

Tension as a Semiotic Concept of Communication Effects. Studies in Media Contents in the Theory and Application of Communication

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ABSTRACT: This article presents tension as an interdisciplinary concept central to the effects of communication. The concept is grounded in rhetorical, semiotic, and media theory and interwoven with related ideas such as intention, the relationship between content and container, and extension. We argue that at the core of communication, both in theory and application, tension operates as an intrinsic dynamic between communicators, shaping meaning through interaction. In a review of the concept in recent research approaches and its fundamentals in the Platonic-Aristotelian philosophy we show that the approach of semiotics allows for theorization of tension, whereas the concept of tension is not only here but also in other contemporary areas of communication like rhetoric, discourse studies, and content analysis employed (sections I and II). The concept of tension is studied in three case studies of digital content and discussed for media of the contemporary world (section III). We present a model of tension in communication and describe how elements of tension reveal power dynamics in discursive communication and generate conflicting meanings that go beyond the basic semiotic structure (Section IV).

KEYWORDS: semiotics, tension, communication theory, media theory, rhetoric, Aristotelian philosophy.

TITLU: „Tensiunea ca și Concept Semiotic al Efectelor Comunicării: Studii ale Conținuturilor Media în Teoria și Aplicarea Comunicării”

REZUMAT: Acest articol prezintă tensiunea ca un concept interdisciplinar central pentru efectele comunicării. Conceptul este fundamentat în teoria retorică, semiotică și a măsării media și este interconectat cu idei conexe, precum intenția, relația dintre conținut și deținător, și extensia. Sustinem că, în centrul comunicării, atât teoretic cât și aplicativ, tensiunea acționează ca o dinamică intrinsecă între comunicatori, modelând sensul prin interacțiune. Într-o trecere în revistă a conceptului în abordările de cercetare recente și a fundamentelor sale în filosofia platonică-aristotelică, arătăm că abordarea semiotică permite teorizarea tensiunii, iar acest concept este utilizat nu doar aici, ci și în alte domenii contemporane ale comunicării, precum retorica, studiile discursului și analiza de conținut (secțiunile I și II). Conceptul de tensiune este analizat în trei studii de caz ale conținuturilor digitale și este dezbatut în legătură cu mediile de comunicare ale lumii contemporane (secțiunea III). Prezentăm un model al tensiunii în comunicare și descriem modul în care elementele tensiunii dezvăluie dinamici de putere în comunicarea discursivă și generează sensuri conflictuale care depășesc structura semiotică de bază (Secțiunea IV).

CUVINTE-CHEIE: semiotică, tensiune, teoria comunicării, teorie media, retorică, filosofie aristotelică.

1. Introduction

1.1. The Concept of Tension in the Contemporary Communication Theory

It is common to describe what we perceive in digital media as content regardless of the chosen form, which may range from text, graphics, images, and videos to animations and their combinations as multimedia texts (e.g., in social media, websites, or blogs). Media studies are conducted within semiotics, a discipline situated in the broader field of communication studies that contributes to the overarching theory of communication. Within the theory of communication *content* is a central concept for media. The word *content* is also used in contemporary colloquial language to refer to media texts. Associated with the concept of tension, media content is an integral element of contemporary media theory. The concept of content is employed in the semiotic approach to the theory of communication. Kaplan (1943: 230) in *Content Analysis and the Theory of Signs* refers to H. D. Lasswell's coining of content analysis for the theoretical semiotic approach to signs. In *Elements of Semiotics*, Hébert (2006) writes that the relation between content and container corresponds to the semiotic relation between the

signified and the signifier: "Semiotics is the academic field dedicated to the study of signs. A sign (for example, the word "ship") may be recognized by the presence of its constituent parts, which in semiotic theories based on Saussure's, at least, are the signifier (the container, or the sign's perceptible form: the letters s-h-i-p) and the signified (the meaning or content; the notion conveyed by the signifier: 'a vessel of considerable size for deepwater navigation')." Sebeok sees the duality of the sign as embedded in predictable and regular properties or structures, while the connotation and denotation of meaning are entailed in the referent. In *Signs: An Introduction to Semiotics* Sebeok (2002: 6) writes in his definition of the sign that "most human signs have the capacity to encode two primary kinds of referents, denotative and connotative, depending on usage and situation. Denotation is the initial referent a sign intends to capture. But the denoted referent, or denotatum, is not something specific in the world, but rather a prototypical category of something." In the *Handbook of Semiotics* Nöth (1990: 92) stated in his definition of meaning that the term meaning is used "in a very broad sense, covering both of the two more specific dimensions of sense (or content) and reference (object or denotatum)", while many semanticians define the term meaning "in a narrower sense which excludes the aspect of reference".

The association of "content" with media can be traced back to English-language print media in the 15th century. The *Middle English Dictionary* lists three lexemes for *content*. The respective three nouns *content* have in the written English language of the 15th century different meanings including one in the tradition of argumentation and another referring to what is contained or the contents of books, the most advanced contemporary media of this century. The noun *content*, meaning a dispute or quarrel, is recorded in *The Book of the Knight of La Tour-Landry* in "Wherof soured a grete content and stryf bytwene these two wymmen." (doubtful date 1450, London, British Library, Harley 1764) and in "þere content I-purposed afore ayenst the forsaide abbesse and coventer" in the *English Register of Godstow Nunnery, Oxfordshire* (Oxford, Bodleian Library, Rawlinson B.408, 1475). The noun *content* with the plural forms *contentes* and *contence* derived from the Latin plural forms *contentum* and *contenta* with the meanings 'things contained', 'contents', 'the content or extent in units of measurement', and 'a provision contained (in a document)' is in the 15th century recorded with a more abstract meaning. For books *content* is used in Higden's *Polychronicon* (2, London, British Library, Harley 2261) (uncertain dates 1425 or 1475) in an anonymous translation of "in whiche booke he dimencionate the worlde clerely with his contentes" from the Latin "cum suis contentis". A third lexeme of the *Middle English Dictionary* has the meanings 'contentment' and 'payment' for *content*.

The concept of extension is used in media theory by McLuhan in *Understanding Media. The Extensions of the Man*. McLuhan here used the concept to describe the effect of media as extending beyond their role as mere communication tools. In contrast to Aristotle who considered extension to be a feature of a physical body, McLuhan applies the concept of extension to the human senses that manifest themselves in media. So in *Understanding the Media. The Extensions of Man* (1964) McLuhan employs tension as extension for the relation between humans and media. The process of extension is for McLuhan (1994: 107) present in the writing of letters as "an extension and separation of our most neutral and objective sense, the sense of sight" and number as "an extension and separation of our most intimate and interrelating activity, our sense of touch." McLuhan writes concerning the sense of touch and numbers:

"In isolation, number is as mysterious as writing. Seen as an extension of our physical bodies, it becomes quite intelligible. Just as writing is an extension and separation of our most neutral and objective sense, the sense of sight, number is an extension and separation of our most intimate and interrelating activity, our sense of touch".

In the *Corpus Aristotelicum* for the concept of extension the word *έκτασις* with the meaning 'stretching out' or 'extension' is employed. The word derives from the verb *έκτείνω* and is only used for observable phenomena like the extension of body parts like a leg or limb in actions of living beings (*Progression of Animals* 711a30; *Parts of Animals* 688a16). On the contrary, the media theory proposed by McLuhan employs the concept of extension for a continuity of the functions of body parts in another area beyond the body, the media, an area lacking the vividness of living beings. The intended function

of both the sense of sight and the writing of letters, to take McLuhan's example, is the same for the human: The perception of the world. But between the letter and the human is a border; they are different and distinguishable entities. While in the modern media theory the concept of extension is used for media, Logan (2019) reversed the central thesis of McLuhan's book *Understanding Media. The Extensions of Man* (1964) for the age of digitality, and he writes: *The Extensions of Man* (1964) for the age of digitality.

Logan (2019: 1) writes:

"With digital media, not only are media extensions of their human users, as McLuhan posited, but there is a flip or reversal in which the human users of digital media become an extension of those digital media as these media scoop up their data and use them to the advantage of those that control these media."

The interaction process between media and users implies for Logan (2019: 1) an altered state of power and hierarchy: "The feedback of the users of digital media become the feedforward for those media." Logan (2019: 1) traced the idea that our tools are extensions of our body dates back to the latter half of the 19th century in the works of Ralph Waldo Emerson, Henry Ward Beecher, C. K. Ogden and I. A. Richards (The Meaning of Meaning, 1923) and Lewis Mumford (*Technics and Civilization*, 1934). Logan (2019: 3) describes the reversal effect of digital content as follows: "The users of a digital information system literally become an extension of that technology (i.e., de facto, the content of the medium with which they are interacting). This content is different than the "content" McLuhan referred to in his one-liner "the user is the content." The content in "the user is the content" is the way the users of an information system interpret the data they encounter. With digital media, the system itself is also interpreting. It is interpreting the users who literally become the content of that system as their keystrokes and the data those keystrokes represent are incorporated into the Big Data that comprises the system with which they just communicated". Logan (2019: 3) concludes that media dominate in the power dynamics: "The digital media being an extension of us and at the same time we becoming an extension of our digital media is a cybernetic feedback loop in which we become trapped and at the mercy of the creators and controllers of the digital information systems with which we interact." The concept of tension is present in the intentions of a subject that communicates what Keane in *On Semiotic Ideology* (2018) calls semiotic ideologies. Keane (2018: 66) writes that the intention of a subject and the interpretation are parts of a semiotic ideological framework:

"Differences among semiotic ideologies can also be so striking that they suggest quite dramatic contrasts between possible world views. For instance, it is a matter of semiotic ideology whether signs are taken to be interpretable because their relation to the world is arbitrary, or logical, or natural, or divinely ordained. Nor does it concern interpretation alone: the stakes may include whether manipulating a sign has effects on its object, whether politically (as in flag burning), legally (as in draft card burning), or in some more material sense (as in damaging a figurine in order to harm a person). Among other things, it determines what may or may not count as evidence of a subject's intentions".

Although the concept of tension appears in contemporary semiotic theory, it is rarely explicitly defined. Nadin (1982: 90) writes in his definition: "The state of tension I referred to as characterizing the semiotic field is consequently the tension between the data of observation of configurations and our own assumptions (processes of signs) as represented in concepts, models of ideal or extreme cases, theories." How does in semiotics tension between a thing and its semiotic representation come into existence? Historically, the theory of semiotics has contributed to the concept of tension. Liu (2023:132) used tension as a concept for the relation between "different modes from a social semiotic perspective", whereas "tension and cohesion are viewed as two poles on a continuum of meaning relations ranging from oppositeness to similarity, and image-text interplay is analysed as a balance between tension and cohesion." Liu concludes that "tension does not contradict, but closely cooperates with cohesion to produce a coherent message despite their semantic differences."

The idea of content as a carrier of semantic meaning is embedded in semiotic theory. So Picciuolo Aresta (2023: 143) mentions that the concept of content-figurae or semantic traits can be traced to sources and the corresponding analytical method in the works of Hjelmslev, Jakobson, and Eco. In In Eco's semiotic framework, content-figurae are interpreted as as that of "semantic primitives, and on that ground, its epistemological foundation and methodological efficacy are refuted." The concept of tension is present in the research approach of content analysis, which investigates specific features of content within text corpora. Content analysis was developed in the 20th century as a research approach on its own with semiotic-semantic categories in order to study recorded text corpora and to determine the presence of selected elements in qualitative data in the corpora. Content coding itself is a semiotic process that indexes units of selected media texts. Krippendorff (2004: XX) in *Content Analysis. An Introduction to its Methodology* noticed that "contemporary content analysis transcends traditional notions of symbols, contents, and intents. This may be seen in the evolution of the concept of communication, in how the development of media technologies has shaped our attention to communication, and in the role of culture in assigning significance to what is being analyzed." Fontanille in *The Semiotics of Discourse* (2006) incorporates the concept of tension in a semiotic model of discourse as a specific form of communication that entails relations of power between the communicators. Fontanille employs a spatial model of discourse, which entails a tension between a center and the horizons of discourse. Fontanille (2006: 60) states that the depth of the positional field of discourse is "conceived as a tension between a center and horizons, a tension that depends upon variations of perceived intensity and extend. For the sensible center of discourse, there is thus depth only if there is a change in equilibrium between intensity and extend and a variation in the tension between the center and the horizons." Fontanille differentiates between the discursive schemas of tension and canonical schemas (2006: 66-83) and employs the terms *Subject* and *Object* as the elements of the communicative discourse with a tension between them (2006: 74). This review of the concept of tension demonstrates that the concept is present within the theory of communication, particularly in its sub-field of semiotics, yet it has not been systematically explored as a means of meaning-making in communication processes.

At its core, the concept of tension describes a process of stretching. When applied to communication, the question arises: *What is being stretched in the process?* Here the semiotic approach of the transfer of meaning between separated entities seems to imply the presence of stretched meaning manifested as representation from an interaction in the minds of communicators. On the contrary, the use of the word tension refers concretely to a property of objects, independent of communicative acts, that involves physical extension: Derived from the common Proto-Indo-European root *-ten** 'to stretch' the concept of tension appears in Greek and Latin verbs like *τείνω* and *teneo*. The concept of tension is evident in the Greek word *τάσις* with the meanings 'stretching' and 'tension'. The word is in the *Corpus Aristotelicum* recorded in the expression *τάσιν ἔχειν* with the meaning 'to be capable of tension' to describe body parts of living beings (*History of Animals* 515b16). In the *Corpus Aristotelicum* the word is also used for the veins stretching from one point to another (*History of Animals* 492a20, 513a2). The concept of tension in the context of the theory of semiotics allows us to describe a feature of communication between in any unit of signs of media like texts, images, multimedia products, or videos, the content, and the communicators. While specific semiotic systems exist for text, images, videos, graphics, etc., the concept of content is an overarching category that spans across different media types. It seems that in the theory of communication tension describes a feature in the process of meaning-making in a communication process. The central question regarding the relevance of the concept of tension for communication processes is *How and with which impediments does the transfer of meaning take part in the communication process?* If we agree to a conceptual idea of stretching in the theory of communication, we must examine empirical indicators of its existence. Therefore, the following section will examine both the theoretical implications of tension in communication theory and its empirical manifestations in media content.

2. The Tradition of the Concept of Tension in Communication Studies

2.1. Initiating Tension: The Concept of Intention as Representation of the Logos

Semiotic meaning-making can be said to begin with an act of intention that conveys meaning. Whatever is expressed using semiotic terminology or is considered to have semiotic features, whether in theory or empirical study, is the result of an intention to initiate the establishment of a relation between the subject who intends something and its semiotic representation. This authority, which we call intention, is a contemporary semiotic concept that can be traced back to ancient semiotic foundations. For Plato the intention is a crucial feature of the logos that aims to signify. In the Platonic dialogue *Theaetetus* (206c-208c) Socrates uses the verb signify (σημαίνειν) in the question *What does the logos (λόγος) intend (βούλεται) to signify (σημαίνειν) for us?* In his answer Socrates states that it seems to him that it is one of three (τριῶν γὰρ ἐν τῷ), whereas the most perfect knowledge arises from the combination of logos (λόγος) and true opinion (τὸ μετὰ δόξης ἀληθοῦς λόγον προογενόμενον τὴν τελεωτάτην ἐπιστήμην γεγονέναι). Socrates then provides three elaborated explanations. Two of the intended aims of the logos are then summarized by *Theaetetus* as intellect in an utterance of the voice like an image and what has been exactly said through an element to the whole (τὸ δ' ἄρτι λεχθὲν διὰ στοιχείου ὁδὸς ἐπὶ τὸ ὄλον). Socrates adds as the third aim to have a certain sign (τι σημεῖον) to say what makes the thing in question different from all others (τὸ ἔχειν τι σημεῖον εἰπεῖν ὡς τῶν ἀπάντων διαφέρει τὸ ἐρωτηθὲν). Aristotle discusses the intention of the sign in *Analytica Priora* (70a), where he defines the enthymeme as a syllogism based on probabilities and signs ("Ενθύμημα δὲ ἐστὶ συλλογισμὸς ἐξ εἰκότων ἢ σημείων). The probable (εἰκός) and the sign (σημεῖον) are not identical. The probable is an approved proposition (πρότασις ἔνδοξος). The sign intends (βούλεται) to be a demonstrative proposition (πρότασις ἀποδεικτική) that is either necessary or approved. In *On the Soul* (435a11), Aristotle states that the soul is the organ of communicable meaning of the senses (αἰσθήσεις). In living beings with a soul the tongue of the living being signifies something to another one (γλῶτταν δὲ ὅπως σημαίνει τι ἔτερῳ) as an aesthetic experience.

In Latin the word *intention* is conceptualized within the theory of rhetoric. The rhetorician Quintilian calls in his *Institution Oratoria* (5.14.6.) the major premise of a syllogism intention (intentio) that is followed by assumption (assumptio) and conclusion (conexio) ("ita erit prima intentio, secunda assumptio, tertia conexio"). Here Quintilian employs the concept of intention in the process of logical reasoning. Additionally, in the *Institutio Oratoria* (3.6.19.) Quintilian uses intention (intentio) in the context of the stasis-theory of legal rhetoric in the example *You have practiced acting*, the repelling defense (depulsio) *I have not exercised acting*, and the question (quaestio) *What is acting?* ("nempe intentio est: artem ludicram exercuisti; depulsio: non exercui artem ludicram; quaestio: quid sit artem ludicram exercere?"). The concept of intention refers to an approach of the theory of semiotics. It refers to an initial activity of the signifying subject or the sign itself (that establishes semiotic phenomena). This use of the concept is also found in Aristotelian logic and the rhetorical tradition.

2.2. Tension in the Communication Process of Semiotics: Stretching as Sense Experience and Process in Human Communication

The concept of tension is in the Platonic dialogues used for the sense experiences that reach out (τείνει) to the soul and the reaching out (τείνειν) to someone by speech. Plato employs the concept of tension for experiences of the senses. In the Platonic dialogue *Theaetetus* (186b-c) Socrates asks if it is not true that from the moment of birth all sensations, which reach out (τείνει) to the soul through the body, (186c) can be perceived by humans and also by animals (αἰσθάνεσθαι ἀνθρώποις τε καὶ θηρίοις), whereas reflections (ἀνάλογισματα) about these, with reference to their being and usefulness, are acquired, if at all, with difficulty and slowly, through many troubles, in other words, through education? In another dialogue, *Phaido* (63a), Plato lets Simmias say to Socrates that it seems to him that Cebes reaches out (τείνειν) with a reasonable speech to Socrates (εἰς σὲ τείνειν τὸν λόγον)."

The concept of tension is in the *Corpus Aristotelicum* in the word τάσις as the capability of the body to stretch in living beings recorded (*History of Animals*, 515b1). In *Rhetoric* (1.7.40), Aristotle states that what is noticed is preferable to what goes unnoticed because such things "tend toward"

(τείνει) the truth (πρὸς ἀλήθειαν γὰρ τείνει ταῦτα). Thus, to be wealthy seems to be a greater good than appearing to be wealthy. Aristotle in *Rhetoric* (3.16.6.) explains that for the defense the narrative does not have to be long since what is disputed is either not a fact and has not happened or concerns that it was not damaging, wrong, or to the extend claimed so that one should not waste time over what was agreed upon unless anything tends (συντείνη) to prove that it was not wrong in case the act was admitted. The Greek verb *τείνειν* corresponds in historical linguistics to the Latin verb *tenere*. *Teneo* has the basic meanings 'hold', 'keep', and 'have' (A Latin Dictionary 1879). The concept of tension appears as containment in rhetorical theory concerning speech. Quintilian in the *Institutio Oratoria* (2.18.5.) uses the verb *contineo* in his statement that rhetoric is to be considered one of three arts. Since its application (usus) is mainly and most frequently related to (continetur) action (actus), the rhetorical art can also be called an active or administrative art (activa vel administrativa). Quintilian (4.2.10.) mentions Cornelius Celsius who thinks that a narrative (narratio) must contain (contineat) a summary of the crime that refers to the judgment. Therefore, he himself acknowledges that Cicero has presented a narrative (narrasse) in the speech *Pro Rabirio Postumo* ("Non enim putat esse narrationem, nisi quae summam criminis de quo iudicium est contineat, deinde fatetur ipse pro Rabirio Postumo narrasse Ciceronem;"). Here the verb *contineo* is used for the required narrative in the speech as a structural part of the rhetorical speech. The phrase "is qui audit, ab oratore jam obsessus est ac tenetur" ("he who listens, is already besieged by the orator and is held") appears in Cicero's *Orator* (Cic. Orat. 62.210.) as a brief remark on the effect of rhetorical speech.

3. Tension in Content of Digital Communication: Cases of Contemporary Digital Media Content

We now examine cases of communication involving digitally encoded contents in contemporary media texts. In the following cases we discuss tension as a semiotic phenomenon that occurs in the communication process between the signifying (the digital code), what is signified based on authoritative human intention and technical performance, and the reception of the information.

Case 1: Experience of Immersion as Tension: The Human as Digital Imagination of AI

Arm Technology defines in its glossary of terms digital immersion as the experience of "the physical world with the digital world of data. It comes in three main forms. The first involves technologies like virtual reality (VR), augmented reality (AR), mixed reality (MR), and extended reality (XR), all of which create an altered or enhanced environment." The imagined reality of a human-like AI for conversational communication with specific human characteristics is semiotically a representation of a human in terms of the style of the language and a visual appearance in fictive selfies expressed in the digital mode as content with human features. The *Kindroid AI Chat* is promoted as an immersive AI chat: "Internet-Connected: Discuss current events, share links, and let your Kindroid see images for a more immersive experience." The *Kindroid AI Chat* is appraised as "a digital friend":

"Kindroid enables you to build a digital friend so realistic, it feels like conversing with a human. Welcome to a world where cutting-edge AI blends seamlessly with human empathy.

Create Your Unique AI Friend - With Kindroid, you get to shape your AI's personality. Craft a detailed backstory and implant key memories, making your AI genuinely one-of-a-kind. Whether you want a friend to chat with, a character for roleplay, or a digital confidant, Kindroid's sophisticated language learning model (LLM) ensures your AI is as unique as you are."

The adaptation of the conversational style, interaction, and the ability to response to topics chosen by the user are human features of the chats with this personalized AI:

"Engage in Dynamic Conversations - Dive into deep, meaningful, or fun conversations with your AI. From discussing the latest news, sharing a romantic moment, to exploring complex topics, Kindroid's AI adapts to your conversational style. It's not just an app; it's a companion that grows and learns from every interaction."

The implicit tension lies in how personalized AI presents human reality of the non-digital world with digital technology. The word *world* is used as a metaphor of the imaginative world in the digital media by technology companies that promote immersion. So in *Think with Google* Bockholt (2017) in *VR, AR, MR and What Does Immersion Actually Mean?* wrote that immersion is 'diving into virtual worlds'. Bockholt (2017) writes:

"In the context of virtual reality, "immersion" is the condition in which the user loses awareness of the fact that they are actually in an artificial world. He or she experiences the virtual world with all of their senses and is able to, in contrast to cinematic "immersion", interact with the virtual environment."

Applications of immersion in media include immersive VR games or virtual avatars of humans like ABBA shows in London with avatars of the band members. Immersive elements of websites are automated chat bots that communicate with visitors giving them the illusion to interact with a human who is professionally associated with the respective organization. The immersive integration of the human keeps users grounded in the real world, while devices of digital technology are means to perceive aesthetic sensations that create the illusion of being in an imaginative location. An illusionary tension exists in such cases of an immersive production of a virtual reality using digital technology. The immersion of the digital environment is encoded in the digital code (binary code). Immersion engages the receiver in a constructed aesthetic experience, whereas the representations of sensations are solely digital and produce a conflict-generating tension.

Case 2: Fake News and the Order of News: Tension in the Representation of Facts about the World in Digital Contents

In the contemporary media industry digital content in the form of news is processed in automated digital processes besides the traditional process of news production in the editorial newsroom. An example is the digital news aggregator that collects news from different news outlets in order to communicate them to the users. The contemporary phenomenon of so-called fake news refers to news-like digital content that is fabricated and imitates the formats of traditional news. On social media, e.g. *Twitter*, bots of fake account holders spread news-like content. Conditions for the fabrication of imaginary facts are the untraceability of the source of contents, the non-conformity with news values and editorial practice and ethics, and the automated digital processes for the distribution of news. The fabrication of contents by digital automated processes is an attempt to add information about the world that never happened. While websites and social media publish fake news as disinformation for manipulative purposes, as a genre *fake news* is also by established news outlets produced and presented to the audience. So, *AP News* published a weekly section of fake news on their website as a review of events of the last week under the title *Not Real News: A Look at What Didn't Happen this Week* with the caveat "A roundup of some of the most popular but completely untrue stories and visuals of the week. None of these are legit, even though they were shared widely on social media. The *Associated Press* checked them out."

The order of news in digital formats is an underlying mechanism that selects news as content hierarchically in the communication process and displays this hierarchy to the receiving audience. In the aggregator *Google News* the three top stories are displayed as follows (7 June 2024):

D-Day 80th Anniversary in Normandy. (CNN. 7 June 2024)

Israel's Benjamin Netanyahu is Set to Address the US Congress on July 24. (AP News. 7 June 2024)

'Falling for Hamas Tactics': IDF Names 9 Terrorists Killed in School Strike, Slams Media. (Times of Israel. 7 June 7 2024)

While aggregators do not alter news content, they can select the news like in the example of the top stories according to selected criteria. As an effect of the intended selection process tension exists between the represented world and reality. In the case of *Google News* the selection is done by

an algorithm with specific news values. The *Publisher Center Help* of Google describes *Google News* as “comprehensive, up-to-date news coverage, aggregated from sources all over the world by Google News. Ranking in Google News is determined algorithmically by these factors: Relevance of content. Prominence. Authoritativeness. Freshness. Location. Language.” From a global or non-U.S.-American perspective the result of the selection might be called unbalanced due to a preference given to U.S.-American news and an intrinsic U.S.-American relevance in the case of the aggregated news presented in *Google News*.

The order of news as hierarchically organized content of media causes tension for the digital media themselves. As for AI applications, the retrieval of news seems to be currently a challenge for them. After the question *What is the most important news of the world today?* *ChatGPT* responds in the chat (7 June 2024):

ChatGPT

“The most important news of the world today can vary depending on what's happening globally, but it often involves significant events such as political developments, natural disasters, major scientific discoveries, or breakthroughs in technology. If you're looking for specifics, I can check the latest headlines for you.”

The chat continues as follows:

Ok, check latest headlines.

ChatGPT

“I'm sorry, but I don't have real-time browsing capabilities to fetch the latest news headlines. However, you can easily find them by checking reputable news websites or using news apps on your phone or computer. If there's anything specific you're interested in, feel free to let me know, and I can provide information or insights on that topic.”

The selection and the organization of contents in a specific order is in traditional media arranged in accordance with values of news that follow editorial guidelines. In the digital environment the selection process follows criteria and is performed by algorithms within the digital framework. Tension emerges here in the interplay of the communication process that entails the automated selection of contents and the receivers in the communication process who may have specific needs concerning news. The worldview of the audience may contradict or stand in contrast to the representation of the world as displayed in the format of content by the news outlets.

Case 3: Tension as Limitation of Knowledge Representation in Digital Contents: The World in AI Answers by ChatGPT

Let us take the case of a text generated by *ChatGPT* that responds to the question concerning a coming event: *Will there be an earthquake in the region x in Europe in the coming five years?* The following answer was given by *ChatGPT* to the question (6 June 2024):

“I can't predict specific future events like earthquakes. However, Hamburg is not typically known for frequent seismic activity.”

In the answer the AI application limits itself concerning the ability to predict, while the AI has established a relation between the signified city of Hamburg and the possibility of an earthquake in this region. *ChatGPT* is not only the receiving communicator for the question from the intentional authority of the human communicator but also an active communicator participating in transactions with the user. The content of this communication process excludes information about the future and potential events. Tension arises here from the contrast between unpredictable future events and the limited availability of historical data in the AI model.

Another question asked concerns the ability of *ChatGPT* to produce and prescribe the future of the conflict between Israel and Palestine. *ChatGPT* responded to the question *Please answer this question: How can the current conflict between Israel and Palestine be solved?* (6 June 2024):

"The conflict between Israel and Palestine is deeply complex and multifaceted, with historical, political, and social dimensions. While there's no simple solution, a comprehensive approach might involve dialogue, mutual recognition, and efforts to address underlying grievances and aspirations of both sides. This could include negotiations for a two-state solution, addressing issues of borders, security, settlements, refugees, and Jerusalem. Additionally, fostering economic development and promoting tolerance and understanding could help build trust and pave the way for lasting peace."

Tension emerges in this content from the the opposition of the feasibility of the suggested solutions of the AI vs. the complex political situation of an ongoing conflict with a permanent change of events. The response promotes shared ethic values and addresses current political issues lacking any concrete evaluation of the current and historical situation of the area or insight into the current state of the conflict. The relation between the signified region (Israel, Palestine) and the signifying text produced by *ChatGPT* with its suggested solution to the conflict is a semiotic construction of tension at the semantic level of the text. The content entails the tension between peace-establishing actions (with a concrete suggestion of two states) and the interest of the parties involved in the conflict. The content can be described as a compressed, simplified, value-orientated signification without details and a concrete analysis of the situation and facts. This tension exists between the conflict that exists, the real world, and what is represented in the system of the digital environment.

AI applications produce automated processes for digital contents in common digital media formats like texts, images, and videos relying on available digital data in models that are reassembled by algorithms. Prompts serve as a means for the input by the human user who receives as output information on the interface of the computer screen in a human/machine interaction process of communication. The production of AI-generated contents entails a tension due to the production mode of AI contents with a model that relies on digital data related to past events in reality, whereas the actual events in the real world might be different and more complex than their representation in digital data of the AI model. AI communication contains tension due to the 'born digital' status of the recorded data. AI applications claim to present as a source of information knowledge about the world and even put it in the shape of human speech, while they are a technical tool for the automated processing of available digital data. This mode of communication simulates human speech, commonly framed in a conversational style called *chat*, in the AI application. In digital contexts AI and media algorithms introduce new layers of tension through data selection, simplification, and simulated interaction.

4. Media Contents and the Concept of Tension in the Theory of Communication

In the semiotic theory of communication tension refers to the interplay of communicators in the communication process. The communicators act as opposed contributors participating in meaning-making of shared content in the communication process. As a manifested phenomenon tension can occur in the content in the form of with a state of conflict at the semantic level of the text (as shown in the three cases). In the theory of communication tension is a feature of stretched meanings for signs shared between the communicators. In theory tension expresses the power of the discourse between the communicators. It is unfolded in the area between the intention of the initiating and meaning-making communicator and the receiving and interpreting communicator as the features of shifted ('stretched') meanings from the signs in the content by the communicators. In applied semiotics tension refers to phenomena in observable signs of conflicting oppositions (e.g. in the media contents a sign of opposition in the semantics of the text that is associated with different meanings). Contradictions emerging from the communicators establish tension of meanings and unfold it in the communication process in contents. In the theory of communication tensions are as result of contradictions a condition of the framework that can shift intended meanings, disrupt the flow of meanings, or alter meanings in

the communication process. The underlying principle for tension is the absence of an identity of intented meaning and the interpretation of meaning. Tension in content (e.g. media texts) depends on the relations between communicators that establish what is communicated (content). Any tension stems from different modes of meaning-making in transactions stretching across all participating entities in the communication process. Tension results from differences in meanings between the communicators and is intensified by technological mediation. Tension is an inherent element of the communication process serving as an indicator of meaning negotiation and power dynamics between the communicators.

In an interaction model of tension in the communication process (Table 1) the semiotic concept of tension can be described as an effect produced in the semiotic pathway of the sign (unit of signifying S_1 and the signified entity S_2) between the communicators. For the communicator A tension is an expression of power established as a sign of the signifying and the signified. For the communicator B tension is an imposed power to accept the constructed sign between the signifying and the signified. In the case that the interpretation is identical with the intended meaning an opposition does not exist. The signs, composed of the signifying and the signified, are as content the carriers of the discourse with its imposed tensions that stem from the constructed meanings produced by each communicators.

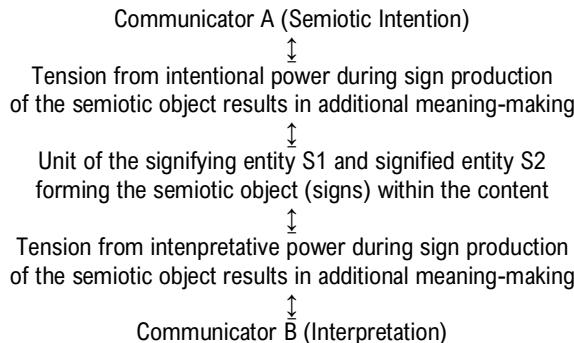


Table 1. Model of Tension: Interaction between Communicators

In the interaction model communicator A and communicator B interact in the communication process and establish the semitic object. In the area of tension between A and B meaning is added to the semiotic object of content. Likewise, in more complex interactions the signification can be reached in several transactions between the communicators. Tensions refer at the level of semiotic communication to toughts of the mind, manifestations of the mental activity of communicators, that represent intended and interpreted meanings. In the non-digital area the cognitive origin of semiotic operations is obvious, e.g. in a direct conversation. The process of stretching, the pulling over from one thing to another in a human cognitive act, can be described as the process of meaning-making. Cultural artifacts contain and preserve manifestations of previous semiotic processes since they contain accepted signs. Digital content can be seen as artifacts that contain cultural signs of the contemporary digital technology. As for the digital coding of content, the binary code of 1 and 0 employed in the digital media is an elementary representation for the digital culture. This code was once intentionally created and is now used as conventional code for any digital content. While tension can be generally described as the effect of stretching by power imposed on things, semiotic acts of communication display the result of tension from discursive power as conflicting meanings of signs. The meaning of the sign emerges from an exposure of tension of the different perspectives of the participating communicators. The tension connects the sign in a particular way to a meaning chosen by a specific communicator. This meaning may exist for one communicator, but not necessarily for another communicator. The concept of tension can be described in the classical theory of semiotics as the impact that brings an intended or

interpreted meaning associated with an altered relation between what signifies (*signifiant* in Saussure's terminology) and what is signified (the *signifie* in Saussure's terminology) by the communicators. Meaning caused by the power of tension is a secondary semiotic representation that depends on the primary established acts of signification of the content. Tension does not manipulate what is communicated, the content, despite the power that is applied to it in the communication process: The meaning is established by and in the communicators.

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