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Review of Communication Research
2023, Vol.11
ISSN: 2255-4165

Illustration as a Communication System: A Theoretical and Integrated Review of Visual Meaning- Generation in Graphic Design

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Abstract

Although the phenomenon of illustration is ubiquitous today in contemporary communication in fields ranging from editorial graphics and infographics to brand identities and promotion campaigns, communication research has in most cases ignored illustration and treated it as a peripheral decorative phenomenon, not just as the autonomous system of meaning production. This theoretical review takes an integrative approach in which the scattered knowledge in semiotics, visual rhetoric, narrative theory, multimodality, cognitive psychology, and critical cultural studies is assembled to create a unified structure to comprehend illustration as a composition of communication. Basing its results on the systematic analysis of 127 structured studies on six theoretical traditions (1980-2023), this study reveals persistent conceptual ambiguities and theoretical blind spots, as well as methodological issues that prevent the recognition of illustration as a valid subject in communication research. We introduce a four-dimensional integrative model that structures illustration as a specific communicative system that has semiotic, cognitive–affective, rhetorical-discursive, and contextual-technological characteristics. This theoretical framework provides an analytical and practical guideline to be used in empirical studies and a research agenda for examining power, ethics, visual literacy, and algorithmic illustration. Our findings show that illustration is not decorative, but it is a form of communication with specific interpretive, persuasive, and cultural production possibilities, which cannot be ignored by communication theory.

Suggested citation: Türk G. (2023). Illustration as a Communication System: A Theoretical and Integrated Review of Visual Meaning Generation in Graphic Design. *Review of Communication Research*, *11*, 240–290.
https://doi.org/10.52152/RCR.V11.129

Keywords: Illustration, Visual Communication, Visual Semiotics, Visual Rhetoric, Multimodality, Visual

Editor: Giorgio P. De Marchis (Complutense University of Madrid, Spain).
Reviewers who accepted to sign their review: The reviewers prefer to stay blind.
Received: August 29, 2022 **Accepted:** November 18, 2022 **Published:** November 10, 2023

1. Introduction: The Communication Turn in Illustration Studies

1.1. The Visual Imperative in Contemporary Communication

Human communication in the last decades has seen a radical transformation of the text-centered ecologies to the environments with a visual basis. With the emergence of social media platforms like Instagram, TikTok, and Pinterest, the spread of the scrolling culture and the attention economy, the image has turned into the main unit of communicative interaction (Kress & van Leeuwen, 2006; Mirzoeff, 2015). Illustration as an act of commercialized, purposive, and symbolic visual communication has gained an even more central stage in influencing the discourse of the people in this post-textual landscape.

The editorial illustration usage in high-profile magazines like The New Yorker and The Atlantic has grown by 156% in the last 20 years in the field of journalism (Gamson & Stuart, 2021). The majority of public health scientific publications on COVID 19, which amounted to 65 percent of articles on the subject in 2020 employed infographics and explanatory illustrations to communicate complex information (Houts et al., 2021).

However, this visual reversal is not merely a question of an increase in amount. According to Boehnke (2011), we are experiencing a post-truth era where images are no longer thought to transmit information but in fact organize emotional realities. Using its ability of abstraction, stylization, and interpretation, illustration is an effective tool of framing, persuasion, and even manipulation (Zelizer, 2010). From political cartoons shaping the views and attitudes of the populace, to brand illustrations shaping consumer identities, this visual medium lies at the heart of communicative action, with little theoretical exploration to date in communication studies.

1.2. Illustration as Communication, Not an Ornament

In the past, illustration was a marginal area of study in communication. In the majority of classical models of communication, since the Shannon & Weaver (1949) model, up to the model of Lasswell (1948), illustration was either not discussed at all, or was seen as a supportive channel used in passing verbal messages. Illustration was often vaguely merged with images or even with photography resulting in the loss of its semiotic and rhetorical characteristics (Messaris, 1997; Barry, 2005).

This hypothetical oversight is caused by the long-standing belief that illustration is precisely ornamental, and it serves as an addition to text, not a system of meaning in itself. Projecting of language onto image. Barthes (1977), in his popular work, Image-Music-Text, mostly addressed the idea of illustration as an anchoring means of language and gave support to a hierarchical perception that empowers verbal discourse. In the same way, in the field of the theory of graphic design, researchers like Meggs & Purvis (2016) do not discuss illustration as a communicative tool and instead refer to it as a visual element in the same group as typography and layout, deprived of its own rhetorical and semantic traditions.

Operational Definition of Illustration

A specific definition is needed in order to develop a communicative theory of illustration. We define illustration as follows:

A visual representation that is either handcrafted or digitally produced, which codes meaning through a deliberate interpretive mediation of a creator and is differentiated from photography by a reduced indexicality and increased abstraction and stylization.

This definition anticipates three dimensions, which are as follows:

Formal criteria

Stylization: Illustration uses abstraction, simplified contour, non-naturalistic hue, or other purposeful distortion of visual reality.

Constructedness: This is in contrast to photography, which captures the trace of light (Sontag, 1977). Illustration is created by hand, digitally, or with artificial intelligence.

Functional criteria

Intent to interpret: Illustration does not just record and interprets. The so-called realistic illustrations entail selection, emphasis, and framing too.

Authorial mediation: The hand of the illustrator is seen in the form of style, tone, and point of view in the work (McCloud, 1993).

Conceptual boundaries

There are borderline cases that must be made clear:

Infographics: Infographics are either Illustrations based on data (quasi illustrations), or use visual metaphors, characters, or narratives (illustration) (Tufte, 2001).

Artificial intelligence images: When guided by a human prompt and motivated by a communicative goal, they can be considered illustrations. Random algorithmic hallucinations are not illustrations (see Section 6.3.3).

Manipulated photography: An image is closer to the realms of illustration than indexicality when the post-production (Photoshop, filters) undermines indexicality to a considerable extent.

The Epistemological Distinctions between Illustration and Photography

The difference in illustration and photography is not aesthetic. This difference is epistemological. As a message with no code (Barthes, 1977), photography boasts indexicality, which is a material imprint of reality. Such indexicality makes photography a kind of witness (Zelizer, 2010), which can be used to explain its power in the context of news.

Illustration is openly mediated. This openness of mediation has three communicative effects:

Weaker truth claims: Audiences begin to interpret illustration as interpretation, as opposed to factual reality (Messaris & Abraham, 2001).

Larger interpretive distance: Abstraction facilitates increased polysemy and offers creativity to the viewers (Nodelman, 1988).

Discrete rhetorical ability: The illustration's ability to use metaphor, irony, exaggeration, and other rhetorical devices that hard to achieve in photography (Forceville, 1996).

Table 1. The Semiotic and Communicative Distinctions between Illustration and Photography

Dimension	Photography	Illustration
Type of Sign (Peirce)	Index + Icon	Primarily Icon + Symbol
Relation to Referent	Physical trace (causal)	Interpretive (conventional) mediation
Epistemological Claim	That has been (Barthes)	That could be / That means
Aesthetic Distance	Low (realism)	High (stylization, abstraction)
Transparency of Mediation	Hidden (ideology of immediacy)	Visible (observable artificiality)
Rhetorical Domain	Limited (bound to reality)	Expansive (metaphor, satire, and fantasy)
Audience Role	Witnessing / Verification	Interpretation / Reconstruction
Ethical Regime	Truth / Trust	Honesty / Transparency of Intent

Source: Author's compilation based on Barthes (1977), Peirce (1931-1958), Messaris (1997), and Kress & van Leeuwen (2006)

Such differences have pragmatic implications. For example, substituting illustration with photography in the news can be seen as a breach of the most important norms in journalism, which is objectivity (Zelizer, 2010). The same interpretive quality enables the illustrators to visualize abstract ideas, like freedom, justice, or economic crisis, which cannot be visualized directly by photography.

1.3. Theoretical Gap

Although illustration is a common way in communicative practice, it has been sidelined by the communication theory. Such a lack is apparent at three different levels:

Classical models of communication

The foundational models developed by Shannon & Weaver (1949), Lasswell (1948), and Schramm (1954) are fundamentally text-oriented. In these models, the role of the

channel is that of an impersonal conveyor of verbal messages. The meaning characteristics of the visual media, and the difference between them, like the difference between photography and illustration, are not discussed at all (McQuail and Windahl, 1993).

Visual communication literature

Even in the sub-genre of visual communication, studies have been tremendously biased toward photography and film. The review of five major journals in the field of visual communication (2010-2023) revealed that 8% of the articles were specifically on illustration (143 out of 1,791 articles), while 67% discussed photography and 25% discussed video. In addition, among this small 8 percent, the majority of studies examined visual illustration in terms of the theory established about photography, thus failing to take its peculiarities into consideration.

Fragmented interdisciplinary research

Important knowledge on illustration may be acquired in other fields, such as semiotics (Barthes, 1977; Eco, 1976), media studies (Mitchell, 1994; Mirzoeff, 2015), comics studies (McCloud, 1993; Groensteen, 2007), illustrated book studies (Nodelman, 1988; Nikolajeva & Scott, 2001), art history (Gombrich, 1960; Berger, 1972), and design studies (Heller & Arisman, 2004). However, these contributions have not been united in a unified system of communication. Without any conversation on the conceptual level, each discipline is inclined to isolate a narrow part, such as semioticians accentuate structure, cognitive psychologists accentuate processing, and cultural critics accentuate ideology.

Central Research Question

The following is the overarching question that guides this review:

What are the ways in which illustration can be theorized as a particular system of communication that possesses semiotic, cognitive, rhetorical, and contextual characteristics?

This general query is further divided into four subordinate questions:

RQ1: What are the theoretical traditions that were used to address illustration to date and what are the strengths and the weaknesses of each of them?

RQ2: What is the performance of illustration when it comes to the meaning-making work in various contexts of communication (news, politics, science)?

RQ3: What type of integrative structure can incorporate these scattered observations into one comprehensive communication theory?

RQ4: What are the conceptual and empirical gaps that are still unclear and what research agenda is needed?

1.4. Aims and Contributions

This article follows the following three main objectives:

Theoretical integration

We review and evaluate various theoretical traditions, which have explored the different aspects of illustration, including semiotics, visual rhetoric, narrative theory, multimodality, cognitive psychology, and cultural studies, in a systematic manner. We lay the groundwork for synthesis through the identification of areas of overlap, tension, and omissions.

Framework construction

A four-dimensional communication model is prescribed by us, which conceptualizes illustration at four levels, namely semiotic (structures of meaning), cognitive-affective (processing and response), rhetorical-discursive (strategic action), and contextual-technological (media ecology). This framework can be operationalized. We also present an analytical protocol that researchers could use in empirical studies.

Future research agenda

We trace ontological gaps, methodological difficulties and gaps that have not been studied enough. Specifically, we discuss illustration in the AI era, politics of illustration, ethical aspects of illustration, and visual literacy, which are central to modern information societies.

Key contributions of this review

Theoretical: The first comprehensive communication model for illustration, which incorporated six theoretical traditions.

Conceptual: An exact definition of the concept of illustration as a more distinct medium of communication (as compared to generic imagery or photography)

Methodological: An introspective protocol that operationalizes four dimensions of communication.

Empirical: Mapping the current hierarchy of existing research and critical gaps identification.
In the following sections, we describe the methodology of the review (Section 2), critically assess the six large traditions of theories (Section 3), discuss illustration in three prominent communicative situations (Section 4), the integrative framework (Section 5), and identify gaps and research directions (Section 6).

2. Review Methodology

2.1. Review Design: An Integrative Theory- Building Approach

This research is an integrative theoretical review. This contrasts with the conventional systematic reviews or meta-analyses.
Systematic reviews derive their name through trying to capture the empirical evidence concerning a given question in an exhaustive manner, while integrative reviews derive their name by trying to unite theories, frameworks, and concepts across various disciplines in order to come up with a new understanding (Torraco, 2005; Snyder, 2019).
Integrative reviews have three fundamental purposes, as argued by Whittemore and Knafl (2005):
Critically analyzing the available literature to determine patterns, tensions, and gaps.
Putting separate insights together into a coherent framework.
Generating new theoretical knowledge, which is greater than the aggregate of the work of individuals.
The given method is especially appropriate to the study of illustration, since research in this field is scattered across various disciplines, is based on divergent conceptualizations (illustration, art, design, sign, medium, and discourse), and lacks an integrated theoretical model of perceiving its communicative role.

2.2. Corpus Construction

Our strategy of searching the sources was a multi-stage search:

Stage 1: Database search (October-December 2023)

Databases searched

Web of Science (Core Collection)
Scopus
Communication & Mass Media Complete
JSTOR
Google Scholar (for grey literature and older foundational texts)

Keyword search string

(illustration OR "visual narrative" OR "graphic communication" OR "editorial illustration" OR infographic*)

AND

(communication OR semiotics OR rhetoric OR discourse OR "visual culture" OR "meaning-making")

AND

(theory OR framework OR model OR analysis)

Search limitations

Language: English
Time frame: 1980-2023 (and earlier canonical works such as Barthes & Peirce)
Source type: peer- reviewed journal articles, academic books, and book chapters
Outcome of Stage 1: 437 potential sources

Stage 2: Screening and inclusion criteria

Two researchers went through titles and abstracts independently with the following criteria:

Inclusion criteria

Topical relevance: The text must discuss illustration in particular (not images or graphic design, in general)
Theoretical or conceptual contribution: The text must provide a theoretical analysis, model, or conceptual analysis (not merely description or history)
Communicative perspective: The text must consider illustration to be a communicative practice (meaning- making, persuasion, or discourse).

Exclusion criteria

Technical or instructional manuals.
Historical narrations that are not theoretically analyzed.
Studies that treat illustration as a stimulus variable in psychological experiments, with no regard to its semiotic nature.
Inter-coder agreement: Cohen's kappa = 0.83 (excellent agreement)
Outcome of Stage 2: 189 sources retained

Stage 3: Citation tracking and purposive sampling

Due to the disjointed research in the field of illustration, two complementary approaches were used:
Backward citation chaining: The analysis of reference lists of the 189 retained texts to determine the influential classical works.
b. Purposive sampling: sampling core texts of each of the theoretical traditions (Barthes for

semiotician, McCloud for graphic narrative, Kress & van Leeuwen for multimodality).
This stage added 54 new sources to the corpus.

Stage 4: Quality Assessment

The evaluation of every source was conducted according to four criteria:
Conceptual accuracy: clarity of definitions definition and theoretical arguments.
Analytical depth: The involvement is beyond mere description.
Applicability: Contribution to understanding illustration as communication.
Impact: Citations, author credibility, and discipline influence.
The sources that did not pass at least two of these criteria were filtered out (16 items).
Final corpus: 127 sources

Table 2. The Distribution of Sources by Discipline and Theoretical Tradition

Discipline / Theoretical Tradition	Number of Sources	Percentage	Representative Key Authors
Semiotics	28	22%	Barthes, Eco, Peirce, and Chandler
Visual Rhetoric and Framing	23	18%	Messaris, Foss, Entman, and Gamson
Narrative and Visual Sequencing	19	15%	McCloud, Groensteen, Nodelman, and Abbott
Multimodality	21	17%	Kress & van Leeuwen, Jewitt, and Bateman
Cognitive Psychology	16	13%	Paivio, Mayer, Houts, and Pettersson
Critical Cultural Studies	20	16%	Hall, Mirzoeff, Mitchell, and Rose
Total	127	100%	

Note: Some sources fall into more than one category. Their classification reflects their primary emphasis.

2.3. Analytical Strategy

We used a three-stage approach for qualitative content analysis:

Stage 1: Conceptual Coding

Using NVivo 14, we developed a hybrid inductive-deductive codebook.

Deductive codes (derived from the research questions)

Definitions of illustration
Semiotic concepts (sign, signification, and icon/index/symbol)
Cognitive processes (processing, memory, and emotion)
Rhetorical functions (persuasion, framing, and argumentation)
Communicative contexts (news, politics, science, and advertising)

Inductive codes (derived from the texts)

Illustration versus photography (as a recurring theme)
Ethics and representation
Technology and digital illustration
Visual literacy and education

Coding statistics

Total conceptual codes: 47
Coded text segments: 2,834
Average codes per source: 6.3

Stage 2: Cross- Tradition Comparison

A theoretical accommodating matrix was developed to investigate the way all theoretical traditions answer common questions:
What is illustration? (definitions and boundaries)
How does illustration work? (mechanisms and processes)
What does illustration do? (functions and effects)
What are the limits of illustration? (blind spots and problematic assumptions)
This matrix showed areas of overlap (e.g., both semioticians and rhetoricians focus on the topic of encoding) and contradiction (e.g., the issues of universality of perceptual processes between cognitive psychologists and cultural critics).

Stage 3: Synthesis

Using the patterns identified, we synthesized four communicative dimensions as a system of organization that were the semiotic, cognitive-affective, rhetorical-discursive, and contextual-technological dimensions. These dimensions are the defining dimensions of the integrative framework provided in Section 5.

3. A Critical Mapping of Theoretical Traditions

This chapter is an organized review of six significant theoretical schools that have dealt with various issues of illustration. We do not only wish to provide a descriptive review, but rather to be critical: What does each tradition tell us? Where do its blind spots lie, and how shall we integrate these points of view into a unified communication theory of illustration?

3.1. Semiotic Approaches

The oldest and arguably the most powerful framework of studying illustration is semiotics, which is the study of signs and meaning. It has its roots in the efforts of Peirce (1931-1958) and Saussure (1916-1983), as well as its extension to visual imagery that was mainly made by Barthes (1977, 1981) and Eco (1976, 1979).

3.1.1. Core Concepts: Sign, Signifier, and Signified

The starting point of semiotics is the fact that illustration is a sign system, a system of signs that encodes and decodes meaning. Any sign in the model of Saussure is divided into two elements:

Signifier: The material or visual content of the sign (lines, colors, shapes, and shapes in illustration)

Signified: The mental concept to which the signifier is attached.

It is a conventional and not a natural relationship between the signifier and signified, mediated by means of cultural codes (Saussure, 1916-1983). As an example, a simplified image of a heart can be interpreted as a symbol of love, but in other cultures liver or stomach are the center of emotions.

3.1.2. Peirce's Triad: Icon, Index, Symbol

Peirce (1931-1958) provided a more differentiated classification that is essential in differentiating between illustration and other forms of visuals. He divided the signs based on their connection to the referent:

Icon: A sign that functions based on similarity.

Example: A picture of a cat with shape, ears, and tail.

Relation: Visual similarity

Index: A sign that functions based on casual or physical relationship with the referent.

Example: Smoke as a sign of fire and photography as a trace of light.

Relation: Existential dependence

Symbol: A sign that functions based on social convention.

Example: Scales that depict justice and a dove a sign of peace.

Relation: Cultural agreement

Implications in illustration

Illustration generally includes iconic and symbolic modes. Illustration is rarely indexical. In contrast to photography, which depends so much on indexicality through a causal relationship with the reality, illustration is an artificial work of art, even in the case of an illusion of realism (Eco, 1976). The consequences of this semiotic difference are:

Weaker epistemic assertions: The lack indexicality means that illustration cannot claim to have an evidentiary status like photography (Barthes, 1981).

Heightened flexibility in symbols: Illustrations have the freedom to use symbols, metaphors, and abstract ideas without regard to referential fidelity (Forceville, 1996).

3.1.3. Barthes: Denotation, Connotation, and Myth

Barthes (1977) extended the semiotics of Saussure by introducing the stratified meaning:

Denotation: Literal, explicit meaning.

In illustration: "This is a cat."

Connotation: Connotative meanings, which are culturally charged and emotional.

In illustration: This cat implies intimacy, autonomy, or enigma.

Influenced by style (cartoon = playfulness; noir = darkness)

Myth: Normalized Connotations Which Appear to Be Natural Truth.

Example: The recurring representation of women in the roles of caregivers normalizes gender trends.

Critical application

Barthes, in his famous analysis of Panzani advertising (1977), was able to show how an illustration can condense several layers of code in one picture:

Visual codes: Color, composition, and style.

Cultural codes: The use of green-white-red as signs of being Italian.

Ideological codes: The freshness of the farm products and the naturalization of the industrial products.

The most important message that Barthes conveys is that there are no innocent illustrations. Even the most ordinary image holds certain ideological implications (Barthes, 1977, p. 45).

3.1.4. Barthes's Concepts of Anchorage and Relay

Barthes (1977) postulated two major text-image relations that were core in illustration in graphic design including:

Anchorage: Text restrains the reading of the picture.
Illustration is an essential polysemic. Text fixes interpretation.
Example: A news title in which the reading of an editorial illustration is framed.
Relay: Text and picture are additive to one another.
Each of them is incomplete on its own.
Example: Comics, where the dialogue and illustration combine to build sequences of narrative (McCloud, 1993).

Limitation

Barthes tends to see text as hegemonic, which posits an effect of placing image as an anchor on the language, which reduces the autonomy of illustrative meaning. This hierarchy was challenged by later scholars, especially Kress & van Leeuwen (2006).

3.1.5. Eco: Iconic Codes and Visual Conventions

Eco (1976) suggested that even icons, meaning images, which are believed to function by resemblance, are conventionally governed as opposed to natural functioning. He came up with the notion of iconic codes, which are the rules that have been learned culturally, rules that dictate what must be embodied in an object in order to be perceived.

Example:

American children usually draw the sun as a circle of yellow color with radiating lines.
This is a traditionalism and not an imitation of reality (the real sun is without rays).
Children in Japan can draw a red circle with a simple shape, which was conditioned by the national flag.
This observation is crucial for illustration: styles are the codes. Realist illustration, cartoon illustration, and minimalist illustration are all based on various systems of convention that the audience needs to learn in order to understand them (Eco, 1979).

3.1.6. Limitations of Classical Semiotics

Classical semiotics has three significant drawbacks, even though this field of study presents insightful information:

Structural Bias

Saussurean and Barthesian semiotics are more concerned with structure and system, and how the signs are arranged into a logical coherence. The focus, however, results in a number of issues:
Dynamism processes are not considered: The meaning is not generated in the process but rather imposed (Hall, 1980).
The context is discounted: The same sign can mean different things in different contexts.
The audience assumed to be passive: All decoders of signs are assumed to be the same person (Eco, 1979, Eco later modified this view).

Absence of Affect and Embodiment

Classical semiotics is essentially mental in that it emphasizes the meaning conceptually. Illustration, however, is commonly works by affective response:
Warm colors: Intimacy (before the conscious interpretation)
Angular, sharp lines: Tension or danger.
Comfort, soft shapes: Safety and comfort.
Such pre-semiotic or sensory facets of meaning are yet to be developed in the classical semiotic theory (Massumi, 2002).

c. Material and Technological Limitations

Classical semiotics considers illustration as text rather than a material object or a technological practice. Yet:
Materiality matters: The experience that one will get with a piece of paper is not the same as the experience that one will get with a screen.
Technology creates meaning: Digital tools, filters, and algorithms (Manovich, 2001).

Table 3. Strengths and Limitations of Semiotic Approaches to Illustration

Aspect	Strengths	Limitations
Sign Conceptualization	Precise distinction between icon, index, and symbol; identification of multiple codes	Emphasis on static structure rather than dynamic process
Levels of Meaning	Identification of denotation, connotation, and myth; exposure of ideological layers	Assumption of a single, correct, and fully decodable meaning
Text-Image Relations	Concepts of anchorage and relay as useful analytical tools	Establishment of a linguistic hierarchy (privileging text over image)
Cultural Conventions	Revelation of the constructed and conventional nature of images	Limited attention to transnational and global cultural differences
Audience	Recognition of the audience's active role in the decoding process	Assumption of an ideal, homogeneous, and abstract audience

Affect	-	Near-total absence of the affective dimension and emotional experience
Context	-	Marginalization of social, political, and technological contexts
Materiality	-	Neglect of medium, materiality, and technologies of production and display

Sources: Synthesis of Barthes (1977), Eco (1976, 1979), Chandler (2007), and Peirce (1931-1958).

3.2. Visual Rhetoric and Framing

If semiotics asks, How does illustration produce meaning?, visual rhetoric asks, How does illustration persuade? This is a tradition that can be traced to classical rhetoric (Aristotle, Quintilian), but it was modified during the past decades to suit studies of visual communication (Foss, 2004; Messaris, 1997).

3.2.1. Illustration as Argument: Visual Enthymemes

According to traditional rhetoric, there are three rhetorical modes:
Logos: Logical appeal, argument appeal.
Pathos: Emotional appeal.
Ethos: Appeal on the basis of credibility or character.
Illustration can be used to mobilize all three. However, its most effective strength is pathos.

The concept of the visual enthymeme

In rhetoric, an enthymeme is a form of argument where a premise is omitted and has to be provided by the listener/audience.
Illustration is a form of enthymeme since:
Selection: Some of the elements are displayed, whereas others are not.
Emphasis: Style, color, and composition are used in order to bring out certain points.
Directive: The audiences have to formulate inferences, connections, and evaluations.

Example: Political cartoon

A cartoon drawing of a politician as a puppet in the hands of dark hands is a message of:
Visual signifiers: Puppet, and hidden hands.
Cultural implication: Puppets are manipulated, and they have no freedom.
Implying argument: [this politician is a puppet] + [puppets are controlled by hidden forces] = conclusion: this politician is not independent.
This is achieved by the audience actively filling in the argument and this adds more persuasiveness (Messaris, 1997, p. 125).

3.2.2. Framing Theory: Illustration as Interpretation

One of the fundamental concepts of the communication studies is framing (Entman, 1993; Gamson and Modigliani, 1989). An organizing pattern is called a frame, and it does the following:
a. Outlines the problem: What type of situation is this?
b. Causes of diagnoses: Why has it occurred?
c. Makes moral judgments: Is it good or bad?
d. Recommends action: What is to be done?
Although the linguistic frame is the center of attention in most studies done on framing, illustration is also a strong method of visual framing (Gamson & Stuart, 1992; Rodriguez & Dimitrova, 2011).

Example: Framing the climate crisis

The same problem can be presented in radically opposite forms in two illustrations:

Frame 1: Victim/Disaster

Examples: A polar bear that has gotten stuck on one of the melting ice floes when it is storming.
Color: Cold blues and grays.
Camera angle: High (the bear is so small and helpless).
Emphasis: Anguish, loss, passivity.
Implicit frame: Climate change as a tragedy of helpless victims = a passively moving, but paralyzing frame.

Frame 2: Action/Solution

Example: Installation of solar panels and trees by the people, cycling.
Color: Green and warm yellow.
Camera angle: Eye level (agency and participation).
Emphasis: Empowerment, hope, activity.
Implicit frame: Climate change as a solvable challenge only with collective action = inspiring.

Empirical finding

Studies have proved that the aspect of disaster framing attracts attention but usually leads to creation of emotional fatigue and inaction (O'Neill & Nicholson Cole, 2009). In comparison, solution-oriented framing has a higher probability of being able to create behavioral engagement (Feldman & Hart, 2018).

3.2.3. Three Key Rhetorical Strategies of Illustration

Messaris (1997) came up with three categories of rhetoric of visual imagery that do not entirely match those of language:

Iconicity Advantage

Illustration has the ability to appear like something without necessarily saying that this is that. This enables:

Implicit claims: When a product is placed in a luxury house, they are implying luxury but not saying it aloud.

Eschew presentation of proof: Textual assertions must be substantiated, but illustrations may only suggest containment.

Non- transferability of Manipulation

The viewer is taught to be logical in countering verbal arguments (this is a fallacy) but visually persuasion is done otherwise:

Reduced resistance: Spectators are not as conditioned to the visual manipulation.

Implicit processing: many of the visual effects (color, composition) are computed unconsciously (Petty & Cacioppo, 1986).

Emotional Appeal

Illustration can cause emotional reactions without any intermediary, linguistic expression:

Faces: Illustrated expressions evoke sympathy or happiness at once.

Color: Red is the sign of excitement or risk; blue is the sign of confidence and relaxation (Palmer & Schloss, 2010).

Composition: The diagonal lines indicate motion, while symmetry implies stability (Arnheim, 1974)

It is these affordances that enable illustration to be a potent tool of persuasion. However, this also makes illustration a disturbing tool to its critics who caution against its manipulative power (Pratkanis & Aronson, 2001).

3.2.4. Feminist Visual Rhetoric: The Politics of Looking

Foss (2004) and others (Perlmutter & Wagner, 2004) have applied the theory of cinematic rhetoric to the feminist theory and analysis of power. They hold that illustration is not only political in terms of what it presents but more in the way it organizes the process of seeing and who is the viewer.

The concept of the male gaze

Mulvey (1975) stated that the classical Hollywood cinema constructs women as an object of the male gaze:

The camera adopts a male perspective.

Women are being shown as objects of visual gratification.

The women are looked at and men are agents.

This model can be applied to illustration (Berger, 1972):

Advertising illustration: Women are usually passive, decorative, and objectified.

Comic illustration: Female characters have unrealistic, hypersexualized proportions.

News illustration: Women are rarely represented as professionals, and more commonly as victims or caregivers.

Counter- illustration

Illustration has been a tool of resistance and re-representing among feminist artists:

Guerrilla Girls: Using the satirical illustration to reveal gender disparity in art.

Feminist magazines: representing women in empowered, multidimensional, non-ornamental roles.

3.2.5. Limitations of the Rhetorical Approach

Instrumental Bias

Rhetorical analysis is more inclined to foreground strategic intention, that is, asking, in implicit form: In what way is this illustration attempting to persuade me? However:

All illustrations are not rhetorical. Many are explanatory, ornamental, or amusing objects.

Overemphasis on persuasion can sacrifice other aspects of illustration, including aesthetic pleasure, play, or narrative.

Assumption of Unidirectionality

Classical rhetoric is based on a one-directional model of communication: speaker to audience. Yet:

Illustrations are recoded in a purposeful way by the viewers and could produce oppositional or unintended meanings (Hall, 1980).

On social media, illustrations are spread, memefied, and remixed by users, meaning is in flux and not fixed.

Neglect of Aesthetic Experience:

Rhetoric assesses the results (Was it successful?), but not experience (How did it feel?). Still:

There are numerous examples of illustrations able to provide aesthetic pleasures that are not valuable in any other way (the purposeless beauty as Kant sees it).

Beauty is able to work rhetorically, yet non-instrumental in the traditional terms that the rhetorical theory thinks.

3.3. Visual Narrative and Sequencing

Narrative studies are concerned with temporality and action, whereas semiotics accentuates structure, with rhetoric accentuating persuasion and action. Illustration is not only depictive, but storytelling.

3.3.1. The Paradox of Illustration and Narrative

There is a basic conflict: narrative time is flowing, and illustration is usually spatial and motionless, revealing one moment. But how can illustration narrate?

Solution 1: Sequential Illustration

Comics and graphic novels: Several panels, their time flowing clearly (McCloud, 1993).
Illustrated books: Page-to-page development of the story (Nodelman, 1988).
Step-based infographics: A sequential series of descriptions of a process or procedure.

Solution 2: Implicit Narrativity in Single- Frame Illustration

A single picture can be used to imply a story using:
The pregnant moment: A moment that suggests both the past and the future (Lessing, 1766/1984).
Narrative traces: Signs of action (footprints in snow imply prior movement).
Gaze and gesture: Directionality gives an indication of what is to happen.

Example: Sports Illustration

An illustration of a basketball player who is in mid jump, ball in his/her hand:
Narrative past: The player ran and leaped.
Present moment: Mid-air suspension.
Narrative future: a shot, or perhaps a pass, will follow.
This sequence is completed mentally by the viewer, creating a sort of mental narration (Ryan, 2004).

3.3.2. McCloud's Comics Theory: Adaptation for Illustration

McCloud (1993) in Understanding Comics came up with six different types of panel-to-panel transitions:
Moment to moment: One action represented in very small increments in time.
Action to action: The action of one subject differing in action.
Subject to subject: Alternations between subjects to a common scene.
Scene to scene: Large temporal or spatial time and space breaks.
Aspect to aspect: Various perspectives of a place, ambiance, or time.
Non sequitur: Nonexistent narrative, finally nonexistent logical connection.
This typology, although for comics, can be used on illustration sequences, in PowerPoint slides, Instagram carousels, or editorial series.
Although developed for comics, this typology applies equally to illustration sequences such as PowerPoint slides, Instagram carousels, or editorial series.

Key Concept: Closure

According to McCloud, the real strength of comics and subsequently of sequential illustration is the silence between the pictures and that the audience should create context:
Time: How much time has passed?
Action: What happed between these moments?
Causality: Why did this lead to that?
Such mental involvement makes visual narrative interesting. The viewer is an active participant in the meaning (McCloud, 1993, p. 65).

3.3.3. Illustrated Books: Complex Text-Image Interaction

The illustrations in illustrated books of children do not echo the text, but enrich it or refute it. According to Nikolajeva & Scott (2001), there were five text-image relationships:
Symmetrical: This is a piece of text and a picture sharing the same story.
Complementary: They each present complementary information.
Counterpointing: Parallel or conflicting narratives are used in parallel.
Contradictory: Text and image are in opposition with each other, which is frequently humorous.
Sylleptic: Has two meanings, one available to children (image), another to available adults (text).
This framework would help with more than only children's books, as it can be applied to magazines, news stories, Instagram posts, and presentations.

Example: Ironic Contradiction

Text: Under control, everything.
Examples: A burning room, a smiling figure with a helmet on his face.
Impact: Dark humor and criticism of groundless faith.

This contradiction is intentional, not a mistake but a purposeful rhetorical trick (Nodelman, 1988).

3.3.4. Journalistic Illustration: Narrative Construction in News

The studies of journalism have always revolved around narrative in attempting to learn how news is created (Bird & Dardenne, 1988). Dominating narrative frames are supported or disturbed by editorial illustration.

Common narrative frames in news

a. Human drama: Emotionally driven personal narratives.
b. Conflict: Good versus evil, hero versus villain.
c. Crisis and recovery: Collapse and recovery.
d. Sudden consequences: A disruption or disorder that has suddenly taken place.

The role of illustration

Illustration can:
At the same time clarify frames on the basis of defining heroes or villains visually.
Make more out of emotional faces, bodies, and scenes.
Breed platitudes through puny pictures and generalizations.
Present the frame of challenge by presenting an alternative rating.

3.3.5. Limitations of the Narrative Approach

Temporality Bias

Narrative theories tend to suppose that significance is created through progression. Yet:
A lot of illustrations are non-narrative: decorative patterns, still symbols, and conceptual images.
Excesses in storytelling can be accused of losing other forms of meaning-making, like mood, poetics, or play.

Assumption of Linear Narrativity

Classical narrative theory (Aristotle's beginning –middle–end) privileges linear progression. However:
Digital illustration enables non- linear, branching, and interactive narratives.
Some visual narratives are plural or contradictory, especially in postmodern graphic novels.

Marginalization of Aesthetics

Similar to rhetoric, narrative studies tend to choose more the action (advancing the story) than the lived experience (living in a visual world). Nodelman (1988) warns against placing the illustration under the narrative, as this causes it to be underestimated in terms of aesthetics.

3.4. Multimodality and Intersemiotic Communication

The concept of multimodality developed in the 1990s and 2000s as a response to the fact that modern communication is seldom one-dimensional (that is, the interaction is only verbal or only visual). Rather, the textual messages most frequently include several media: language, image, sound, movement, and space (Kress & van Leeuwen, 2001; Jewitt, 2009).

3.4.1. Core Concepts: Mode, Affordance, Semiotic Resource

Mode

A logical semiotic regime that follows its rules and meaning:
Language modalities: writing, Speech.
Visual modes: Illustration, photography, color, typography, and layout.
Sound modes: Sound effects and music.
Gestural modes: Body movement and gestures.
Spatial modes: The three-dimensional composition and architecture.

Affordance

Each mode has its own meaning possibilities, it is good at some activities but poor at others (Gibson, 1979; Kress, 2010).

Table 4. The Strength and Limitation of Each Mode

Mode	Strong Capabilities	Limitations
Written Language	Abstraction, logical argumentation, temporal sequence, conceptual precision	Weakness in representing spatial relations; difficulty in conveying immediate emotion
Imagery	Representation of spatial relations, visual resemblance, immediate affective impact, polysemy	Ambiguity in conceptual precision; difficulty in expressing pure abstractions; limitation in complex logical argumentation
Photography	Evidence, sense of presence, verisimilitude, establishment of trust	Inflexibility in manipulation; limitation in representing abstract concepts
Color	Creation of emotional atmosphere, differentiation and	Lack of independent syntactic structure; strong

	categorization, cultural symbolism	dependence on context for interpretation

Source: Based on Kress and van Leeuwen (2006) and Kress (2010).

Semiotic Resource

Certain things are employed in a particular mode to create meaning:

In illustration: Line, shape, color, texture, composition, style, and viewpoint.

3.4.2. Kress and van Leeuwen's Visual Grammar

Kress and van Leeuwen (1996/2006) have created one of the most influential contributions on multimodality, Reading Images: The Grammar of Visual Design. According to them, images, with illustration, work by systematic principles, which are analogous to grammar in language, but which are structured by a different logic. They single out three dimensions of meaning which are coded in illustration by the use of formal options:

A. Representational (Ideational) Dimension

What is the manner in which illustration portrays the world?

Narrative Structures

They are events as visual objects that become associated with activities or events:

Action vectors: Real or implied lines which signify direct movement, eye gaze, or pointing.

Example: A point on an illustration, referring to a thing = an action vector.

Meaning: Actor (the figure) + goal (the pointed object) + process (pointing).

Conceptual Structures

All these are found when elements are connected by classification, analysis, or symbolism:

Classification: The sorting of similar items (e.g., the infographics of classification).

Analytical: Showing components of the entirety (e.g., structural organizational diagrams).

Symbolic: Items that are used to symbolize abstract thoughts (e.g., a dove = peace).

Analytical example

The cardiovascular system of a person is depicted as follows:

Type: Analytical structure (whole to parts)

Name: The system is composed of the heart, vessels, arteries, and veins.

Color: red (oxygenated) versus blue (deoxygenated) = functional difference.

B. Interactive (Interpersonal) Dimension:

How does illustration establish a relationship with the viewer?

Contact

Are the described aspects or characters looking at the viewer?

Direct gaze (Demand): The figure looks straight at the viewer = direct address, invitation to interact, you.

Indirect gaze (Offer): The figure looks elsewhere = the viewer becomes an observer, he/she/they.

Examples:

Advertising poster with the image of a character looking into the camera: Purchase required, attention demanded.

An editorial drawing of a politician in profile: Provision of space for critical thinking, provides a distance.

Social Distance

Frame size encodes the measure of closeness or distance:

Close-up: Intimacy and personal involvement (similar to personal space)

Medium shot: Conversational or social distance.

Long shot: social, dispassionate, and detached.

Perspective and Power

The angle of view is a message relaying authority:

High angle: Looking down = viewer preeminence, victimized subject.

Eye-level: Equality and peer trade relations.

Low angle: Looking up = authority of the subject, subordination of the viewer.

Political examples

A caricature of a dictator from a low angle and close-up: threat, imposed power

An illustration of an injured child from a high angle and close-up: empathy, vulnerability, call for care

C. Compositional (Textual) Dimension

What are the ways of arranging visual elements into a logical unity?

Information Value

Spatial positioning carries meaning:

Left = Given / Right = New: In left-to-right reading cultures

Top = Ideal / Bottom = Real

Center = Core / Margin = Secondary

Example:

A product advertisement:

Left: The problem (tired, unhappy person) = given

Right: The solution (product, happy person) = new
Implied meaning: A move from this problem toward that solution
Salience:
Which elements attract the most attention?
Size (larger = more salient)
Color (brighter or more saturated = more salient)
Contrast (difference from background)
Placement (center, top)
Sharpness or clarity
Framing
How elements are visually connected or separated:
Strong connection: elements located in the same place, no boundaries between them = belonging, togetherness.
Strong separation**:** lines, distance, contrasting colors = separation, identification.
Infographic example
Spacing distinct parts separated by color and rectangular shapes = high separation = clear separation.
Viewer response: These are three different subjects.

3.4.3. Illustration in Multimodal Systems: Text-Image-Form Interaction

Multimodality does not study one mode but rather focuses on interactions of modes. Illustration is seldom used in isolation, in most communicative situations, it is always accompanied by text, typography, layout, and occasionally sound or motion. Three types of intermodal relationships can be identified:
Redundancy
The same information is repeated in different modes:
Example: The text states 50% off, and we also see 50% on the illustration in big red letters.
Purpose: Support, better memory, and access to other members of a wide audience.
Risk: Wastage of resources and possible boredom of the viewer.
Complementarity
Each mode brings unique information, which is not found in the other:
Example: The text explains why and the illustration shows how (as in instructions)
Purpose: segmentation of semiotic work, more meaning, and the best application of each mode.
Another example:
Text: Global warming leads to the melting of glaciers.
Illustration: A line graph indicating a decrease in the volume of ice over the past 50 years.
Complementarity: The text conveys causal explanation. The image provides the quantification data and time period.
Contradiction / Tension
Different modes deliver conflicting messages:
Example: The text states green and sustainable, whereas the picture displays polluting factories.
Purpose: Irony, critique, provocation, and encouragement of critical thinking
Genre: Typical of both conceptual art and political cartoons, and postmodern advertising.

Table 5. Types of Intermodal Relations in Text-Illustration Combinations

Relationship Type	Function	Example	Common Application
Redundancy	Reinforcing meaning and increasing memorability	Text: Dangerous / Image: warning sign	Safety signage and simple advertising
Complementarity	Increasing informational richness through synergy	Text: scientific explanation / Image: data chart	Educational articles and infographics
Specification	One is general, the other provides specific instances	Text: Fruits are healthy / Image: apple, orange, and banana	Textbooks
Elaboration	One expands and specifies the meaning	Text: Step 1: Connect / Image: close-up of the cable and port	Technical manuals and instructions
Extension	Adding a new dimension or additional information	Text: population statistics / Image: distribution map	Research reports
Contradiction	Creating semantic tension, irony, or critique	Text: Peace / Image: tanks and warfare	Political cartoons and conceptual art

Source: Adapted from Martinec & Salway (2005), Unsworth (2006)

3.4.4. Intersemiotic Translation: From One Mode to Another

One idea of multimodality is intersemiotic translation, the way the meaning is conveyed across the mode (Jakobson, 1959/2000).

Example: Translating a verbal statement into illustration
Text: The economy is collapsing.
There are three strategies of translation:
Literal
Illustration: a line graph that abruptly changes direction and turns downwards.
Preserved: conceptual meaning (decline)
Changed: The shift toward a quantitative visual display of linguistic abstraction.
Metaphorical
Illustration: An illustration of a collapsing building or people fleeing.
Preserved: An emotional meaning (disaster and danger)
Changed: The abstract economy is replaced by a visual metaphor, which is physical.
Symbolic
Illustration: A fallen or dead bull (symbol of a bullish market)
Preserved: The semantic domain (economy or market)
Changed: The natural language is replaced by culturally coded symbolism.
Key point
Intersemiotic translation is neither apparent nor transparent, the meaning is never converted without changes. Illustration is not able to merely present a text, but rather it is necessary to re-enact it via the capabilities of the visual form (Kress, 2010, p. 121).

3.4.5. Illustration and Layout: The Spatial Dimension of Meaning

An important contribution of multimodality is that of the focus on layout, meaning the placement of elements on a page or screen. In graphic design, layout is a meaning-making mode by itself (Bateman, 2008).
Illustrations are interpreted through a number of layout principles:
Visual Hierarchy
Priority: What is seen first? The size, color, and position are used as guides of attention.
Sequence: How does the viewer's eye move? Web designs often follow Z- or F-patterns.
Emphasis: There are some elements that are of higher importance than others.
Grouping
Proximity: Things that are placed near each other are thought to be related.
Similarity: Items that are the same in terms of color or shape are likely to form groups.
Enclosure: Elements of a common boundary emerge as one unit.

In infographics, an illustration can be placed within a green box, and the explanatory text located outside the illustration. Even when the content is obviously linked, viewers can ignore it with the assumption that the content is separate. This case constitutes a multimodal failure.
Reading Path
Reading paths differ among cultures:
Left-to-right (LTR): Europe, and North America
Right-to-left (RTL): Arabic, Persian, and Hebrew
Top-to-bottom: Traditional Chinese, and Japanese
Illustrators have to be consistent with the cultural conventions of reading. The left-to-right composition is an indication of progress. The identical motion when run back to right to left before an audience with a right-to-left orientation can indicate regression or turnaround (Kress & van Leeuwen, 2006, p. 198).

3.4.6. Limitations of the Multimodal Approach

Risk of Over-Analysis
The visual grammar suggested by Kress and van Leeuwen is very elaborate. But some design decisions are not made consciously. Intuition is employed by a lot of designers and illustrators instead of strict semiotic regulations. This brings about the danger of excessive reading, where unintended decisions end up getting connotative interpretations. Kress (2010) reacts by stating that, even unconscious decisions make social sense. Culture and its conventions both guide designers whether they want to or not.
Assumption of Universality
The visual grammar is mostly indicative of the Western visual culture. Is the principle left = given, right = new true in the RTL cultures? Studies propose that it is but with lesser strength (Yau & Huang, 2015). Is the development of high-angle = power intercultural? The evidence regarding cross-cultural communication is scarce.
Limited Attention to Technology and Materiality

Similar to semiotics, classical multimodality places emphasis on the symbolic meaning and tends to disregard the following:
Materiality: Lustration on textured paper and a full-color LED display screen.
Interaction: Static images compared with rotation or animated pictures.
Algorithms: Filters, artificial intelligence tools, and image compression influence the creation of meaning.

Analytical Complexity

Multimodal analysis is complex and time-consuming. Multiple modes and their relationship have to be coded simultaneously by researchers. This leads to:
Low scalability: Large studies are hard to achieve.
Low inter-coder reliability: Intercoder variability in intermodal relations.

3.5. Cognitive and Emotional Psychology

While semiotics, rhetoric, and multimodality deal with the meaning in culture and the structure, cognitive psychology poses a different question. What is the perception of illustrations in the human brain?

3.5.1. Dual Coding Theory: Visual Superiority

The dual coding theory of cognitive psychology is one of the most influential theories (Paivio 1971, 1986). He suggested that human beings have two independent and yet interconnected systems of thinking to process information:

Verbal System

Processes language, verbal and written.
Works in series, in a linear fashion.
Manipulates abstract information.

Imagery System

Processes visual-spatial data.
Works with a parallel and holistic approach.
Transactions on concrete, quasi-perceptual material.
The central claim is simple. System information of either system is recalled at a superior rate. This is commonly known as the dual coding advantage.

Implications for Illustration

The introduction of an idea by word and illustration results in:
Greater learning: Dual coding forms various memory tracks.
Improved memory: The memory can be based on words or on visuals.
Greater transfer: Information is more applied in new situations.

Empirical Evidence

There is a meta-analysis comparing 155 studies conducted by Carney and Levin (2002). The inclusion of illustrations helped to enhance learning on average by 89 percent when lectures were provided with illustrations (Carney and Levin, 2002).
Not all illustrations help. As indicated by Paivio and subsequently, Mayer (2009), illustrations have to be:
Relevant, not decorative
Combined both spatially and conceptually with text.
Expanding, interpolating meaning as opposed to repeating it.

3.5.2. Cognitive Load Theory and Multimedia Design

Mayer (2001, 2009) generalized the thoughts of Paivio to the Cognitive Theory of Multimedia Learning (CTML). In his argument, he said that the best learning develops when specific design conditions are established.

Mayer's Principles for Text–Illustration Design

Multimedia Principle

Individuals have a higher learning capacity in text with illustration than when they are only using text. The improvement of recall is 23 percent, and improvement of transfer is 47 percent (Mayer, 2009).

Spatial Contiguity Principle

Illustration and text must be put closely together. Separating causes unnecessary mental load for the learners, since they will have to establish mental relations between them.

Temporal Contiguity Principle

Text and illustrations should be presented at the same time, not one after the other.

Coherence Principle

Irrelevant or ornamental illustrations must be eliminated. They distract and take up scarce cognitive resources instead of providing assistance. Even interesting pictures can be detrimental to the learning process as it was reported in one controversial finding that said visually appealing pictures can be destructive to the learning process (Harp & Mayer, 1998).

Redundancy Principle

Combining written, verbal, and pictorial presentation simultaneously overloads the cognition. The combinations that are better are illustrated with narration, illustrated with written text, but not all three.

Application to Infographics and Educational Illustration

It is these principles that explain the failure of cluttered infographics. The excessive use of pictures, writing, and color overloads the working memory (Sweller, 1988).

3.5.3. Picture Superiority Effect and Memory

An extensive amount of the research evidence demonstrates greater recall regarding images as compared to words.

Picture Superiority Effect

Individuals recall images 65 percent more than they recall words (Standing et al., 1970; Paivio and Csapo, 1973). The ability to recall images after three days is about twice as much as the ability to recall words (Standing, Conezio, & Haber, 1970).

Why Does This Happen? There are Three Explanations:

Dual Coding (Paivio)

Pictures are coded visually and verbally. For example, the word dog and a mental picture of a dog.

Distinctiveness

Images are more distinctive than words. Each image is unique, while words often look similar to one another (Nelson et al., 1976).

Deeper Processing

Pictures have fuller semantic content. Color, texture, atmosphere, and context can be realized in one image (Craik & Lockhart, 1972).

Caution

The picture superiority effect is most effective with significant and relevant images. Weaker advantages may be exhibited in unrelated or very abstract visuals (Anglin et al., 2004).

3.5.4. Illustration and Emotion: Appraisal Theory and Persuasion

Outside cognition, illustrations cause emotional reactions which determine mindsets and conduct.

Appraisal Theory of Emotion says that emotions are cognitive evaluations of events (Lazarus, 1991; Scherer, 2009):

Goal relevance: Does this affect me?

Goal congruence: Does it help or block what I want?

Coping potential: Can I do something about it?

Illustrations shape these appraisals directly.

Example: Fear versus Hope in Health Communication

Frame 1: Fear

Illustration: Blackened diseased lungs, a suffering face

Appraisal triggered: High threat. low coping = fear

Effect: High attention. If coping seems impossible, people avoid the message (Witte, 1992)

Frame 2: Hope

Illustration: A healthy, active, happy person after quitting smoking

Appraisal triggered: Positive goal. coping is possible = hope

Effect: Motivation to act (Nabi, 2003)

Empirical finding: Dreadful illustrations that lack solutions are counterproductive in the context of communicating in health. Delusional denial or ignoring of the message by the people occurs (Peters et al., 2013). Fear and efficacy, or a visible solution, bring about high levels of persuasion (Tannenbaum et al., 2015).

Color and Emotion

It has been found that colors generate a certain effect, even though they have not been consciously processed:

Red: Arousal, danger, love, and excitement (Elliot & Maier, 2014)

Blue: Calm, trust, and professionalism (Palmer & Schloss, 2010)

Yellow: Happiness or warning, depending on brightness

Green: Nature, health, and growth

The meaning of color is cultural. In the West, white indicates innocence and a wedding, and in China, grief and demise. Red is love and peril in the West, but happiness and prosperity in China. Artists employed by international clients have to consider such differences (Madden et al., 2000).

3.5.5. Illustration versus Photography: Cognitive Differences

Scientists have started posing the question based on whether the brain reacts to illustration, as opposed to that of photography.

Early findings

Faster but Shallower Processing

Activating early visual regions (V1-V4) takes place fast, as well as episodic memory, in photography. The audience believes: This is real. I am witnessing it.

More interpretive areas, such as the prefrontal cortex, are also activated by illustration, and symbolic processing is induced. The question that may arise on the side of the viewer is: What does this mean?

Psychological Distance (Trope & Liberman, 2010)

Photography implies intimacy and immediacy. Illustration produces a feeling of distance and abstraction.

This distinction may be a weakness or a strength:

Photography can be more effective when it comes to such immediate and personal problems as disasters or healthcare.

On elaborate or abstract messages, such as in economic policy or philosophy, illustration can be more appropriate to the message (Amit et al., 2009).

Trust and Reality Bias

Photographs are more likely to be trusted by the audience. They assume that the camera does not lie.

But this is a bias. The manipulations can be applied to photography, and it can be selectively framed and also unrepresentative (Messaris & Abraham, 2001).

Illustration can actually be more honest in a sense. The audience is aware that it is something that has been interpreted, hence the mediation is clear.

3.5.6. Limitations of the Cognitive Psychology Approach

Reductionism

Cognitive psychology is more likely to make sense of brain processes. But the meaning is not in the form of mere thought. It is cultural, social, and political. An fMRI scan does not reveal the reason behind the strength of a certain illustration.

Artificial Laboratory Conditions

The majority of cognitive investigations are done in laboratories. People must listen, unlike actual audiences who may scroll. Pictures are presented in a vacuum, devoid of circumstances and purpose in the real world. Ecological validity is low.

Ignoring Individual Differences

The majority of the findings record averages, and people are different. Illustrations have different meanings for designers, artists and non-experts (Kozbelt & Seeley, 2007). Visual processing is also the cultural (Nisbett & Masuda, 2003). And children have illustrations read to them, not in the same manner as adults are read.

Absence of Power and Ideology

Cognitive psychology does not tend to be political. It is interested in the workings of the brain and not the recipient of that knowledge. According to critical scholars, this poses a challenge. It is possible to manipulate the findings through advertising and propaganda without the question of ethical considerations (Pratkanis & Aronson, 2001).

3.6. Cultural and Critical Approaches

Cognitive psychology inquires into how pictorials are processed in the mind. The question critical cultural studies poses is otherwise: On whom does an illustration represent, and what are the power structures reproduced or put into play? This tradition relies upon Marxist theory, feminist studies, postcolonial studies, and critical discourse analysis (Hall, 1980; Foucault, 1972; hooks, 1992).

3.6.1. Representation, Ideology, and Power

Stuart Hall and the Politics of Representation: Hall (1997) contended that the matter of representation is not merely a demonstration of reality. It creates reality. The meaning is constructed in terms of signs, and meaning is always contestable, always in negotiation, always in struggle (Hall, 1997, p. 10).

Symbolic representations created through illustration in the public media perform three functions:

Naturalize: They normalize and render power structures to seem normal and inevitable.

Stereotype: They simplify marginalized groups and make their complexity disappear.

Otherize: They build a “us” versus a “them.”

Example: Gender Representation in Children’s Illustration

It has been demonstrated that content studies (Hamilton et al., 2006; McCabe et al., 2011) have revealed that:

There are twice as many male characters in children's books as females.

Females are portrayed as relatively passive or ornamental, with many of them requiring support.
Male characters take actions, explore, lead, and make decisions alone.
Effect: These patterns are internalized by children and imitate traditional gender roles.

Resistance Approaches

Feminist publishers have drawn up contra-illustrations: Heroic girls, nurturing boys, and non-traditional families. But these remain on the margins of the market (Crisp & Hiller, 2011).

3.6.2. Critical Framing Theory: Who Frames?

The traditional theory on framing, which was discussed in section 3.2.2, is concerned with framing. The critical framing theory changes the point: Who frames, and why?
According to Entman (2007), there are three levels in framing:

Power to create frames

Who has the means to create public illustrations?
The illustration industry is male, Western-skewed, and white (Heller & Arisman, 2004).
Result: The visual frames encompass the views of certain groups.

Power to amplify frames

What frames are propagated by the mainstream media?
Frames that are dominant are repeated until hegemonic (Gramsci).

Power to resist frames:

Who can fight the dominant frames?
It comes through social movements, independent artists, and other media alternatives.

Example: Framing Migration

Dominant frame in the conservative media:
Illustration: An onslaught or torrent of figures, dark colors, and a feeling of danger.
Frame: Migration = invasion, peril, turmoil.
Aggressing the frame on progressive media:
Illustration: Families, children, and human faces, and warm colors.
Frame: Migration = a human story, refuge, and hope.
Central inquiry: Why does the first frame dominate mainstream media? This question can be answered by the power structures, the control of the media, and the political ideology (Van Dijk, 1993).

3.6.3. Foucault and the Scopic Regime

The regime of truth was brought out by Foucault (1972, 1980). It is a set of power-knowledge systems that define a number of key problems:
What is accepted as true?
Who is authorized to produce truth?
How truth circulates in society?
This concept was furthered by visual scholars to the concept of the scopic regime (Jay, 1988; Mirzoeff, 2015). Through this framework, three key questions are brought to the fore:
What is made visible?
How should it be seen?
Who has the right to look?

Illustration within Scopic Regimes

Illustration does not necessarily replicate reality. It actively influences what may be depicted in the first place.

Example 1: The Body and Health

Conventional medical illustration: The male body served as a norm, and the female body was represented as an anomaly.
Feminist illustration does not isolate, but diversifies and values the bodies and is neither exceptional, but normalizes (Martin, 2001).

Example 2: Poverty and Development

The images of NGOs provide people with a historical impression that African children are not only needy, but helpless as well, which normalizes dependency.
Liberatory illustration peaks in activism, opposition, and local agency. Therefore, the complexity reenters the image (Chouliaraki, 2013).

3.6.4. Postcolonial Theory and the Imperial Gaze

The ways in which colonial relations can be reproduced by visual culture are explored by postcolonial scholars (Said, 1978; Spivak, 1988; Bhabha, 1994).

Said's Concept of Orientalism

Said (1978) showed that Western art and literature created the image of the East as:
An exotic Other
Backward and traditional
Mysterious, dangerous, and sensual
This was in contrast to a vision of the West that was considered to be modern, rational, and civilized.

Orientalist Illustration

Travel illustrations of the 19th century presented the eastern indescribable shapes of buildings, colored attire, and exotic dances. Their ideological role was not hidden. They were the justification of the colonization with the intention to create the necessity to civilize.

Contemporary Legacy

These are the stereotypes that are still present in illustration:

Middle Eastern imagery is often centered on deserts, camel caravans, and violence.

African imagery is often based on wilderness, poverty, and the tribal life.

Wilson and Gutierrez (1995) determined that 78 percent of the news illustrations on African acts of war or famine, whereas just 4 percent showed progress or innovation.

Transformative Strategies

Global South artists come up with counter-illustrations. The works reinstate intricacy, cultivated modernity, and control over the depicted subjects (Berger, 2003).

3.6.5. Critical Discourse Theory and Illustration

Van Dijk (1993) and Fairclough (1995) developed Critical Discourse Analysis (CDA), which is the explanation of how ideology is reproduced by means of language. Rose (2016) and Machin (2007) adapted CDA for the analysis of illustration.

Three Levels of Analysis

Content Level

What is shown? Who appears, and who is absent?

How are subjects represented? Are they active or passive, powerful or vulnerable?

Formal Level

Style: What is the implication of realistic, cartoon-like, or abstract styles?

Color: What are the colors of particular groups or concepts?

Composition: Who is at the center and who is on the boundaries?

Contextual Level

Production: Who commissioned the illustration, and why?

Distribution: For whom and where was it published?

Consumption: What did audiences make of it, and what antagonistic meaning did it develop?

Example of a CDA Analysis

The Person of the Year illustration by Time magazine:

2019: Greta Thunberg, climate activist

illustration: She is standing up on a rock, and a stormy sea is at her back, and a determined expression is on her face.

Content: A young, female, European activist rebels against the stereotype that leaders are older males.

Form: The theatrical and realistic style, in addition to the cold blue-gray color, conveys seriousness and crisis.

Her selection was an issue of controversy and therefore, the illustration aims at building credibility with resoluteness and strength.

3.6.6. Limitations of Critical Approaches

Risk of Over-Instrumentalization

The critical approaches sometimes presuppose that the illustration is ideological and serves power in all cases.

However, there are numerous illustrations that are playful, decorative, or aesthetic in nature.

Excessive reading is a danger because of the ideological purpose attributed to each visual decision.

Lack of Systematic Methodology

There is usually an interpretation and a qualitative approach in CDA.

What is the method that researchers rely on to decide which interpretation is correct?

Confirmation bias may be possible when scholars are simply able to identify evidence that can substantiate their hypothesis.

There is a need, therefore, for inter-coder validation and methodological transparency.

Neglect of Aesthetics and Pleasure

Critical approaches focus more on power and ideology, however:

Illustration is liked by the audience. They do not just decode messages.

The aesthetic experience can be wiped away by reducing illustration to ideology (Eagleton, 1990).

Overlooking Resistance and Oppositional Meanings

Early critical models tended to view the audiences as passive consumers of the dominant ideology.

Hall (1980) proposed the encoding/decoding model, which can be read in diverse ways:

Tolerance of the dominant meaning.

A negotiated meaning between acceptance and resistance.

A meaning that is oppositional and which reinterprets the message.

Table 5. Summary of the Strengths and Limitations of the Six Theoretical Traditions

Tradition	Primary Focus	Key Strengths	Primary Limitations
Semiotics	Structure of meaning, codes, and signs	Precise distinctions (Icon/Index/Symbol), levels of meaning, and cultural codes	Structural bias, absence of the affective (emotional) dimension, and assumption of a passive audience
Visual Rhetoric	Persuasion, framing, and argumentation	Implicit argumentation, framing, and politics of representation	Instrumental bias, analytical one-sidedness, and neglect of aesthetics
Visual Narrative	Temporality, action, and narrative	Closure, text-image interaction, and news narrativization	Excessive focus on temporality, assumption of linearity, and neglect of non-narrative structures
Multimodality	Interaction of modes, and visual grammar	Coherent visual grammar, intersemiotic translation, and layout analysis	Risk of over-analysis, assumption of universality, and analytical complexity
Cognitive Psychology	Information processing, memory, and emotion	Dual coding, picture superiority effect, and role of emotion in persuasion	Reductionism, artificial laboratory conditions, and ignoring power and ideology
Critical Studies	Power, ideology, and representation	Unmasking ideology, politics of representation, and possibility of resistance	Risk of instrumentalizing the image, weak empirical methodology, and neglect of pleasure and aesthetic experience

4. Illustration as Communicative Action: Synthesis in Contexts

Having taken a critical look at the six theoretical traditions, we now consider the applications of illustration in real communicative situations empirically. The point here is to demonstrate that illustration is not decoration. It is a meaning-making activity that has specific discursive, cognitive, and rhetorical roles in various contexts.

We examine three key domains:

News and journalism: Illustration and the creation of news reality

Political communication: Ideology, persuasion, and illustration

Science and health communication: Illustration, popular comprehension, and confidence

For each context, we:

Identify on the chief functions of illustration.

Examine key debates.

Analyze case studies.

Highlight gaps in the current literature.

4.1. Illustration in News and Journalism

In journalism, both editorial imagery and news infographics are an increasing part of news reality creation and communication. Historically, this role has been ambiguous and contradictory.

4.1.1. A Historical Duality: Objectivity versus Interpretation

Contemporary journalism is based on the principles of objectivity. News is expected to show the truth as it is and unbiased (Schudson, 2001). Illustration, in its turn, is subjective and interpretive, and the hand of the artist is prominent.

This tension has given rise to three different ways of illustrating news:

Conservative Approach: Prohibition or Restriction

In the early twentieth century, many newspapers considered illustration unsuitable for serious news.

Photography was favored as objective evidence.

Illustration was also mostly restricted to cartoons and satire, which openly express opinion.

Pragmatic Approach: Illustration for the Unphotographable

Photography is limited or forbidden by some of the following conditions:

Courts, where photography is prohibited in a number of countries.

Historical events that are to be reconstructed.

Ideas, politics, or abstract concepts like economics.

Illustration is the solution as a necessary replacement.

Interpretive Approach: Illustration as Legitimate Interpretation

The New Yorker, The Atlantic, and The New York Times were all published in the 1980s and have actively expanded editorial illustration. The line of argument goes on to state that illustration does not substitute reality but provides an honest interpretation. Mediation transparency turns into a strength and not a weakness (Gamson & Stuart, 1992).

Table 6. Comparison of Three Approaches to Illustration in Journalism

Approach	Core Premise	Role of Illustration	Representative Publications
Conservative	Objectivity is equated with photographic realism	Forbidden, or limited to satire and caricature	Traditional early 20th-century newspapers
Pragmatic	Illustration as a necessary substitute	Used in cases where photography is impossible or unavailable	Courtroom sketches, historical articles
Interpretive	Journalism is inherently interpretive	A legitimate and transparent tool for interpretation	The New Yorker, The Atlantic

Source: Derived from Zelizer (2010) and Gamson & Stuart (1992)

4.1.2. Communication Functions of News Illustration

In journalism, illustration performs four major communication functions.

Interpretive Framing

News illustration provides interpretive frames for events that cannot always be captured by photography.

Case Study: Economic Narratives

The idea of economic recession is not tangible, hence it cannot be photographed directly. Illustrators thus stick to visual metaphors.

Metaphor 1: The Market Crashed

Illustration: A stock chart with a downward-facing red arrow, or traders with their heads in their hands.
Frame: Recession as a sudden collapse, disaster, and loss of control.
Emotional effect: Fear and panic.

Metaphor 2: The Economy Is Sick

Illustration: The economy represented as a patient on a hospital bed, physicians watching over him/her.
Frame: Recession is a temporary disease that is curable and has to be treated by an expert.
Emotional effect: Fear with hope and faith in professionals.

Analysis

This same event may be understood in two ways, which have different political implications:
Crash frame = seeks urgent and radical action.
Illness frame = promotes expert-friendly and slow solutions.
According to a study by Rodriguez and Dimitrova (2011), the 2008 financial crisis news illustrations are characterized by the fact that heir foundation was primarily based on disaster metaphors. This framing must have increased the panic of people (Rodriguez, L., & Dimitrova, D. V., 2011).

Emotional Tone and Mood

Illustration has the ability to create an emotional color to a news article, which cannot be done through text.

Case Study: COVID-19 Coverage

Our analysis of COVID-19 news illustrations in five international publications, covering January to December 2020, identified three dominant visual tones.

Tone 1: Panic and Threat (43% of samples)

Visual elements: The virus presented in the form of spiked balls, red and dark color palette, dystopian views of desolated towns.
Style: Darker visuals, strong contrast, and low angles, which imply pressure.
Effect: Increased fear, anxiety, and highly cautious behavior (Stolow et al., 2020)

Tone 2: Scientific and Informational (35% of samples)

Visual elements: Diagrams, statistical maps, infections, and vaccination mechanisms examples.
Style: Simple, light, and neutral, with primary colors.
Effect: Feeling of control, science education, and faith.

Tone 3: Solidarity and Hope (22% of samples)

Visual elements: People behind windows, heart symbols, and heroic healthcare professionals.

Style: Warm colors, low-key lighting, and human-focused pictures.
Effect: Empathy, team spirit, and resilience.

Figure 1. Distribution of Visual Tones in COVID-19 News Illustration (January-December 2020)

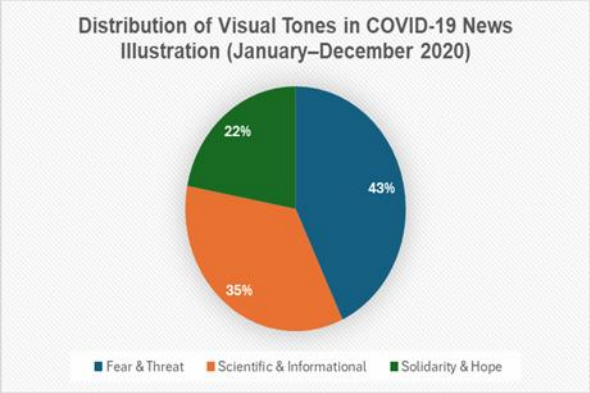

Figure1: This figure shows the prevalence of the visual tones of COVID-19 news illustrations throughout 2020. Images with the emphasis of panic and threat account for 43 percent of the sample, and surpass the scientific-informational narrative at 35 percent, and solidarity and hope at 22 percent. Such an imbalance reminds us of the prevalence of fear-based visual frames in the media coverage and can affect the public trust and the psychological strength of the audience (Stolow et al., 2020).

Key Finding

Various publications use different tones that represent their political and cultural inclination:
Conservative publications: More panic, risk, and restrictions.
Scientific publications: Data and solution-oriented informational visual preference.
Progressive publications: Vision of the world of solidarity, community, and collective responsibility.

Simplifying Complexity

One of the strongest capabilities of illustration is its ability to simplify complex issues without excessive loss of accuracy.

Example: Climate Change Illustration

The problem of climate change is highly complicated:
Several scientific processes such as the greenhouse gases and systemic feedback, are involved.
Long time scales that extend over decades.
International reasons combined with diverse domestic effects.
A polar bear atop ice that is melting as a representation of the whole crisis.

How Illustration Helps

Strategy 1: Visual Metaphor

A polar bear standing on melting ice as a symbol of the entire crisis
Advantage: Immediate, emotional, and memorable.
Disadvantages: Oversimplification, Western bias, and a sense of distance from the issue.

Strategy 2: Process Illustration

Carbon cycle, greenhouse effect, and causal chains diagrams.
Advantage: Educational value and scientific accuracy.
Disadvantages: It demands a scientific understanding and weaker emotional reactions.

Strategy 3: Narrative Data Illustration

Graphs of temperatures over time, with important events in history.
Advantage: It uses information along with the story and drives to action.
Disadvantages: More complexity, and it takes more time to learn.
O'Neill (2020) discovered that straightforward metaphors like the polar bear gain attention but bring little to the comprehension of the mechanisms of the workings. Process-based illustrations, on the other hand, facilitate in-depth learning (O'Neill, S., 2020).

Negotiating Objectivity Norms

Illustration can enable journalists to accomplish two things simultaneously:
Keeping up with the principles of objectivity by ensuring that there is transparency, indicating that the image is interpretive.
Provision of good interpretation in metaphor, framing, and tone.

Example: Political Cartoon

The most explicit type of news illustration is political cartoons:
They are publicly reproachful, satirical, and partisan.
However, they are shielded as opinion and not news.
This difference gives newspapers the opportunity to write with stinging criticism without compromising the credibility of the claims of objectivity in the news section.

Paradox

The cartoons of a political nature tend to be more significant and impactful than the

editorials (DeSousa & Medhurst, 1982). However, due to the perception that they are just images, they are not held accountable (Edwards & Winkler, 1997).

4.1.3. Key Debates and Tensions

Debate 1: Illustration vs. Photography: Trust and Credibility

One of the long-standing debates has been whether illustration can be used instead of photography without loss of audience trust.

Position 1: Photography = Truth, Illustration = Opinion

Advocates believe that photography has the indexical power that makes it credible by nature.

Photographs are usually regarded by the audience as evidence, whereas illustrations are interpreted as an explanation.

Position 2: Both Are Mediated. Illustration Is More Honest

Critics have asserted that other methods of constructing photography include angle, lighting, timing, and editing.

Illustration is an out-and-pointedly meditative, and therefore, the audience is aware of it being interpretative.

This is why illustration can be more truthful as it does not present raw truths (Zelizer, 2010).

Empirical Evidence

In an experiment, Messaris and Abraham (2001) discovered:

Students were separated into two categories.

Group A: A news item containing a photograph.

Group B: The story with an illustration.

Results

Trust in content: Group A had 18 percent more trust in content.

Knowledge of complexity: Group B scored 14 percent higher.

Recall: No substantial difference.

Interpretation

Photography is more likely to create a higher level of trust at the beginning, whereas illustration is better at advancing the comprehension.

Debate 2: Ethics of Representation: Visual Trauma and Privacy

Illustration can protect privacy and prevent visual trauma, yet this comes at some ethical cost.

Scenario 1: Courtroom Coverage

In many countries, courts do not allow photography and filming of the proceedings to safeguard the defendants, witnesses, and the independence of the judicial system of the nation.

Solution: Courtroom sketches.

Advantage: Protection of privacy and avoidance of spectacle.

Disadvantages: The illustrator may have biased it through his own eyes.

Ethical Question

Is illustration censorship, or a form of respect? (Jacobson, 2014)

Scenario 2: War and Violence

Photojournalism on war is direct and painful and depicts bodies, blood, and pain.

Some newspapers resort to illustration because they:

Preserve emotional intensity, avoid graphic violence.

Provide meaning and context, as well as, historical and political background.

However, risks remain

Sanitization: The illustration can make the world a lot softer concerning violence (Campbell, 2004).

Romanticization: War does not always seem a tragedy, but as artistic adventure.

Emotional distance: The decrease in explicitness can decrease action motivation.

The Dilemma

Too explicit = visual trauma and audience avoidance.

Too abstract = reduced impact and public indifference.

4.1.4. Research Gaps in News Illustration

Even though illustration has grown in journalism, little scholarly study in the field has taken place:

Limited Impact Studies

The majority of extant literature is based on the content analysis, and the question posed is what types of images are being depicted.

The experimental research is infrequent and open to investigation of how illustration creates perceptions, attitudes, and behavior.

Comparative Research

What is strongly needed is systematic research comparing illustrations, photography to the plain-text versions of the same story.

Some of the major dependent variables are trust, comprehension, memory, and persuasion.

The Production Process

What actually happens to the editorial decision-making concerning illustration?

What are the limits, demands, and demands on an illustrator's work?

The proposed questions require ethnographic newsroom research to be answered (Paterson & Domingo, 2008).

The Digital Dimension

What role do animated, dynamic, and interactive illustrations play in online news?

On social media, are illustrated stories shared more or less than photographic ones?

4.2. Illustration in Political Communication

While news illustration functions in tension between objectivity and interpretation, political illustration is combatively and aggressively ideological. In cartoons on politics, on campaign adverts, this is the media through which the public opinion is formed, supporters are organized, and opponents are combated.

4.2.1. Functions of Political Illustration

Political illustration plays four main functions of political communication:

Simplification and Symbolization

The political sphere is characterized by complicated government policies and ideologies as well as processes in the institution.

Illustration simplifies this complexity as it transforms it into clear visual symbols.

Example: Party Symbols

Elephant (U.S. Republicans): Strength, tradition, conservatism.

Donkey (U.S. Democrats): Endurance, the working class. First it was an insult and was later reclaimed.

Rose (European social democrats): Solidarity and social justice

Functions

Immediate recognition: The audience quickly understands political orientation without having to read the text.

Collective identity: Symbols create a feeling of presence as a part of the whole.

Historical continuity: Symbols communicate legacy and persistence.

Risks

Oversimplification: This is a debilitating state of policy debate, turning to a single image.

Polarization: The separation between them and us is further defined (Edelman, 1964).

Satire and Critique

A political illustration, including caricature, is one of the effective methods to criticizing authority.

Case Study: Anti-Trump Cartoons (2016-2020)

To criticize Donald Trump, cartoonists used four major tactics:

Strategy 1: Physical Exaggeration

Focus on orange hair, small hands, and body size.

Purpose: Mock, provoke a laugh, and take away the symbolic power.

Strategy 2: Demonization

Portrayals as Hitler, a child, a monster, or an evil clown.

Purpose: To produce fear, threats, and strengthen resistance.

Strategy 3: Symbolic Victimization

Depictions of harm to the Statue of Liberty, the Constitution, or society.

Purpose: The appeal to morality and arousal of moral outcry.

Strategy 4: Displaying Contradictions

Opposing the verbal assertion with visual practices that prove it wrong.

Purpose: Reveal hypocrisy and weaken credibility.

Research Finding

Medhurst and DeSousa (1981) showed that cartoons of Nixon influenced the negative opinion of the people earlier than impeachment, and in most cases, more so than editorials.

Ethical Boundary

How far can caricature go? This issue came into the limelight during the Charlie Hebdo crisis (2015):

Does satire have no limit, as the French secular tradition holds?

Or ought it to be sensitive to religious and cultural feelings?

According to some scholars, caricature has a punitive nature in that it punches upward. However, when they are directed against marginalized groups, it may serve to perpetuate negative stereotypes and give rise to hate (Kuipers, 2011).

Emotional Mobilization

Political illustration may also trigger emotions that translate to political action and mobilization.

Political Emotion Theory

According to Nussbaum (2013) and Marcus (2000), politics is not solely rational, it is emotional:

Anger is an impetus to protest and resistance.

Fear propagates pro-order support and good leadership.

Hope brings in participation and change.

Pride builds solidarity among groups.

How Illustration Triggers Emotion

Example 1: Obama's "Hope" Poster (Shepard Fairey, 2008)

The visuals consist of the face of Obama, the upward look into the future, red, blue, and beige patriotic colors, and the word HOPE.

This style is a mixture of stencil and minimalism, implying a sense of clarity and authenticity.

The prevailing feeling is hope, which is combined with inspiration and empowerment.

It was among the most famous political photos of the decade and inspired millions of voters (Gries, 2019).

Figure 2. Obama HOPE Poster

The poster titled Hope by Shepard Fairey (2008) shows how political illustration can be used to organize the audience using positive emotion.

Source: https://www.artic.edu/artworks/229396/barack-obama-hope-poster

Example 2: Populist Illustrations

Populist movements frequently use illustration to direct anger toward elites:

Ordinary people against corrupt elites, saturated colors, low-angle shots that make ordinary people appear grand prospects are some of the common themes.

Anger, perceived injustice, and revenge are the dominant feelings.

Risk

This kind of imagery may trigger polarization and reshape political opponents as adversaries instead of rivals (Salmela & von Scheve, 2017).

Constructing Collective Identity

Political illustration is a Illustration of social demarcation, which creates the definition of them and us.

Case Study: Nationalist Illustration

Nationalism relies on visual symbols to establish the feeling of national belonging:

Flags, emblems, and uniforms.

Art and monuments that were used to depict the heroes of the past.

Symbolic landscapes, such as mountains and rivers, framed as the homeland

Functions

Integration: unites different people into a single identity.

Differentiation: Distinguishes insiders from outsiders.

Continuity: Connects the present to the past and the future.

Critique

Stereotyping: The country seems to be homogeneous, and it does account for the diversity within the country.

Exclusion: The people who do not fit the national symbol are pushed to the margins, such as minorities and migrants.

Anderson (1983) explained in Imagined Communities that nations are social constructs, and illustration is one of the key mechanisms of this construction.

4.2.2. Key Debates

Debate 1: Propaganda vs. Legitimate Persuasion

Political illustration is always persuasive, but how far should this legitimate persuasion go, and when does manipulative propaganda set in?

Criterion 1: Source Transparency

Legitimate persuasion: The source is explicit (e.g., an advertisement for the Party X campaign).

Propaganda: The source is concealed (e.g., advertisements which seem to be autonomous, but happen to be state-funded)

Criterion 2: Use of Lies or Distortion

Legitimate persuasion: Exaggeration, partial emphasis but on the basis of fact.

Propaganda: Intentional lies and falsified images.

Criterion 3: Respect for Audience Autonomy

Legitimate persuasion: Invites thought and decision-making.

Propaganda: Emotional manipulation and stifling contrary views.

Historical Example

Nazi propaganda posters versus posters of a campaign in a democratic country:

Nazi posters: Ruthless stereotyping of enemies, mythification of leader, and criticism being repressed.

Democratic campaigns: Attack on opponents, but without dehumanizing them, and leaving room open to discussion.

Nazi propaganda posters vs. democratic campaign posters:

The gray zone

Most political illustrations are in a gray area. They rely on methods of propaganda like making an enemy and a threatening metaphor in a democratic situation.

Debate 2: Digital Manipulation: Political Imagery and Fake News

Digital art and technology tools, such as Photoshop, and more recently, AI such as deepfakes, DALL-E, or Midjourney, have also made the distinction between illustration and manipulated imagery unclear.

Scenario 1: A photo altered to resemble an illustration

Picture: The picture of a political leader was filtered with artistic effects until it resembled a illustration.

Risk: The audience believes that it is just another illustration (interpretive), yet it makes a documentary statement.

Scenario 2: AI imagery that looks photorealistic

Input: Midjourney creates a realistic image of Trump being arrested.

Risk: Individuals believe it is a photograph (reality) while it is fully made up.

Proposed Solutions

Labeling: Every illustration and image generated by AI should be labeled.

Media literacy: Educating users on the manipulation sense.

Regulation: Requiring platforms identify and flag artificial content.

It is not easy to enforce. Regulation can never keep up with the speed of technology (Chesney & Citron, 2019).

Research Gaps in Political Imagery

Long-term effects

The majority of studies are short-term and measure immediate impact.

The longitudinal research is required: What influence does political imagery have on collective political memory in the course of time?

Cross-cultural differences

The majority of the research is focused on the U.S. or Europe.

What do the processes of political imagery entail when it comes to non-Western systems? (China, the Middle East, and Africa)

Illustration and social media

What transforms the visuals of politics on the Internet via memes, remixes, and virality?

4.3. Illustration in Science and Health Communication

Illustration is an important part of science and the communication of health. It influences popular views on science, risk evaluation, and health choices taken by people. Scientific and health illustration should be educative, precise, and reliable, unlike journalism which is concerned with the antagonism of objectivity and interpretation, or politics, which is explicitly persuasive.

4.3.1. Functions of Scientific and Health Imagery

Simplifying Scientific Complexity

Older science, genomics, nanotechnology, and quantum physics are only comprehensible to the majority. Illustration is one way of mediating between the knowledge of the experts and the knowledge of the people.

Strategy 1: Visual metaphor

Example: DNA as a double helix ladder

In reality, DNA is a complex molecule and it possesses a definite chemical structure.

The illustration of the ladder with two strands is an simplified metaphor.

Advantage: Easy to memorize and easy to use.

Disadvantage: Simplifies and omits complexity, such as proteins and epigenetics.

Strategy 2: Scale translation

Example: The size of viruses

Stating that the coronavirus is 100 nanometers does not mean anything to the majority of people.

The solution is a comparative illustration: Just in case a virus is the size of a soccer ball, a human cell is a super stadium size.

Effect: Intuitive grasp of size.

Empirical evidence

A meta-analysis by Houts et al. (2006) on19 studies of illustration use on medical text revealed that the addition of illustration to medical text improved:

Recall by 28%

Comprehension by 22%

Adherence to instructions by 15%

This occurred when the improved was relevant and simple. Complex or decorative images had the opposite effect.

Managing Fear and Uncertainty

Health crises, pandemics, disease outbreaks, and environmental hazards are accompanied by scientific uncertainty and general fear. Illustration may be used to control both, yet it may worsen them.

Frame 1: Fear-based

Example: COVID-19 depicted as a sinister enemy.

Visual elements: Red/black spiky balls, attacking the body, and war imagery.

Metaphor: War against the virus.

Effects

Positive: More adherence to masking and distancing.

Negative: Too much fear, endemic stress, and pandemic fatigue.

Frame 2: Empowerment-based

Example: Vaccination as a protective shield.

Visual elements: Gold or blue shield, strong body, and bright light.

Metaphor: Protection and strength.

Effects:

Positive: Desire to get vaccinated, and a sense of control control.

Negative: May underestimate risk.

Research finding:

Witte & Allen (2000) tested fear-based messages, such as illustration, and discovered:

Moderate fear + solution given = maximum persuasion

High fear + no solution= defensive avoidance (people do not pay attention to the message)

Fear-based illustration is dangerous, when it is not accompanied by a solution (Tannenbaum et al., 2015).

Building Trust and Credibility

During an age of fake news and scientific cynicism, anti-vaccination efforts, and climate denial, illustration is either the cure or the killer of trust.

Strategy 1: Source transparency

Scientific drawings revealing the source of the data and the way the visual image was created are more trustworthy:

Bad: A chart with no source, no scale, and no date.

Good: A table with a title,

Example

Data: World Health Organization, 2023, including a link to raw data.

Strategy 2: Showing uncertainty

Science is not always sure, but the media tend to make it appear to be so. Illustration may be a statement of uncertainty:

Example: A climatic forecast graph with a band of uncertainty around, worst case, and best case.

Effects: More trust (scientists are becoming open) and a better risk perception.

But there is a danger. Signs of indecisiveness would be used to advantage. Climate deniers use it and say, See, even scientists are not certain!

Gustafson & Rice (2020) found:

Uncertainty + scientific explanation = trust increases.

Uncertainty with no context = trust decreases.

Body Illustration: Norms and Diversity

Health communication usually illustrates the human body. This can normalize narrow standards or glorify diversity based on the decisions.

The Issue: One-dimensional Illustration

A content analysis of health education material was conducted (Guttmacher et al., 2019) and revealed:

Bodies illustrated were 87% ideal, that is, thin, young, white, and non-disabled.

Diversity, overweight, old age, disability, or people of color only accounted for 4%.

Effects

Individuals who cannot see themselves in the visual depiction feel left out.
Irrational, idealized norms are strengthened as though everybody ought to look like that.

Solution: Inclusive Illustration

Health organizations are increasingly going toward more inclusive visual representations: Demonstrating dissimilar body types, ages, ethnicities, and abilities.
The description of natural processes, old age, pregnancy, sickness, and untidiness.
The point is that the illustrations of breast cancer should also feature women who have undergone mastectomy, and not only beautiful and healthy bodies. This helps reduce stigma.

4.3.2. Key Debates

Debate 1: Accuracy vs. Accessibility

Among all overriding tensions of science communication: To what extent is simplification acceptable?

Position 1: Scientific accuracy comes first

Other scientists hold that misunderstanding can stem from oversimplification.
Example: Saying Gene X is the cause of Disease Y but in fact, the situation is multifactorial.

Position 2: Accessibility comes first

Other communicators find it useless to be accurate when the common people are not able to follow it.
An approximation is better than no knowledge.

Proposed solutions

Simplify with caveats

The simple metaphor should be used, followed quickly by an assertion of its limitations.
Examples: DNA is a map. However, maps are never very complicated, while DNA is complicated.

Layered information

Simple illustration for first contact.
There is a link or QR code in case one desires a deeper look.

Audience testing

Ask yourself, does the target audience get what it is that the illustration is trying to communicate?

Debate 2: Illustration and Anti-Science, Fighting Misinformation

Scientific misinformation, anti-vaccination messages, climate denial, fake cures, often uses compelling illustration to spread.

Example: Anti-vaccine memes

Illustration: The depiction of a syringe as a weapon, a crying child, and a long list of poisonous chemicals.
Rhetorical strategies:
Fear: Vaccines are dangerous.
Mistrust: Big Pharma makes a profit out of it.
Oversimplification: Natural = good, artificial = bad

Why is it persuasive?

Emotional: The face of a child generates empathy.
Simple: The message is clear (protect my child).
Viral: Memes spread fast.

How do scientific organizations respond?

Strategy 1: Counter-Visuals

Science fiction that is no less emotionally compelling than the fake news.
Example: A healthy child who was immunized (vaccinated), sitting next to an ill child.

Strategy 2: Exposing the Manipulation

An illustration demonstrates the construction of anti-science memes, filters, selective presentation, and cherry picking.

Strategy 3: Partnering with Influencers

Trusted influencers use Illustration to deliver scientific messages in ways that feel accessible and relatable.

The challenge

False pieces of information are virilized more easily since they are more basic and have a greater emotional impact. Science should be equally persuasive to the point of not losing precision (Vraga & Bode, 2020).

4.3.3. Research Gaps in Scientific and Health Imagery

Effectiveness across specific populations:

The sample of most studies comes from Western universities.
There is a need to research low health-literacy groups, non-Western cultures, and the elderly.

Interactive imagery and virtual reality:

What is the AR/VR imagery effectiveness in medical and health education?
Example: surgical simulations, virtual tours inside the human body

Imagery combined with AI

Is AI-customized illustration, that is, illustration specific to each patient, better?
Example: cardiovascular risk illustration generated from a specific patient's data

5. Toward an Integrative Framework: Illustration as a Four-Dimensional Communication System

Having critically appraised six theoretical traditions in Section 3 with reference and empirically applied in three communication contexts in Section 4, we are now all the way to the primary objective of this review, which is to construct a unified communicative framework to demonstrate.

Four steps are involved in this part:

Determining the boundaries of current methods and the reasons of their combination.

There are four basic dimensions of communication in the form of illustration.

Giving the integrative model a pictorial and conceptual representation.

The framework of empirical research here is to be operationalized.

5.1. Limitations of Existing Approaches

Individually, as you can see, in Section 3, each of the six theoretical traditions provides actual insight on illustration, each is confined to its own point of view. These restrictions can be grouped into 3 categories.

5.1.1. Theoretical Fragmentation

The problem

They have a limited inter-disciplinary discourse, each tradition inhabiting its local territory of theory:

Semioticians do not account for to cognitive psychology.

Power and ideology are disregarded by cognitive psychologists.

Cultural critics disregard the working of the mind.

Researchers of multimodality tend to neglect affect.

The result

We possess an incomplete, puzzle view of illustration, not a knowledgeable view.

A concrete example

Suppose we are to examine an editorial illustration on climate change:

A semiotician would say: What are its signs? What cultural codes?

A mental psychologist poses: How does it work? Which emotions does it give rise to?

A rhetoric researcher poses this question: How does it convince? What frame does it build?

A cultural critic poses this question: What ideology? What power? What representation?

These are all valid questions, and they are all necessary, but they cannot be complete without the others. All these points of view are necessary to analyze it completely.

5.1.2. Unidimensional Biases

The problem

Every culture has a tendency to consider one aspect of illustration a priority:

Semiotics: illustration = a sign system (other dimensions are secondary)

Cognitive psychology: illustration = a cognitive stimulus (cultural meaning is secondary)

Critical studies: illustration = ideology (cognitive processes are secondary)

The result

Reductionism, the complexity of illustration is explained using only one dimension.

The metaphor

This is the case of the blind men and the elephant. One of them is touching just a piece and thinking he knows all.

5.1.3. Lack of Operationalizable Models

The problem

There are a good number of theoretical frameworks that are conceptually strong and practically weak:

The scholars are not aware of the application of these to empirical analysis.

The criteria of measurement are not clear.

This is because testable hypotheses cannot be formulated.

Example

It is insightful to say that illustration reproduces dominant discourse (a Foucauldian approach), however:

How do we measure dominant discourse?

How do we test the reproducing or challenging conditions of illustration A?

Which variables are supposed to be coded?

In the absence of operationalization, theory remains at the abstraction level.

5.2. Core Dimensions of Illustration as Communication

Following our analysis, we come up with four key dimensions. Both of them address different areas of illustration as a form of communication. These dimensions are not hierarchical. They work together and influence each other.

Dimension 1: Semiotic

How does illustration encode and structure meaning?

Dimension 2: Cognitive-Affective

How do audiences process and experience illustration?

Dimension 3: Rhetorical-Discursive

How does illustration perform strategic action and construct discourse?

Dimension 4: Contextual-Technological

How do medium, genre, culture, and technology shape what illustration can do?

We now examine each dimension in detail.

5.2.1. The Semiotic Dimension: Structure of Meaning

Definition

The semiotic dimension concentrates on the inside structure of the meaning in illustration. How visual components (lines, colors, shapes, composition) come together to constitute a structure of meanings.

Key concepts

Visual signs

Types: Icon (similarity), symbol (cultural convention), index (causal relationship, uncommon in illustration).

Example: A heart = symbol of love (convention), but a realistic anatomical heart = icon (similarity)

Levels of meaning

Denotation: What is this? (primary identification)

Connotation: What does this mean? (associations of the culture and emotion)

Myth: Representations of naturalized ideology (hiding ideology)

Visual codes

Technical codes: Light, shadow, contrast, and clarity.

Stylistic codes: Realism, cartoon, minimal, and baroque.

Symbolic codes: There are color codes that have cultural associations, and geometric forms that have cultural associations.

Semiotic relations

Paradigmatic: Preference of one aspect against others (why red and not blue?).

Syntagmatic: The arrangement and spatial relationship of the elements (top-bottom, left-to -right).

Table 7. Semiotic Analysis: Guiding Questions

Level of Analysis	Key Questions	Example
Identification of Signs	What visual elements are present? What type of sign is each element (icon / index / symbol)?	Heart, shield, virus, and human face
Denotation	What are these elements at the literal level?	Heart = biological organ; shield = defensive tool
Connotation	What cultural and emotional meanings do these elements activate?	Heart = love / life; shield = protection / power
Color Codes	Which colors are used? Why these colors? What meanings do they evoke?	Red = danger / love; blue = calm / trust
Stylistic Codes	What visual style is selected? Why this style?	Realistic = seriousness; cartoonish = lightness / accessibility
Composition	How are elements organized? (center / margin, top / bottom)	Center = most important; top = ideal
Inter-sign Relationships	Which elements are present and which are absent? What meaning does this presence or absence produce?	Presence of hero; absence of victim

Source: Barthes (1977), Chandler (2007), and Kress & van Leeuwen (2006)

Operational protocol for semiotic analysis

Step 1: Inventory: All the visual elements (objects, colors, characters, background) should be listed. Divide them into icon, symbol, and index.

Step 2: Denotative analysis: What is every element? Identify without interpreting.

Step 3: Connotative analysis: What does each element mean? Whence come those significances, cultural conventions, history, and intertextual references?

Step 4: Structural analysis: What do the relationships between elements look like? Opposition, heterogeneousness, subordination? What patterns of composition do we have?

Step 5: Mythological analysis: What ideology or naturalized truth is being suggested?

Practical example

Illustration: A vaccine is depicted as a golden shield that covers black viruses.

Semiotic Analysis

Analytical Level	Description
Elements	Shield, viruses (multiple), and human body (behind the shield)
Type of Sign	Symbol: Shield = protection; Icon: virus with spherical, spiked form
Denotation	Shield = defensive tool and virus = microorganism
Connotation	Golden shield = Power, value, and success; black virus = threat, evil
Color Code	Gold = positive, heroic; black = negative and threatening

Style	Semi-realistic, dramatic (contrast between light and darkness)
Composition	Shield at the center (focal point of importance); viruses around it (failed encirclement)
Myth	Vaccination as hero; narrative of the battle between good and evil (triumph of good)

Insight: This example creates a story of a fight and not a prevention. The ability of framing to be empowering can also increase the fear.

5.2.2. The Cognitive-Affective Dimension: Processing and Response

Definition

The cognitive-affective dimension examines the illustration process by the brain, mind, and body of the audience from perception to the result of experiential interpretation and reaction to the opinion.

Key concepts

Perceptual processes

Attention: What draws the eye? Salience is based on the size, color, contrast, and position. Newness is another thing; the thing which is not anticipated is noticed.

Pattern recognition: What about the recognition of shapes and objects? Visual features are the starting points of bottom-up processing. Top-down processing is based on prior knowledge.

Cognitive processes

Encoding: Visuospatial input to mental encoding. Dual coding (Paivio) implies that the brain is a visual and verbal encoder.

Storage: Short-term and long-term memory. The picture superiority effect: Implies that one recalls pictures better than words.

Retrieval cues: Recalling stored information. Illustrations serve as retrieval cues.

Affective processes

Primary emotional reaction: Rapid, automatic, and preconceived cognitive interpretation. Example: red and black invoke a feeling of danger, but the viewer does not even know why.

Cognitive analysis: Interpretation of the emotion. (What is this? Why do I feel it?)

Emotion regulation: The way the viewer copes with emotion that has been aroused.

Behavioral outcomes

Promotion: Will the illustration lead to action?

Decision-making: What effect does it have on decision-making?

Persuasion: Is there any attitude or behavior change?

Table 8. Cognitive-Affective Analysis: Guiding Questions

Level	Key Questions	Measurement Methods
Attention	Which elements attract attention, and why is that?	Eye-tracking and reaction time
Perception	What is seen, and how is it organized?	Identification and recognition tests
Comprehension	What is the is implied meaning?	Free recall and comprehension questionnaires
Memory	What is remembered, and in what manner?	Recall and recognition tests
Emotion	Which emotion is evoked, and with what is the intensity of said emotion?	Self-report (SAM) and physiological measures (GSR, HR, EMG)
Attitude	Does attitude change, and in which direction does it change?	Attitude scales and implicit measures (IAT)
Behavioral Intention	Is an intention to act formed?	Intention questionnaires and observation of actual behavior

Source: Paivio (1986), Mayer (2009), Lang (2006), and Nabi (2003)

Operational Protocol for Cognitive-Affective Analysis

Phase 1: Visual Salience Analysis

Determine the high salience: larger, more vivid color, and location.

Prediction: These are the factors that receive more attention from the viewers.

Phase 2: Cognitive Load Analysis

Is the illustration simple or complex?

Consider: Number of elements, detail level, and ambiguity.

Prediction: High complexity leads to harder processing and lower comprehension.

Phase 3: Memory Affordance Analysis

Do people remember the illustration?

Factors: Uniqueness, emotional relatability, and association with previous knowledge.

Prediction: Salient and emotionally tinged items enhance remembering.

Phase 4: Affective Potential Analysis

What emotions are likely? Fear, hope, anger, or joy.

Basis: Color, facial expression, and the content of threat or reward.

Prediction: Response Y is caused by Emotion X, e.g., fear causes avoidance or protection behavior.

Phase 5: Empirical Testing

Design: Illustration versus control group.

Measure: Attention (eye-tracking), recall (questionnaire), emotion (self-report), attitude.

Practical Example

Illustration: A COVID poster showing the virus as a large black monster.

Cognitive-Affective Analysis

Level	Analysis / Prediction
Attention	Large central virus + dark color = High salience and immediate attention capture.
Perception	The monster-like form is quickly identified (This constitutes a perceptual threat pattern)
Comprehension	The virus is understood as a major and potentially uncontrollable danger.
Cognitive Load	Low (one dominant central element) = Easy cognitive processing.
Memory	High recall due to the visual distinctiveness and arousal of emotions.
Primary Emotion	Fear is elicited by darkness, size, and other threat cues.
Cognitive Appraisal	This is dangerous + I am vulnerable.
Emotion Regulation	Without a clear solution = Defensive avoidance (denial and ignoring)
Persuasion	With solution: Higher protective behavior (masking and distancing) Without solution: Avoidance and reduced persuasion

Insight: This illustration would cause much attention and recall, but also high-risk defensive avoidance, unless accompanied by an explicit message of a solution.

5.2.3. The Rhetorical-Discursive Dimension: Strategic Communication

Definition

The rhetorical-discursive aspect looks at the role that illustration plays as an intentional communicative act, persuasion, ways of framing, creating discourse, and power.

Key Concepts

Communicative Intent

An actor (illustrator, editor, commissioner) creates an illustration for a purpose.

Potential objectives: informing, convincing, entertaining, criticizing, provoking, and reassuring.

Rhetorical Strategies

Visual Metaphor: The transfer of meaning across domains, e.g., the economy is a clinical patient calling out to be cured.

Hyperbole: Exaggeration for emphasis.

Irony/Satire: Saying one thing while showing the opposite.

Repetition: Repeating symbols to strengthen a message.

Framing

Selection: What comes to be selected, and what is omitted.

Emphasis: What is foregrounded, and what is minimized.

Association: How that elements are linked, whether by causality, by comparison, or contrast.

Discourse

Illustration is involved in bigger debates of science, politics, and identity.

It is able to imitate or counteract mainstream discourse.

Power and Ideology

Who can illustrate? Take into account access, resources, and distribution.

What interests does it serve? Economic, political, or cultural.

In what ideology does it naturalize? Sex, race, position, or social standards.

Table 9. Rhetorical-Discursive Analysis: Guiding Questions

level	Key Questions	Analytical Concepts
Intention	Who created this, and what was the purpose behind it?	Identification of the author or producer and production context.
Argument	What explicit or implicit claim is made?	Implicit argument and underlying assumptions
Strategy	Which rhetorical techniques are used?	Metaphor, exaggeration, irony, and repetition
Framing	What are the choices, and what choices are left out?	Presence or absence analysis, and salience
Audience	Who is the audience, and how is this is being audience addressed?	Audience identification and modes of address
Discourse	In which broad discourse does this fall?	Intertextuality and discourse history
Power	Which interests are strengthened, and which voices are omitted?	Power analysis and ideology

Source: Foss (2004), Entman (1993), Fairclough (1995), and Van Dijk (1993)

Operational Protocol for Rhetorical-Discursive Analysis

Phase 1: Production Context Identification

Who made it? For whom? Where was it published?

What are the likely goals?

Phase 2: Rhetorical Strategy Analysis

What metaphors, symbols, and ironies are present?
What does it do to appeal to the audience? Take into account the demand vs. supply and social distance.

Phase 3: Framing Analysis

What is present? What is absent?
What is central? What is marginal?
What implicit causality or solution is implied?

Phase 4: Intertextual Analysis

Which other texts does this illustration allude to? Symbols, forms, and visual allusions.
In what historical discourse does it sit?

Phase 5: Ideological Analysis

Whose norms are getting naturalized?
Who are the represented and empowered groups? Which are not?
What interests are served?

Applied Example

Illustration: A politician is caricatured as a puppet whose hands look like shadows and are pulling the strings behind them.

Rhetorical-Discursive Analysis

Level	Analysis
Producer	Independent cartoonist, published in an opposition newspaper.
Intention	Political critique, exposure, and satire
Implicit Argument	(Politician = puppet) + (Puppets are controlled) = The politician does not have independence.
Metaphor	Politician as a marionette (humiliation, passivity, and loss of agency)
Framing	Emphasis on hidden control (shadowy hands) and neglecting institutional political complexity.
Mode of Address	Invitation to adopt a critical gaze instead of having empathy or admiration.
Intertextuality	Reference to the historical tradition of using the puppet metaphor in political cartoons (e.g. Pinocchio or the marxist interpretations of the state as the instrument of the ruling class).
Discourse	Discourse of distrust toward elites and reproducing of the logic of hidden powers.
Ideology	Populist tendency: Politicians are corrupt or controlled (people = good and elites = evil).
Power	Empowerment of oppositional discourse via visual critique, wjich is accompanied with the risk of oversimplification and neglecting political complexities.

Insight: This illustration is a strong instrument of criticism, although it can intensify cynicism, a notion that claims all politicians to be corrupt, and distrust on the one hand.

5.2.4. The Contextual-Technological Dimension: Media Ecology

Definition

The contextual-technological dimension focuses on the influence of the meaning of illustration and its impact based on the medium, genre, culture, and technology. This aspect reminds us that an illustration is never autonomous it its existence. An illustration is always in a complex ecology.

Key Concepts

Medium and Materiality

Physical media: Paper, screens, public walls, and fabric.
The strengths and limitations of each media is different.

Example

Printed paper is static and durable. A screen is dynamic and fleeting.
Quality of materials: Texture, size, resolution, and color.

Example

An illustration on a versus an illustration on a small phone screen.

Platform and Conventions

Platform: Instagram, Twitter, print magazines, and museums.
Each platform has unwritten rules about size, ratio, and style.
Algorithms: How is an illustration distributed? For example, Instagram's algorithm shows more attracting illustrations.

Genre

Illustration genres: Caricature, infographic, editorial, scientific, and commercial.
Each genre has its own conventions in style, content, and function.
Violating conventions = Misunderstanding or innovation.

Culture

Cultural codes: Symbols, colors, movements, and references.
An illustration is interpreted differently in different cultures.
Cultural norms: What can be shown? what is taboo?

Production Technology

Tools: Hands, Photoshop, Procreate, and AI tools like Midjourney.
Every tool has its strengths and limitations.
Process: Collaboration between illustrator, editor, and audience.
Meaning is formed by the choices that are made in production.

Time and History

Historical context: An illustration created in 1950 is interpreted in a different way in 2025.
The endurance of styles: Visual styles evolve. (e.g., Art Nouveau to Bauhaus to Flat Design).

Table 10. Contextual-Technological Analysis: Guiding Questions

Contextual Dimension	Key Questions
Media	Where is it published? (Print, Digital, or Publi Space)
Platform	On which platform is it published? (Instagran Magazine, or Museum)
Genre	What type of illustration is it? (Caricature, Infographic, or Fine Art)
Culture	For what cultural context is it created?
Technology	What tools and technologies were used to crea it?
History	In what period was it created or consumed?
Audience	Who views it and how do they access it?

Source: Manovich (2001), Bolter & Grusin (1999), and Gitelman (2006)

Operational Protocol for Contextual-Technological Analysis

Phase 1: Medium Context Identification

Where was it published? Social media, public space, print, or web.
What are its physical characteristics? Size, quality, and durability.

Phase 2: Platform and Algorithm Analysis

What are the platform's rules? Aspect ratio, format, and length.
How does the algorithm distribute it? Engagement, likes, and shares.

Phase 3: Genre Identification

What genre does this illustration belong to?
Is it conforming or defying genres?

Phase 4: Cultural Analysis

What was the culture(s) it was intended to serve?
Which cultural codes are in operation?
Would it be perceived differently in a different cultural situation?

Phase 5: Production Technology Analysis

What tools were used? Hand-drawn, computer-generated, or artificial intelligence.
What affordances and limitations were those tools able to provide?

Phase 6: Historical Positioning

At what historical moment was it created?
Which styles or movements in the past does it allude to?

Practical Example

Illustration: An Artificial Intelligence-generated picture of the sustainable future city.

Contextual-Technological Analysis

Dimension	Analysis
Media	Digital; published on Twitter and LinkedIn.
Materiality	Screen (light, RGB), and high visual quality. There is a brief consumption in scroll culture.
Platform	Twitter (X): 16:9 aspect ratio. The attention must be to captured in roughly 2 seconds.
Algorithm	Visually attractive images + keywords (sustainability or AI) = Wider distribution.
Genre	Conceptual illustration and not realistic.
Genre Conventions	Dominant expectation: Futuristic, optimistic, and technological.
Production Technology	Midjourney (text-to-image AI generation).
AI Affordances	High speed and stylistic variety. Minor errors are possible (hands, architecture, and spatial details).
Culture	Designed for a global, tech-centric audience (Western, middle class, and familiar with AI).
Cultural Codes	Future = Technology + Green (Technological Solutionism).
History	2025: Peak hype of AI art and prevalence of Solarpunk aesthetics.
Stylistic Revival	References to Solarpunk and Art Nouveau (association of nature and technology).
Audience	Technologists, investors, activists, and sustainability advocates.
Accessibility	High (digital, free). However, it is limited to users with internet access.

Insight: This is an aesthetically sensitive illustration that is optimized by an AI technology and tailored to the social media ecology. It is also easy to share and aesthetically appealing. However, its cultural codes are Western and technocentric. Where cultures have a different definition of a sustainable future, it might otherwise fall on deaf ears.

5.3. An Integrated Model: Illustration as a Four-Dimensional Communication System

In this case, we are integrating the four dimensions in a one billion model. The dimensions indicated in the model include:
Work at the same time, not one after the other.
Engage in and influence each other.
Dynamic, not static, is in a feedback loop.

Components of the Model

Producer

Who: Illustrator, graphic designer, editor, institution, or employer?
Intent: Why this illustration? Educate, influence, entertain, or criticize.
Limitations: Financial, time, proficiency, censorship, and professional standards.

Artifact (Illustration as Object)

The four dimensions are simultaneously in effect:

Semiotic: Meaning, signs, codes, and levels.
Cognitive-Affective: processing possibility and emotional reaction.
Rhetorical Division: Convincing, conceptualizing, and ideology.
Contextual: Entrenchment in media, genre, and culture (the surrounding in our model)
Key point: These dimensions cannot be separated. They are different in the eyes of analysts, yet they are identical in the actual artifact.

Audience

Who: Man, society, or community.
Activity: decoding, interpreting, or responding.
Diversity: Different audiences might create various meanings, including dominant, negotiated, and oppositional (Hall, 1980)

Response

Cognitive: Attention, comprehension, and memory.
Affective: Emotions aroused.
Behavioral: Action, decision-making, and attitude change.

E. Social Impact

Micro level: Individual attitude and behavior change.
Meso level: Group representation and collective discourse.
Macro level: Ideological change, social norms, and power structures.

Context: The Surrounding Environment

Culture: Codes, norms, and values.
Medium/Platform: Affordances, constraints, and algorithms.
Genre: Conventions and expectations.
Technology: Tools and processes.
History: Time, events, and dominant styles.

Feedback Loop

The future production is determined by the reaction of the audience and social outcomes.
Example: When one Illustration becomes viral, other illustrators copy the style.

5.4. Operationalizing the Framework: An Integrated Analytical Protocol

One of the main objectives of this framework is the empirical usability. A four-step analytical research protocol is given below:

Phase 1: Context Analysis

Document the context before analyzing the Illustration itself.
Questions
Where was it published? Medium, and platform.
Who produced it? Author, commissioner, and institution.
When? Date and concurrent events.
For whom? Target audience.
With what goal? Informing, persuading, entertaining, and critiquing.
What genre? Caricature, infographic, editorial, and commercial.
Output: A context sheet for each Illustration.

Phase 2: Four-Dimensional Analysis

The systematic analysis is based on four dimensions.

Semiotic Analysis

List all visual elements
Type of sign: iconic, symbolic, or indexical.
Break down the denotative and connotative meaning.
Determine codes of color, style, and makeup.
Coding: conceptual code book (see references)

Cognitive-Affective Analysis

Making predictions of the distribution of attention on the basis of visual salience.
Measured cognitive load: complex or simple?
Market emotional possibilities: what feelings are probable?
Optional: Conduct empirical tests on attention, recall, emotion, attitude, or not.

Rhetorical-Discursive Analysis

Rhetorical devices: Metaphor, hyperbole, and irony.
Break down framing or what is chosen, what is not, and what they put more weight on.
Examine the mode of address of the audience: Demand or offer, social distance.
Locate the Illustration in a bigger discourse.
Learn ideology: Which norms and relations of power emerge?

Contextual-Technological Analysis

Medium and materiality: Paper or electronic, size, and quality.
Platform and conventions.
Production technology: Hand-drawn, digital, or AI-generated
Active cultural codes
Output: A table of analysis of each Illustration, four-dimensional.

Table 11. Integrated Four-Dimensional Analysis Template

Dimension	Variables / Codes	Findings	Interpretation
Semiotic	Visual Elements,		

	Sign Type, Denotation, Connotation, and Color and Style Codes		
Cognitive-Affective	Salience, Cognitive Load, Affective Potential, and Recall		
Rhetorical-Discursive	Rhetorical Strategy, Framing, Mode of Address, Discourse, and Ideology		
Contextual-Technological	Media, Platform, Genre, Technology, and Culture		

Phase 3: Interaction Analysis

What do the four-dimensional environments do to one another?

Key questions

Does semiotic style such as a cartoon appearance, influence cognitive processing by making the load less heavy?

Does the medium, such as Instagram, constrain rhetorical strategy? It may need to grab attention in two seconds.

Does the aroused emotion, like fear, alter semiotic interpretation, perhaps toward a more pessimistic reading?

Do genre conventions, as in caricature, create emotional expectations, like anticipating humor?

Method

Map causal links between dimensions

Example: Red color (semiotic) triggers arousal (affective), so attention increases (cognitive), and persuasive impact grows stronger (rhetorical)

Output: An interaction map, shown as a flowchart or network diagram.

Phase 4: Synthesis and Interpretation

What general insight do we get out of this Illustration as a communication act?

Guiding questions

How does this Illustration create meaning? Integrate the semiotic and contextual levels.

What happens to it, what reactions does it tend to elicit? Can be seen in the cognitive-affective dimension.

What is its communicative activity? See the rhetorical-discursive dimension.

What are the limitations or possibilities, of the situation? See the contextual aspect.

What social consequences will be probable on the micro, meso, and macro-levels?

Output: A story interpretation that incorporates all four dimensions in a convoy.

6. Conceptual Gaps, Theoretical Shortcomings, and a Future Research Agenda

The last section is a critical evaluation of the situation in illustration research and forms a future orientation. The objective is not merely to enumerate the so-called research gaps, which are usually presented in the final part of articles. Rather, it discovers more underlying conceptual issues and describes a transformative research agenda.

The section is divided into four parts:

The unresolved myths in the studies of illustration.

Unexploited areas that should be targeted.

Methodological issues and possible solutions.

Future perspectives of illustration communication studies.

6.1. Persistent Misconceptions in Illustration Studies

Although areas of theory have developed over the past few decades, illustration research and practice have problematic assumptions. These stereotypes not only curb comprehension. They are sending future research in the wrong direction.

6.1.1. Misconception 1: Illustration as Decoration

The misconception: Illustration supplements text. It is not an independent system of meanings. It serves to make things beautiful, capture attention, or interfere with the dullness of text.

How it is problematic: The meaning-making potential of illustration is not taken into account by this view. It deemphasizes illustration and does not encourage investment in research.

Arguments against it: It has been demonstrated that some illustrations can form a meaning that is in direct opposition to the text (Nodelman, 1988). Illustration is usually done in precedence of the text and forms an interpretive frame (Messaris, 1997). In other genres, including infographics and caricature illustration, predominates, as opposed to text.

Solution: Approach illustration as a non-partial communication system having distinct affordances. It is not inferior to text, but a corresponding complement to it, or it even predominates in certain situations.

6.1.2. Misconception 2: Illustration Equals Image

The misconception

A misleading belief that illustration and image are synonymous. Everything visual is from the same category.

And what is problematic about it is that it erases critical differences:

Illustration vs. photography: Semiotic differences (iconic/symbolic vs. indexical), epistemological differences (interpretation vs. testimony), rhetorical differences (free metaphor vs. the limitations of reality)

Illustration vs. diagram: An illustration may be narrative, metaphorical, and emotional. Diagrams are mostly analytical and quantitative.

Illustration vs. graphic design: The illustration is a visual content, whereas the graphic design is a form of systematizing this content, as well as typography and layout.

Result: The treatment of research subjects based on the study of images in general lacks the peculiarities of illustration.

Solution

Illustration must be defined precisely and operationally, as given in section 1.2:

Formal: Handmade and stylistic.

Functional: Interpretive and mediated.

Semiotic: Mainly iconic and symbolic, not indexical.

6.1.3. Misconception 3: Visual Codes Are Universal

The misconception

Visual codes are universal. An illustration means the same thing everywhere.

Why it is problematic

This puts aside a cultural variance:

Color: Within the Chinese culture, white is a sign of mourning, whereas in the West, it signifies purity.

Symbols: The owl in the west is said to symbolize wisdom, whereas in other cultures in Asia, it is considered an ill omen.

Body gestures: A motion seen as innocent in one society will be rude in a different one.

Direction of reading: Left -to-right, right-to-left, respectively in the West and Arabic and Persian.

Evidence

This is evidenced by Kress & van Leeuwen (2006) themselves admitting that their visual grammar is Western-centric. A study of cross-cultural differences has discovered that there are huge disparities in the way individuals make interpretations of illustrations (Nisbett & Masuda, 2003).

Solution

Conduct systematic cross-cultural studies: Find out whether the Western results can be generalized to non-Western settings.

Localize map codes: Determine what symbols, colors, and styles have a meaning in certain cultures.

Culturally conscious design: Illustrators who work with worldwide audiences need to take into consideration the cultural diversity.

6.1.4. Misconception 4: Illustration Is Right-Brain Processing

The misconception

The right brain processes illustration, therefore it is emotional, intuitive, and non-analytical. Text, on the other hand, is left-brained, that is, logical and analytical.

Why it is problematic

The myth of a right-brain/left-brain dichotomy is a widely known phenomenon, which contemporary neuroscience disproved (Nielsen et al., 2013). Both hemispheres are utilized in visual processing. Illustration may be very analytical such as in a scientific chart and a complicated infographic. It is not emotional or cognitive, but a blend of the two.

Result

This myth causes the underestimation of illustration as something emotional or not serious.

Solution

Accept that illustration is more complicated than only binary categories will admit to:

It may be effective as well as analytical.

It could be intuitively and consciously made.

It is processed not on one hemisphere but on general neural networks.

6.1.5. Misconception 5: Illustration "Speaks for Itself"

The misconception

The art of demonstration is just as plain as day. It does not require interpretation as its meaning is clear.

Why it is problematic

This does not regard the active audience and cultural context:

Illustration tends to be polysemous, and therefore it can be interpreted in a variety of ways.

The resulting meaning is a product of the interaction of the illustration, audience, and context.
Various audiences are in a position to create different or even contradictory meanings (Hall, 1980).

Example

An illustration a traditional family: Mother, father, two children:
When a conservative reader reads it, the way he reads it is as follows: a healthy family, a desirable norm.
A liberal reader interprets it to mean that there is the reproduction of a normative limitation that does not recognize the difference in family settings.

Solution

Reception studies: Research how real audiences interpret illustration.
Accept polysemy: Admit that illustration has no fixed meaning attached to it. It is a construction of meaning in the interaction.

Table 12. Summary of Misconceptions and Proposed Corrections

Misconception	Reality	Research Implication
Illustration = Decoration	Illustration is a comprehensive semantic system.	Focus on the independent semantic capacities of illustration.
Illustration = Generic Image	Illustration ≠ Photography ≠ Diagram	Precise conceptual definition and analytical differentiation of media.
Universal visual codes	Visual codes are cultural and context-dependent	Necessity of cross-cultural research.
Right-brained / Emotional	Dual-hemisphere processing. Both are cognitive and affective.	Utilization of more complex processing models.
Self-explanatory	Meaning is polysemic and dependent on audience and context.	Reception studies and acknowledging interpretative diversity.

6.2. Under-Explored Areas

Although illustration research is growing, there are still a number of areas that are severely under-researched or not studied at all. These do not merely exist as unattainable knowledge gaps but are revolutionary possibilities of research in the future.

6.2.1. Illustration and Power: The Political Economy of Visual Production

Gap

Representation in illustration, who, how, what is depicted, etc., has been analyzed in critical studies, but little concern has been given to the means of production and distribution.

Key Questions

Who holds the power to illustrate?

Who are the people who can be illustrators? (Access to training, tools, and networks)
What obstacles do we have at the structural level? (Class, gender, race, geography)
Industry data reveals:
72% of professional illustrators in the United States are men (AIGA, 2019).
85% of illustrators in major publications are white (Illustration Age, 2020).
There is a gross underrepresentation of the Global South.

Who makes the decisions?

What influences the content and style of the illustration? Editors, clients, and algorithms.
Which practices of explicit or implicit censorship are in effect in this area?
Example: Illustrators say they have been commissioned with less political, more positive, or safer to trade requests (Heller, 2008).

The economics of illustration labor

Pay: What is so wrong with the salary of illustrators?
Intellectual property: Who is the copyright holder? It is the employer (not the illustrator) who usually has the right to decide the way an illustration is created and reproduced.
The gig economy: How platforms like Fiverr and Upwork devalue illustration work?

Suggested Methods

Ethnography: Research working processes of illustrators, editors, and agencies.
Network analysis: Determine gatekeepers and power structure in the industry.
Economic analysis: Study markets, contracts, and value chains.

Why It Matters

Knowing who is depicted, and why, assists in answering how come certain images prevail, and why.

6.2.2. Illustration and Communication Ethics

Gap

Journalism ethics and advertising ethics are mature, but illustration ethics is very under-theorized.

Key Ethical Questions

Representation and harm
In what cases is an illustration stereotypical? Women, minorities and disabled individuals playing stereotypical characters.
In what cases does illustration result in immediate direct harm?
Example: Visual trauma, the visualization of violence or the visualization of poverty without permission or honor.

Truth and manipulation
Where does the interpretation and manipulation come in?
Illustration is interpretative by nature. At what point is it deceptive?
AI illustration and authenticity
In case an image is created by AI, should it be identified as such?
Can AI illustration have an author? (Implications for copyright and accountability)
Consent and privacy
At what point would there be a necessity to show real people with their permission?
Courtroom illustration: Can defendants regulate their image?
Drawing of public personalities, politicians, celebrities: To what degree?
Social responsibility
What should an illustrator be ethically responsible for?
Should the illustrator reject an order of deceptive or harmful material given by a client?
The battle between social responsibility and free expression.
Recommendations
Create professional guidelines: Like the SPJ Code of Ethics of journalism, illustration requires professional guidelines.
Ethics education: Incorporate ethical discussion into design and illustration curricula.
Research in applied ethics: Real Life Case Studies of ethical dilemmas in illustration practice.
6.2.3. Algorithmic Illustration: AI and Authorship
Gap
Authorship, creativity, and authenticity are some of the fundamental ideas that have been tested during the emergence of AI-based illustration software like DALL-E, Midjourney, and Stable Diffusion. Theoretical studies have been lagging behind.

Urgent Theoretical Questions
Is AI illustration real illustration?
That illustration is for us defined in terms of deliberate interpretive mediation of an author (Section 1.2).
In AI illustration
Who is the creator? The prompt writer? The algorithm? The training dataset?
Does it have a communicative purpose, or is the output practically random?
Originality and creativity
AI studies the existing illustrations that number in the millions.
Is it the creativity of mixing existing works or visual plagiarism?
Artists complain that their art was used to train AI without their permission.
Moral rights: How are we supposed to protect them?

AI illustration and misinformation
AI is capable of creating convincing and completely fake pictures.
Example: Pictures of Trump in an arrest swept the Internet, but they were a hoax.
What do viewers expect to see when viewing an illustration and AI-produced fakes?
Employment and social consequences
Will AI be used in place of human illustrators? There are clients who are now employing AI rather than employing illustrators, and this is leading to a loss of jobs.
Will AI democratize illustration and enable anybody to make illustrations? Or does it in any way diminish the profession?
Suggested Methods
Research comparisons: Human illustration or AI in quality, creativity, and persuasion.
Discourse analysis: What discourses are being built around AI art? (Threat versus opportunity)
Law-ethical research: The studies of the regulatory frameworks of AI.
Proposed Case Study
A visual Turing test: Do people distinguish between human and AI-generated illustrations?
Persuasive effects: Are AI illustrations equally emotionally and persuasively affective?
6.2.4. Illustration and Visual Literacy: Education and Empowerment
Gap

Textual literacy is acquired in a broad, systematic manner. Illustration literacy and, in general, visual literacy are peripheral.

Why It Matters

The image is saturated with society, and the majority of people have never been taught to interpret the images critically.

This exposes them to manipulated imagery, false information, and propaganda.

Research Questions

What is illustration literacy?

Components

Descriptive: The ability of recognizing visual elements.

Interpretive: The ability of interpretation of meaning, context, and intent.

Evaluative: The ability of critical evaluation, meaning bias, manipulation, and quality.

Productive: The ability of drawing an illustration or at least sketching out ideas.

How should it be taught?

At what level? (Primary, secondary, university, adult education)

What methods? (Sample analysis, practical exercises, and group discussion)

What tools? (Simple analytical frameworks, and educational applications)

Effectiveness

Do visual literacy lessons help to make people less susceptible to manipulation?

Experimental methodology: Trained groups vs control groups.

Proposed Curriculum

Primary level

Determining simple indicators (color, shape, figure).

Understanding that images are constructed, not real.

Secondary level

Analyzing visual metaphors

Understanding framing and bias.

Comparing the differences between illustration and photography.

University/adult level

The analysis of ideology and power in illustration.

Using theoretical frameworks (semiotics, rhetoric, and multimodality).

Creating a critical illustration to express a point of view.

6.2.5. Illustration in Emerging Media: AR, VR, and the Metaverse

Gap

The vast majority of the literature is on a static 2D illustration, either on paper or on screen.

Three-dimensional, interactive, and immersive space illustration is drastically underdeveloped.

Emerging Technologies

Augmented Reality (AR)

Illustration on top of the real world (Instagram filters, Pokemon Go)

New possibilities

Context-awareness: Illustration of the physical environment.

Interaction: The user touches and interacts directly with the illustration.

Virtual Reality (VR)

Illustration creates a three-dimensional complete space.

New possibilities

Immersion: The sense of being a part of the illustration.

Scale: Scale may be gigantic or small.

Multisensory: It is used together with sound and even haptic touch.

The Metaverse and virtual spaces

Illustration as social living environment

New possibilities

Shared: One illustration is shared by several individuals.

Living: Illustrations evolve with time in terms of events and contact.

Research Questions

How does three-dimensional illustration differ?

Cognitively: Is there a spatial fundamental difference?

Emotionally: Does immersion have a greater effect?

Rhetorically: What can we do to develop new persuasion strategies?

Ethics of virtual spaces

Identity and representation: How is it reflected through avatars, and what are the risks involved in stereotyping people?

Virtual violence: Is VR Violence bad, even when it is just an illustration?

Access

VR and AR require expensive hardware

Threat of a digital divide: Who can, and cannot?

Suggested Methods

Experimental design and testing: Produce prototypes of AR/VR illustrations and experiment with their users.

Ethnography of virtual spaces: Track the interaction of people with illustration within the Metaverse.

6.3. Methodological Challenges and Proposed Solutions

In addition to the missing content, illustration research has a number of methodological issues that hinder development.

6.3.1. Challenge 1: The Complexity of Multimodal Analysis

Problem

It is impossible to perform a complete analysis of an illustration without considering several dimensions simultaneously: semiotic, cognitive, rhetorical, and contextual. This poses challenging questions:

It takes considerable time.

It requires interdisciplinary knowledge.

It does not scale in large sample dimensions.

Proposed Solutions

Semi-automated coding tools: Machine learning mechanism is applied to first code color, composition, and object recognition. Further semantic interpretation is then done by a human analyst. Visual tools such as Google Cloud Vision API have the ability to detect visual elements on a large scale.

Interdisciplinary team division of labor: Each of the three members of the interdisciplinary team (semiotician, cognitive psychologist, and cultural critic) codes one aspect, and combines the results.

Strategic sampling: Instead of all the illustrations, select specific representative cases. Grounded qualitative depth analysis on a small sample is combined with quantitative content analysis on a larger sample.

6.3.2. Challenge 2: Low Inter-Coder Reliability

Problem

Interpretation illustration is subjective. Dealing with a variety of coders, there are always different conclusions:

The kappa calculated by Cohen is often less than 0.7 unless otherwise, as it is in text coding, which is usually more than 0.8.

It is a particularly acute problem of implicit and ideological analysis.

Proposed Solutions

More accurate code books: Operationalize every code operationally. Insert reference pictures as anchoring to every code.

Coder training: Conduct calibration courses during which coders will train on how to agree with one another and correct disagreements among themselves, followed by individual coding.

Accepting a multiplicity of interpretations: Without trying to get a single right interpretation, record that there are many different ways to interpret the information. This change is in itself a finding, and it demonstrates that illustration expresses numerous meanings.

6.3.3. Challenge 3: The Theory-Practice Gap

Problem

A variety of theoretical frameworks are excessively abstract. The empirical researchers are not aware of how to use them.

Proposed Solutions

Practical examples: No theoretical study can go without a case study that puts into practice the framework.

Sequential guidelines: Provide detailed guidelines for the execution of a framework. One model is provided in our own protocols in Section 5.4.

Software applications: Design illustration analysis software, which is a combination of existing structures. Visual coding in NVivo is one of the existing examples.

6.3.4. Challenge 4: Ecological Validity Limitations

Problem

Numerous studies are done under laboratory conditions.

The subjects will be made to see illustrations, but this is not the case in reality.

The context is artificial, with no distractions and no competition for attention.

Samples are made of students and not the general population.

Proposed Solutions

Field research: Study the interaction of people with illustration in the field. One can use eye-tracking during museum displays or stock photos and remarks on social media.

Diverse sampling: Leave students behind. Employ actual target markets, e.g., newspaper readers in the case of news illustration and patients in the case of health illustration.

Mixed methods: Integrate experiments, which have high control, with field studies, which have high realism.

6.4. Future Directions: A Transformative Research Agenda

The proposed research lines, ten in number, are based on the gaps and challenges above, and can redefine the field.

Research Line 1: Theorizing Algorithmic Illustration

Main question: How does Artificial Intelligence illustration change the character of authorship, creativity, and communication?

Project proposals: Comparative research on human vs. AI illustration within the framework of semiotic, cognitive, and rhetorical models; discourse analysis of the media narration of AI art as a threat or opportunity; legal research of copyright, moral rights in the age of AI.

Research Line 2: Illustration and Misinformation

Main question: What is the role of illustration in spreading or opposing-misinformation?

Project proposals: Anti-science memes about vaccines and climate change content analysis; counter-vaccination and anti-climate change counter-visual design and testing; visual literacy education pilot projects to create some audience immunity.

Research Line 3: The Political Economy of Illustration Production

Main question: Who has the power to illustrate, and what are the consequences of this in shapeing public representation?

Project proposals: Network analysis of the illustration industry and the gatekeepers; ethnography of editorial decision-making on which illustrations are chosen and the reasons and labor studies of the amount illustrators earn, the nature of work, and rights.

Research Line 4: Cross-Cultural Illustration

Main question: What are the differences between the illustration codes in different cultures?

Project proposals: Comparative research on the way the same illustration is perceived by the various cultures; mapping the symbols of the other cultures and the meanings of these cultures; designing methods of reaching the multicultural audiences.

Research Line 5: Illustration in Three-Dimensional and Immersive Spaces (AR/VR)

Main question: What is the role of illustration working in a three-dimensional and interactive setting?

Project proposals: VR experiments regarding the impact of immersion on processing, emotion, and persuasion; design and testing of educational and health illustrations in AR/VR; ethics of virtual spaces, representation, violence, and privacy.

Research Line 6: Illustration Literacy Education

Main question: What is the most effective way of teaching visual literacy?

Project proposals: Curriculum development across varied levels of education from primary school to adults; effectiveness studies to establish whether the instruction can reduce the manipulation, creation of digital tools, and educational applications of visual literacy.

Research Line 7: Illustration and Identity: Inclusive Representation

Main question: How is it possible to have more varied and more equal representations using illustration?

Project proposals: Longitudinal content analysis of variations in the representation of gender, race, and disability over time; participatory design involving the marginalized communities in terms of how to respectfully represent oneself; impact analysis on whether diverse or mixed representations lessen the effects of stereotyping.

Research Line 8: Illustration and Behavior Change

Main question: How can illustration effectively change behavior in health, environment, and social domains?

Project proposals: Experiments in the field of testing various illustration strategies in actual campaigns; longitudinal research on durable consequences not restricted by immediate reactions; exploring how illustration creates change, based on emotion, cognition, or social standards.

Research Line 9: The History of Illustration as Communication

Main question: How have the communicative functions of illustration changed through time?

Project proposals: Archival examination of change in style, genre, and function over decades; oral history interviewing of veteran illustrators, editors, and publishers; research on how new technologies, print, followed by digital technology, altered the practice of illustration.

Research Line 10: Illustration Ethics

Main question: What are the ethical requirements of illustration?
Project proposals: Development of an ethical code with illustrators, editors, researchers, and the communities that it affects; case studies of real-life examples of ethical dilemmas in illustrations; an approach to teaching ethics as part of design and illustration courses.

Table 13. Summary of the Ten Priority Research Lines

Research line	Main Question	Priority	Key Methods
AI and Writing	How can AI change the nature of illustration?	Very High	Comparative Studies, Discourse Analysis, and Legal Studies.
Misinformation	How can illustration spread or stop misinformation ?	Very High	Content Analysis, Intervention Design, and Empirical Tests.
Political Economy	Who has the power to produce and distribute illustration?	High	Ethnography , Network Analysis, and In-depth Interviews.
Cross Cultural	What are the cultural differences in encoding and decoding?	High	Comparative Studies and Cross-Cultural Experiments.
AR and VR	What are the characteristics of illustration in immersive environments?	Mediu m	VR Experiments and Experience Design and Evaluation.
Visual Literacy	How can critical education in illustration develop?	High	Curriculum Design and Effectiveness Evaluation.
Inclusive Representation	How can diversity, equity, and inclusion be realized in illustration?	High	Content Analysis and Participatory Design.
Change in Behavior	How does illustration change health and environmental behaviors?	Mediu m	Field Experiments and Longitudinal Studies.
History of Communicatio n	How has the role of illustration changed over the history of media?	Mediu m	Archival Analysis and Oral History.
Ethics	What ethical standards should govern illustration?	High	Case Studies and Formulation of Ethical Codes.

7. Conclusion: Illustration as a Legitimate Subject in Communication Research

7.1. Summary of Contributions

This integrative review aimed at restoring illustration as a unique system of communication. We proved the following.
Theoretically: There are six theoretical traditions, including semiotics, rhetoric, narrative, multi-modality, cognitive psychology, and critical studies, which provide valuable insights but none of them is sufficient in itself. These were put together by us in a four-dimensional integrative framework with semiotic, cognitive-affective, rhetorical-discursive, and contextual-technological aspects.
Conceptually: The conceptual definition of illustration that differentiates it from photography, diagrams, and generic images was provided. We have also outlined and criticized five deep-rooted myths that have kept the field back.
Methodologically: We introduced an analysis operational protocol that may be used by researchers in empirical studies, and suggested remedies to methodological troubles encountered repeatedly by complexity, reliability, and ecological validity.
Empirically: We have mapped the current research scene, in three major contexts, news, politics, and science/health, and found ten possible areas of research directions in the future.

7.2. Implications for Communication Studies

Four implications of the discipline exist in this review.
Extending visual communication theory: Visual communication should not be limited to photography and video. Illustration possesses special abilities, which need a special theoretical treatment.
Enriching multimodal analysis: Our framework depicts how different dimensions can be used at the same time. This may be used as a model in the analysis of other communications.
Bridging between micro and macro levels: The model relates individual processes, at the micro level, in the mind, to the macro level (social discourse and power). It creates an interface of communication psychology and communication sociology.

A practical research agenda: Illustration research cannot remain solely descriptive. It has to mobilize social issues, falsehood, representation, literacy, and ethics.

Implications for Practice

The implications associated with this review concern illustrators, designers, editors, and educators.

Illustrators: More thoughtful and informed practice can be facilitated by a theoretical understanding of how illustration works. Then, there can be consciousness of its ethical aspects, its representation, power, and responsibility.

To content managers and editors: It is not an ornament. It is a vital communication tool. Illustrative choices need to be discriminating and intentional, and not just a choice grounded in what is pleasing to the eye.

For educators: In design and illustration programs, communication theory should be taught, not just technical skills. General visual literacy and education are urgently required.

7.4. Final Remarks

Illustration is not decoration. It is communication. It is a sense-maker system that has powers that no other form is able to share entirely:

It constructs patterns of meaning (semiotic dimension).

It stimulates the mind and the emotions (cognitive-affective aspect).

It appeals and has power (rhetorical-discursive dimension).

It is formed in the cultural and technological backgrounds (contextual dimension).

It is important to appreciate the current communication ecosystems where the words are not necessarily complemented by the illustrations, but usually dominate by them.

We hope that this review will inspire further studies that will take illustration as a serious, legitimate, complex, and vital subject matter in the fields of communication research.

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