person occupying a particular role closely corresponds to the definition of simple blending discussed in the section on blending types. In light of these definitions, the absence of simple blending in the present study

becomes clear for two main reasons. First, the primary object of analysis in this research is the press cartoon rather than the caricature. Second, caricatures most commonly appear in the political genre and focus on recognizable political figures, which falls outside the scope of the socio-cultural genre examined in this study. Consequently, such representations are often insufficient for conveying the multilayered forms of social criticism that characterize socio-cultural cartoons. Similarly, mirror blends, which rely heavily on structural similarity between input spaces, may lack the level of creative tension found in double-scope blends a tension that is essential for producing powerful and often devastating humor.

The predominance of double-scope and single-scope blending suggests that effective critical communication in the socio-cultural domain requires a careful balance between conceptual innovation and cognitive accessibility. Double-scope blends foreground the message by generating a conceptual and humorous shock, while single-scope blends facilitate comprehension by drawing on familiar metaphorical structures. Together, these two blending strategies enable cartoons to deliver messages that are simultaneously striking and easily interpretable for the target audience.

From a frequency-based perspective, the analysis of thematic distribution and its reflection in conceptual blending reveals that, among socio-cultural topics, "Environment" has the highest frequency in cartoons employing conceptual blending, followed by "Virtual Space" and "Artificial Intelligence." This distribution reflects the dominant orientations of contemporary socio-cultural discourse in press cartoons. The prominence of environmental issues can be attributed to their direct connection with concrete and collective human experiences. Problems such as pollution, environmental degradation, and threats to life have tangible and visible consequences, making them particularly amenable to symbolic representation and visual scenarization. This characteristic facilitates the formation of effective conceptual blends and positions environmental issues as a productive domain for expressing socio-cultural concerns and critiques.

In the subsequent ranks, the high frequency of cartoons addressing virtual space and artificial intelligence reflects the rapid

expansion of digital technologies and their profound influence on communication, identity, and social life. Due to their emergent nature and complex often ambiguous implications, these phenomena are frequently represented through metaphorical and blended images that render them more accessible to audiences. As a result, virtual space and artificial intelligence have become recurring and salient themes in socio-cultural cartoons.

Overall, this frequency pattern indicates that socio-cultural press cartoons predominantly engage with issues that are both central to contemporary societal concerns and highly conducive to visual representation and conceptual integration. Conceptual blending plays a crucial role across all three domains in transforming these concerns into compact, critical visual narratives; however, the intensity and mode of blending vary depending on the specific nature of each issue

6. Conclusion

This study, through the analysis of a corpus of socio-cultural press cartoons, demonstrates that cartoonists rely on complex cognitive strategies to produce deep and often humorous social critique, with conceptual blending functioning as a central cognitive mechanism in this genre. The cognitive explanation of the thematic distribution and frequency of blending reveals that, within the socio-cultural genre, the highest frequency of conceptual blending is associated with environmental issues. This prominence can be attributed to the objective and tangible nature of environmental phenomena, as well as their direct connection to collective lived experiences. In contrast, topics such as cyberspace and artificial intelligence, due to their abstract, invisible, and rapidly evolving nature, require broader and more elaborate conceptual blends in order to become cognitively accessible to the audience, and therefore appear with slightly lower frequency. This distribution indicates that press cartoons respond simultaneously to immediate social crises and to emerging technological developments, both cognitively and critically.

From another perspective, the detailed descriptive frequency analysis shows that double-scope and single-scope blends are dominant in the corpus, whereas mirror and simple blends occur rarely or are entirely absent. This distribution is closely related to the nature and communicative purpose of press cartoons. As a visual medium, the press cartoon aims to convey complex, critical, and

influential messages within a very limited time and space. Different types of conceptual blending contribute to this goal in distinct ways.

The high frequency of double-scope blending can be explained by the fact that socio-cultural cartoons often seek to challenge the status quo, highlight contradictions, and offer a radically new perspective on social realities. Double-scope blending provides a powerful cognitive tool for achieving this purpose. By integrating two conceptually unrelated domains, this type of blending creates a strong sense of incongruity, which serves as a fertile ground for humor, irony, and exaggeration key rhetorical devices in press cartoons. The initial incompatibility between the input spaces provokes cognitive tension in the viewer, enhancing both engagement and the pleasure of discovering the emergent meaning. This cognitive shock amplifies the critical force of the message and makes double-scope blending particularly effective for socio-cultural critique.

Single-scope blending, on the other hand, operates by transferring the structure and logic of one input space into the blended space, while the second input contributes selected features without imposing its full organizing frame. In this way, a familiar concept is reinterpreted through the characteristics of another domain. The relatively high frequency of this type of blending is largely due to its role in simplifying and concretizing abstract concepts. Many socio-cultural notions, such as freedom of expression, peace, or social responsibility, are highly abstract and difficult to visualize directly. Single-scope blending enables cartoonists to present these concepts in a concrete, accessible, and easily interpretable form. Moreover, this type of blending often results in more direct and less cognitively demanding messages compared to double-scope blending, making it particularly suitable when the cartoonist aims to foreground a specific aspect of an issue with clarity and immediacy.

The absence or extremely low frequency of simple and mirror blending types in the corpus is therefore neither accidental nor surprising. Simple blending primarily involves the combination of roles and identities within an already established and conventional framework. As such, it lacks the creativity, humor, and conceptual complexity required for an effective press cartoon, and often results in banal or predictable meanings. Similarly, mirror blending relies

on structural similarity between input domains and merely compresses relations that are already conceptually aligned. This type of blending does not generate the contrast or conceptual tension necessary for producing strong critical or humorous effects. Press cartoons aim to juxtapose different worlds and provoke semantic shock, rather than to reflect parallel structures. Consequently, mirror blending does not adequately serve the communicative and critical goals of the socio-cultural cartoon genre.

As a final conclusion, it can be stated that cartoonists deliberately employ more complex and creative cognitive tools most notably double-scope blending, which enables the creation of novel concepts and radical forms of social critique, and single-scope blending, which facilitates the simplification and concretization of abstract ideas in order to examine and criticize cultural and social issues. In contrast, simpler types of blending that lack the cognitive capacity to generate humor, irony, and innovative perspectives prove to be largely ineffective and therefore marginal within this genre. This pattern clearly demonstrates that the present study contributes to the fields of literature, cognitive linguistics, and visual communication by offering a systematic analysis of a socio-cultural genre that has often been overshadowed by research on political cartoons. The findings deepen our understanding of how conceptual blending functions as a powerful cognitive mechanism for social critique and the production of emergent meaning in socio-cultural contexts. Moreover, this study fills an important gap in the existing literature. While previous research has predominantly relied on qualitative analyses of blending in cartoons, the present study complements and extends those findings by providing a detailed quantitative account of the frequency and distribution of blending network types within a large corpus. By combining qualitative cognitive analysis with frequency-based statistical evidence, this research not only confirms earlier theoretical claims but also enhances their validity and precision. Nevertheless, the study is not without limitations. One such limitation is its focus on a single data source. Future research could expand on these findings by employing a more diverse corpus drawn from multiple platforms or publications. Further avenues for research include empirical studies on how different types of conceptual blending are perceived and interpreted by audiences, as well as investigations into the

varying cognitive and emotional effects of each blending type. Finally, cross-cultural comparisons of blending patterns in socio-cultural cartoons from different countries could offer valuable insights into the interaction between cognition, culture, and visual discourse.

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