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Medial Transformations

Theorising the Intelligent Mediation Sphere

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Presentational Mediation Sphere

Representational Mediation Sphere

Mechanical Mediation Sphere

Electronic Mediation Sphere

Intelligent Mediation Sphere

Biological Mediation Sphere
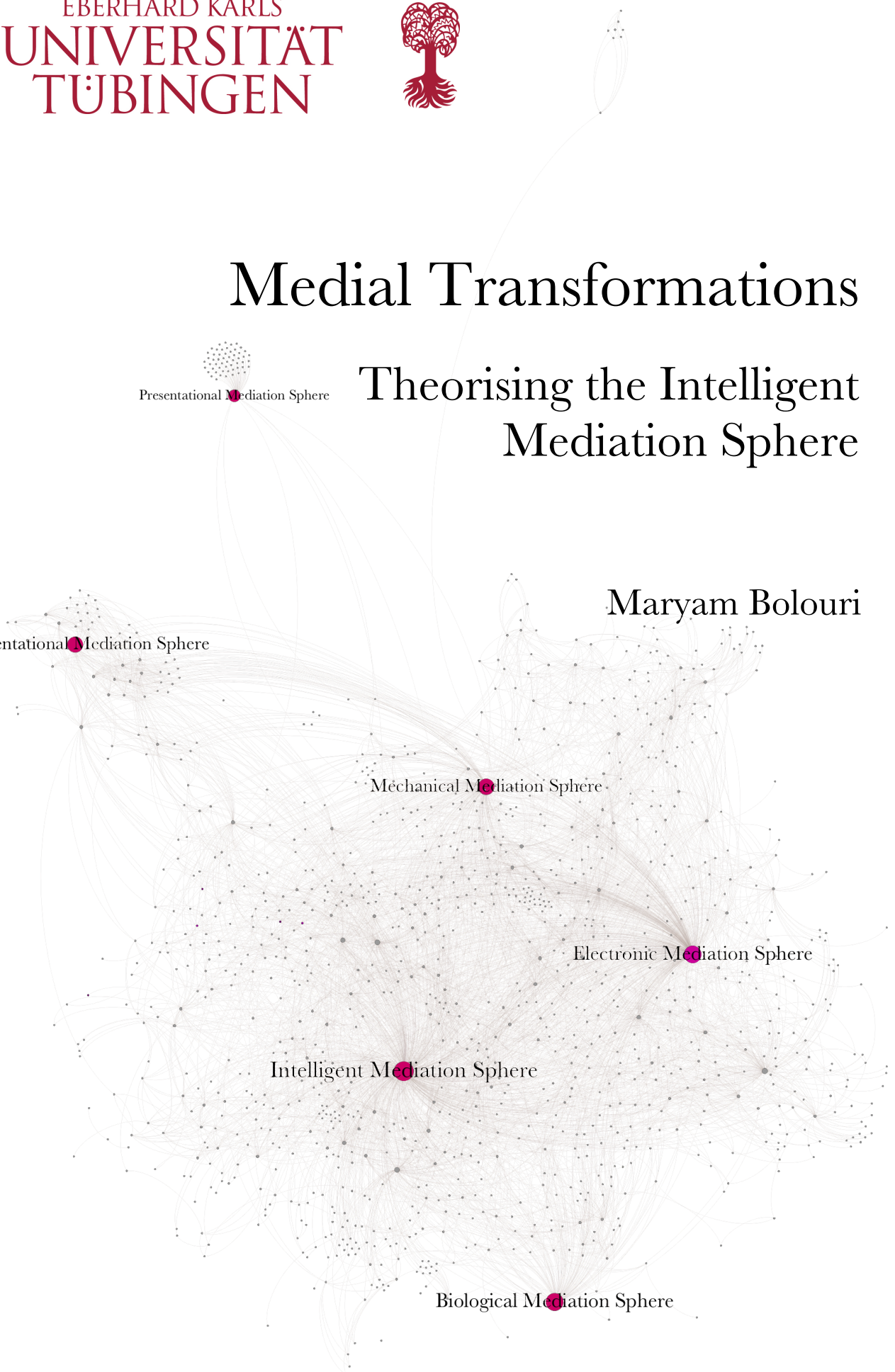
Medial Transformations: Theorising the Intelligent Mediation Sphere

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Dedicated to Mum, Dad &
to all seekers of Wisdom and Freedom

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Contents

Preface

Media are playing significant roles in the context of the contemporary world. They are deeply interwoven with many aspects of life. The relationships between contemporary media and societies and cultures are complex. Therefore, theorising media situation is a challenging endeavour. The central goals of the current book are to review the ontological and epistemological shifts in medium theories, to theorise contemporary media and critically examine the 'new' media practices. In a nutshell, the discussions revolve around three areas of media ontology, media typology and media practices. *Media ontology* addresses the concepts and definitions of media at a meta-level. The concept of media can be defined either *positive* – media as a particular technology or cultural/ communicational means – or *negative*[1] – media as complex sets of medial relations or mediation processes. In the current book, media are defined as mediation processes, sets of non-linear mediated formations in transformations (a dynamic-organic state of 'becoming' cultural events,[2] media situations,[3] mediated environments and mediation sphere).

Media cannot be reduced to certain modalities or technological characteristics, rather they 'set the shape, pace, rhythms, and typography' of cognitive, communicational, cultural, social, biopolitical life in temporal and spatial living environment.[4] This definition can provide a holistic approach for categorisation of media. In chapter one, the frameworks of arguments are further discussed in detail. Chapter two, three and four encompass the critical analysis of pre-medium, medium and post-medium theories. The pre-medium theories lack a cohesive and explicit line of discourses in defining media. The medium theories explicitly addressed the issue of

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[1] See Mersch's Negative Theory of media (Mersch, 2006)

[2] Grossberg (2010) considered mediation as 'between' state of consciousness and reality or in between the spaces of the virtual and the actual. The idea of 'in betweenness' in mediation is put into question and instead a dynamic-organic state of becoming is used.

[3] Meyrowitz (1985)

[4] See Grossberg, 2010: p. 632

media and introduced a new line of scholarship informed by various disciplines during the emergence of the 'mass media.' The post-medium theories encompass a larger spectrum of scholarship addressing the issue of mediality in globalised and networked societies.

Media typologies are usually based on media technologies or instruments of practices. In the current book, the broad media taxonomies are contextualised on the basis of mediation spheres,[5] the holistic definition of medium discussed earlier. This categorisation provides the scope for analysing dynamics of media situations in a holistic way. The milestones of media transformations in history can be divided into six categories including, *presentational, representational, mechanical, electronic, intelligent* and *biological* mediation spheres.[6] In chapter five the dynamics and characteristics of these mediation sphere are further discussed.

Contemporary *media practices*, which are usually termed by the practitioners, can be broadly divided into two categories of *media-design* (e.g. software design, application design, information design, web design, game design, sound design, computer graphic design, vision-design, interface design, etc.) and *media-art* (e.g. app-art, application art/software art, game-art, sonic art, digital art, algorithm art, bio-art, neuro-art, interactive-art, video-art, etc.). The two fields of practices are conceptually indistinguishable and complementary to the larger contemporary media culture. The media arts practices are usually the innovative open fields, avant-garde practices or critical reflection on media culture. Media design practices are influenced by the mainstream productions, media literacy, media competence and communication traditions within a given media culture. The media usages and media literacies are expanding progressively depending on the context of media culture. In chapter six, a case study of app-art practices and critique of app culture are discussed in the framework of the intelligent mediation sphere. [7]

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[5] See Media-Sphere concept in Debray (1996)

[6] This categorization is open for further development in future studies. It may appear that this taxonomy follows the Western media approaches in defining epochs of media. There is a need for cultural and historical investigation to excavate alternative histories of media transformations.

[7] The notion of intelligent is used in many contexts. There are hardly few examples of the use of intelligent media in the scholarship. Those who has used this terminology are hardly theorised it in a comprehensive way. For instance, Kember & Zylinska (2012) referred to this notion. However, they have not explained it in theoretical or conceptual manner. The initial version of the concept of intelligent media is proposed in a paper, 'Rethinking the Aesthetics of the Intelligent Media Art' (see Bolouri, 2014).

Senses

Dialogue

Rhetoric   Reginal Identity

Ritual   Body as medium

Presentational Mediation Sphere

Performance   Emotion

Emotions   Oratory

Drama   Community

Language

Cognition

Agricultural Society

Media Representation

Representational Mediation Sphere

Storing the   Machine   Printing
communication process   Iconic representation   Transmitting Process   Mechanical Reproduction

Signs, Symbols, Index   Semiotics   **Mechanical Mediation Sphere**

Motion   Nation-State   Steam-Engine

Symbolic representation   Mechanical reproduction

Mechanics/Physics   Industrial Revolution

Chemical Magnetics

Optic Fiber   Urban Lifestyle   Industrial Society   Writing Motions   Modernism

Mass Society   **Electronic Mediation Sphere**

Cultural Media Practices   Media Production   Cinematography   Cultural Studies   Mass Identity

Digital Revolution   Internet   Light Electromagnetics   Broadcasting   Stimulation

Algorithms   Media Aesthetics   Vision   Digital Coding   Film/Animation Industry

Globalizatio

Intelligent Mediation Sphere   Writing Vision   Quantum

Network Society   Networked Society   Big Data

Electronic-Nano Chips   Data Base   Immersion

Artificial Intelligence   Algorithms   Apps   Media Design   Software Industry

App Culture   App-Art   Internet of Things

Information Revolution   Participation   AI   Intelligent Web

Semantic Web   Media Art   Neuro-Vision

Nano-Chips   Cognition

Media Evolution   Genetic   Genetic Identity

Artificial Brain   Media Organism   DNA Industry

Brain Reading   DNA Chips

Biological Mediation Sphere

Biological Revolution   Internet of Thought

Bio-Tech   Smart Organs   Molecular-circuit

1

Media Theories

Media Models

Cult of Newism

Information Society

'New Media'

Research Approaches

Paradigms

Research Strategy

Media Theories

'Digital Media'

Methodology

Theory

Introduction

History of Medium Theory

Conceptual Frameworks

Higher-Level Medium Theories

Medium Theory

Lower-Level Media Theories

1 Introduction: Theorising Media in Transition

The medial transformations during the late twentieth and the initial decades of the twenty-first century are quite remarkable around the globe. The informational mode of socio-cultural developments[8] and new technological-economic order altered fundamental dimensions of our life. During the past decades, the movements both in academia and in industry have arisen to explain the dimensions of the contemporary media transformations. The majority of researchers primarily focused on the nature of medial transformation with respect to the contents, usages and technologies of media. The technological transformations are part of the broader social, cultural, political and economic changes.[9] Immediate notions that have emerged to describe the contemporary media objectified them as a singular technological activity, without considering the socio-cultural context. Scholars tried to excavate into various disciplines, mostly in information and computer sciences, in order to cultivate new conceptions. This led to the emergence of a wide-range of new concepts in the field of media studies.

A recurrent notion in the modern media history[10] is the concept of 'new media,' as any 'new' mediality, modality, or media technology has flourished. Similarly, during the late twentieth century and the early twenty-first century the 'new media' are associated with the new technologies.[11] The cult of 'the new,' in fact, may not be 'new' at all. With reference to the recent history, newism, besides futurism, electrificationism, and nationalism, are central themes of modernism.[12] In the general discourse, the concept of

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[8] Castells introduced the 'informational mode of development,' which is an emerging 'mode of socio-technical organization' (see Castells, 1989: p. 1- 6).

[9] See Castells (1989)

[10] Reviewing the literatures back in 1920s-40s demonstrate that radio, television and/or cinema are referred to as 'new media' (see for instance literature of Balázs).

[11] Kember & Zylinska (2012) in their book, *Life after New Media: Mediation as a Vital Process*, similarly highlighted 'the frequent conflation of "new media" and "new technology" (p. xiv).

[12] The modernism has different faces in different societies. For instance, Young (2013) made the point that modernism in Japan is associated with the importance of 'regionalism,' tradition and

the 'new media,' besides the notions of 'computer-based media,' 'interactive media,' and 'digital media,' are epistemologically emphasising the technological aspect of the medium. The 'new media' are either defined in terms of *one*, hardware (technological) devices – i.e. computer devices, mobiles, etc., or *two*, software attributes – i.e. digitality, interactivity, ubiquity and social software, etc.[13] Although these hardware and software attributes are important, it seems that the media now, cannot be merely reduced to these properties, which lack holistic views on the mediation processes. There is a need to rethink the 'positive definition' of media as technological means and to address the dispute over 'negative definition.'[14] To bridge this particular conceptual and theoretical gap in the field, in the current book, the attempt has been made to rethink the concepts and theories of medium and to theorise the contemporary media in a holistic approach.

Initially it is necessary to discuss various elements of a theory. A theory is consisted of *philosophical assumptions* (ontology, epistemology, methodology), *(cluster-) concepts*, *theoretical explanation*,[15] and *principles/indicators*.

Figure 1.1: Elements of a Theory
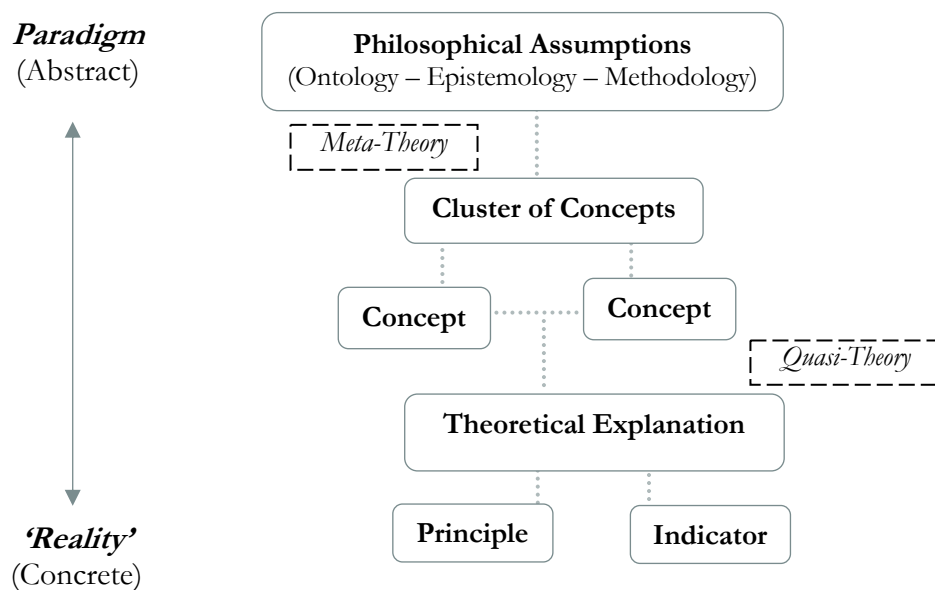
Paradigms are the foundations of theories.[16] They elucidate the process of viewing *reality* (media as reality). Three influential paradigms, inter alia, are positivism (media as

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indigenous regional culture, fundamental to the post-modern approach. This tendency is embraced and practiced even as early as mid and end-years of modernism in interwar Japan.

[13] Friedrich Kittler provocatively wrote 'There is no software' to criticise the 'automatized' separation of software from its hardware.

[14] See Mersch (2006)

[15] See Littlejohn & Foss, 2008: p. 15. Theories are systematic set of ideas that can help to make sense of a phenomenon (Littlejohn, 2002: p. 20, McQuail, 2005: p. 14).

[16] Thomas S. Kuhn introduced the concept of paradigm in his 1962 book, *The Structure of Scientific Revolution*. He believed that, there exists sets of shared orientations that influence process of scientific scholarship and theory construction. There are, however, some critiques on Kuhn's concept of

objective technological reality),[17] critical (media as historical and subtle-reality),[18] and interpretive (media as socio-cultural constructed reality)[19] (see appendix). The denotative notion of medium is believed to be introduced by Aristotle. He turned the Greek preposition of *metaxú* (μεταξυ, meaning between or intervening) into a philosophical noun *tò metaxú* (meaning the medium), which is widely used in Latin originated languages.[20] There is an 'in between' meaning inherent to the notion of medium which has widely influenced the concept of media throughout the history. In other world languages, take the instance in Persian, the notion for media is *Resane* (singular), which does not in any way carry the denotative meaning of 'in betweenness.' Rather it may signify a quality of amplification. Apart from these language-specific limitations, there is the concern of theoretical orientations and disciplinary assumptions in conceptualisation of medium.

Considerably, media studies are fast-evolving interdisciplinary field, which require analytical concepts.[21] The challenge of the field is the vast range of paradigms and philosophical approaches that influence the definition of media. The sociologists, art historians, philosophers, cultural and technological anthropologists, literary critics, linguists, computer and information scientists, among others, have introduced their own definitions of media. They have addressed the issue of mediality within the boundaries of their discipline. Allegorically, this resembles the story of 'the elephant in the dark cave' or 'dialogue of the deaf'.[22] Among the existing definitions of media, technological terminology subjugated the field, with a claim to overcome the drawbacks of social, contextual, disciplinary or philosophical conceptual deficiencies, which can make a

paradigm. For instance, the British linguist and philosopher, Margaret Masterman (1910-1986), believed that conceptually Kuhn used the term paradigm in twenty various definitions.

[17] *Positivism* has a *realist ontology* – believing in objective reality and assuming that 'there are real world objects apart from the human knower,' and *representational epistemology* – assuming 'people can know this reality and use symbols to accurately describe and explain this objective reality' (Cohen & Crabtree, 2006).

[18] The *critical* theory advocates *historical ontology* and *critical- subtle-realists* – assuming that reality is 'created and shaped by social, political, cultural, economic, ethnic and gender-based forces that have been reified or crystallized over time into social structures that are taken to be natural or real' and a modified *transactional* or *subjectivist* epistemology – which assumes that 'we cannot separate ourselves from what we know' (Cohen & Crabtree, 2006).

[19] Interpretive paradigm has *relativist ontology* – assuming 'reality as we know it is constructed inter-subjectively through the meanings and understandings developed socially and experientially,' and *transactional / subjectivist epistemology* (see Cohen & Crabtree (2006) and Khaki, 2010: p. 40).

[20] Aristotle, *De Anima*, see also Kittler, 2009: p. 25 and Mersch, 2006: p.19, Gendlin, 2012, p. 3.

[21] Ryan (2014) believed that 'a unifies global definition' of media is 'less useful' as 'an analytical tool' (p. 27).

[22] A tale of the elephant in the dark cave is an allegorical story depicted in Rumi's poems. This tale represents the discrete and partial tendency of human being in conceptualising phenomena. Ryan (2014), similarly, highlighted the lack of 'common definition' of media and believed that 'the interdisciplinary' approach to media ontology remains 'a dialogue of the deaf' (p. 27).

notion obsolete in the course of time and transformations.[23] These concepts provided ad hoc solutions to the deficit of terminology during the early stages of the so-called media metamorphosis. For instance, Lev Manovich introduced eight definitions[24] and five principles[25] of 'new media,' which are primarily technological oriented. His definition of 'new media as metamedia' is notable. Apart from the magnitudes of the technological development during past decades, various aspects of human life, including communication and culture witnessed considerable shifts.

Meyrowitz, correspondingly, highlighted the lack of a comprehensive understanding of media and the ambiguous terminology used to describe the media. He believed that a huge amount of 'confusion in media studies' is the result of 'the lack of explicit treatment of the most basic questions: "What are media?",' since such questions are usually considered 'too elementary to merit a serious response.'[26] He argued that the widespread use of the (modern) media technology 'fostered the belief that everyone knows what media are' and consequently deals with other research questions.[27] He believed that the media scholars have not yet 'confronted the issue of the nature of media explicitly' and those in the field of media studies, marginally addressed it 'implicitly' having different views and presuppositions in mind about the concept of media.[28]

In similar vein, Grossberg criticised the approach of media studies in assuming the 'media' as 'a stable' and static concept (and as if only the 'content of which changes'),[29] rather than a dynamic and fluid notion. This idea supports the negative concept of media proposed by Mersch. Grossberg posed a critique on the evolution of media studies in relation to cultural studies as euro-modern formations. He believed that, firstly, the media studies 'misread the cultural studies as a theory of media' since it failed to

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[23] A simple example here would be a technological-based concept such as 'broadcasting media,' which can promise a concrete and long-lasting notion. While the concept of 'collective media' or 'mass media' may obsolete in time.

[24] The eight definitions by Lev Manovich includes: (1) new media versus cyberculture, (2) new media as computer technology used as a distribution platform, (3) new media as digital data controlled by software, (4) new media as the mix between existing cultural conventions and the conventions of software, (5) new media as the aesthetics that accompanies the early stage of every new modern media and communication technology, (6) new media as faster execution of algorithms previously executed manually or through other technologies, (7) new media as the encoding of modernist avant-garde – new media as metamedia, (8) new media as parallel articulation of similar ideas in post-world war II art and modern computing (see Manovich: 2001a).

[25] These principles include: (1) numerical representation: new media objects exist as data, (2) modality: the different elements of new media exist independently, (3) automation: new media objects can be created and modified automatically, (4) variability: new media objects exist in multiple versions, (5) transcoding: the logic of the computer influences how we understand and represent ourselves (See Manovich (2001a)).

[26] Meyrowitz, 1993: p. 55

[27] Ibid

[28] Ibid, p. 56

[29] Grossberg (2010) believed that 'for the most part, the category of media does not rise to the level of concept; it is ill-defined, inconsistent, overwhelmed by its own ambivalence and multiplicity. It remains, in too much of the research, undefined' (p. 594).

recognise the 'contextual nature' of the cultural studies.[30] In his view, media studies failed to contextualise the object of its study (limited to text/content and audience/user, production and reception, 'textuality and sociality') and relied on 'universal definitions,' methods and 'decontextualized set of concern.'[31] Secondly, media studies less concerned with the 'general problematic of mediation,' but emphasised the 'unity and specificity of diverse media of communication,' by having in mind the 'mass communication' and ignoring 'pre-electronic' and 'non-mass distributed forms of communication.'[32] Accordingly, the media is viewed as means of communication and technological entity.

Thirdly, the temporality and changes are marginally conceptualised and it is believed that 'either the old simply reproduce itself, or the new simply replace the old.'[33] Fourthly, the media theories and the categories of media remained largely unchanged, which cannot correspond to the contemporary practices.[34] Grossberg concluded that the notion of a medium is usually treated as 'technology (or specific configuration of technologies),' 'a commodity or a cultural industry,' 'a format protocol, or logic of coding,' 'a thematics of content,' 'a sensorium or sensory economy' or 'infrastructure.'[35] He believed that the notion of media in each of these articulation is not fundamentally interrogated and conceptualised, and the frequent technological approaches raises the 'controversial claim of determination' and reject the idea of 'mediation' and 'intermediate agency.'[36]

In order to be cognizant of the complexity of the contemporary media, it is necessary to rethink the concept and theories of *media* in the historical context. Mersch, remarkably, criticised the 'new media' theorists on their avant-garde approach in theory making without considering the theoretical and historical media discourses.[37] The questions, which may arise here are what are the epistemological foundations of conceptualising the media in history? What types of theories are concerned with the nature and ontology of media? Media studies are among fields of inquiry, which enjoy a wide range of theories and quasi-theories[38], informed by various research paradigms and disciplines.

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[30] Grossberg, 2010: p. 591

[31] Ibid, p. 610

[32] Ibid, p. 591

[33] Ibid, p. 610

[34] Ibid, p. 618

[35] Grossberg believed that '[r]arely are the possible or actual articulations among these different understandings of a medium interrogated, and even more rarely is that interrogation contextualized' (Grossberg, 2010: p. 596).

[36] Ibid

[37] Mersch, 2006: p. 132

[38] Quasi-theories are those which include the first two dimensions, which are informed by philosophical assumptions, and have chain of concepts. However, they lack explanation of the relationships between concepts. A well establish theory must have 'at least the first three dimensions' and 'not all theories include the final piece' (see Littlejohn & Foss, 2008: p. 15 and Bolouri, 2011: p. 84).

There exist various viewpoints on the nature and categorisation of media theories. Some scholars consider one coherent linear body of theories, while others view media studies as complex multi-layer networks of theories. Potter, for instance, who mainly worked in mass media scholarship, believed in a linear general framework and divided media theories thematically into five major types: organization, message, audience, and media effect facet.[39] Littlejohn, acknowledged two faces of media theories, namely societal structures and culture on one side and audience on the other side. His 'organizing model,' mapping the media theories, nevertheless is linear in nature, positioning media 'in between' society and audience, and delineating five arenas of theories, including media content and structure, institutional links, personal links, cultural outcomes, and individual outcomes.[40] Williams categorised theories of media into 'intervening or intermediate agency,' 'technical sense' and 'social sense.'[41] Rose believed in two-level matrix of media theories consisted of three sites of production, image/text, and audience in one axis, and three modalities of technological, compositional and social in another.[42] Ryan classified media theories based on three criteria: semiotic substance, technical dimension, and cultural dimension.[43] Mock identified three categories of physical, technical and semiotic media.

Productively, Meyrowitz classified media theories into two broad levels, including 'lower-level' theories, which address the immediate visible media associations (e.g. content, message, etc.), known as *media theories* (plural form) and 'higher-level' theories, which deal with 'larger structure' of mediality, known as *medium theories* (singular form).[44] Meyrowitz believed that there are 'three different types of media studies' based on three media conceptual metaphors including media content studies (media as conduits), media grammar studies (media as language) and media environment studies (media as situation), 'plus various hybrids' based on these three media conceptions. [45] The two former domains broadly belong to lower-level media theories, and the latter, is an issue of higher-level medium theory. It can be argued that, the immediate and tangible aspects of mediality, are visible processes of production, content, and audience reception, which are usually addressed by lower-level *media theories*. The intangible and larger context of mediality encompassing a holistic view of media in relation to society, culture, economic, politics, and communication process are addressed by higher-level medium theories.

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[39] See Potter, 2009: p. xix-xx

[40] See Littlejohn, 2002: p. 304

[41] Grossberg, 2010: p. 594

[42] See Rose, 2012: p. 43

[43] Ryan (2014)

[44] See Meyrowitz, 1985: p. 33 and 2010: p. 53. There are some criticisms on the use of the singular or the plural form of media, and some scholars such as Debray (2000) opposed such distinction.

[45] See Meyrowitz, 1993: p. 64, 1985: p. 33 and 2010: p. 53. He criticised these three levels for addressing the same subject and forms of inquiry, in the framework of 'same general terms,' such as 'media effect, media control, or perception of media (p. 64).

These lines of theories are generally referred to as *medium theories* in singular form.[46] Similarly, Grossberg believed that the various categories of media, e.g. technical, social, etc., do not 'rise to the level of concept' and the only tradition in media studies which contextualised media within 'a broader cultural context, an environment within which life itself is organized' is 'medium studies' or medium theories (initiated by Canadian School and works of Innis and McLuhan).[47]

The lower-level media theories have immensely shaped the body of literature of media studies and contributed to the expansion of the field. The connotation of 'lower-level' and 'higher-level' theories should be interpreted value free. In the former, the issues of mediality are considered *secondary*, in a lower position to the general context of study. In the latter, the higher-level medium theories, the issues of mediality are considered as a context itself, and they are viewed *primary*. *Medium theories*, generally, address the very nature of media and their transformational logic. Despite the large number of lower-level media theories in the areas of media production and reception, audience studies, and media content, a handful of scholars attempted the higher-level medium theories, considering the media in a larger historical context and socio-cultural systems.[48] In the current book, the higher-level theories are divided into three historical and socio-cultural phases,[49] *pre-medium theories*, *medium theories*, and *post-medium theories* for further analysis (see chapter two, three and four). The attempt has been made to analyse the discourses on media ontology (philosophical assumptions) and to elaborate the epistemological approaches of medium theories.

The *pre-medium theories* lack a cohesive and explicit line of discourses in defining media. The discussed theories of this era in the current book span from Zarathustra's self-revealing medial of Ahura Mazda, Buddha's notion of silence as the medium of mind-body-sprit, Plato's ideal of dialogue as the medium of thought (and his critiques of writing), Aristotle's notion of medium as an 'in between' entity of perception, Rumi's and Hafiz's Sufis notion of reed as the mystic medium of unity, to Lessing's and Herder's time- and space-based medium. The concern to theorise the media, as we know it today, increased during the rise of mass media in the early twentieth century. The *medium theories* explicitly addressed the issue of media and introduced a new line of scholarship informed by various disciplines during the emergence and expansion of the 'mass media.' The

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[46] Meyrowitz (2010) called approaches that tackle the 'larger questions' of mediality as 'medium theories' and particularly emphasised the use of the singular 'medium' in order to 'highlight their focus on the distinct characteristics of each medium (or each type of media) and how those characteristics may encourage or constrain form of interaction and social organization' (p. 52-3).

[47] See Grossberg, 2010: p. 632

[48] The concept of *medium theory* is usually associated with the Canadian School of media studies, pioneering the field of medium theory, addressing the broader issues of mediality directly. Theorisation of medium, however, cannot be limited to the modern era.

[49] The basis of selection in historical context is inspired partially by Mersch (2006), Debray (2000), Toffler (1990), and McLuhan (1964). The categories of pre-medium-, medium- and post-medium theories are originally developed by the author.

theories and conceptual models selected in this era span from Balázs' theory of 'new medium' of film and its language, the influential mathematical theory of communication by Shannon, McLuhan's conception of medium as the extension of man, Beckett's aesthetical theory of medium, Fiske's semiotic and process medium theories, to Meyrowitz's conception of medium as cultural environments and Debray's media-spheres theory. The *post-medium theories* encompass a larger spectrum of scholarship addressing the issue of mediality in information societies. The selected scholars in this category are Manovich's new media theory and his conception of medium as software command, Kittler's conceptual triad of storage, transmitting and processing medium, Belting's concept of body as living medium, Ryan's conceptions of media as technical, semiotic and cultural means, Kluitenberg's theory of imaginary media, Mock's holistic typology of medium conceptions, Mersch's 'negative media theory' and Grossberg's concept of mediation and affect as the 'energy of mediation.'

In the following chapters, the paradigmatic tensions surrounding conceptualisation of media are elaborated, reviewed and critically analysed in three aforementioned phases. The central questions to answer are, how are media theorised and conceptualised in history of media evolution and what are the major orientations in definition of media. Upon analysing the philosophical assumptions (i.e. media ontology and epistemology), a conceptual model for explaining contemporary media is proposed. In order to theorise media in transition, it is particularly significant to identify and to theorise media in terms of mediation spheres at a meta-level. Mediation sphere is a set of non-linear medial relationships created around media movements, events, communication practices, meaning conventions, and socio-cultural situations in transformations, a space formed in a particular time based on the dynamism of the world of intelligible (virtual) and the world of sensible (actual). In this way, the technological developments, complex media innovations, cross-media practices, socio-cultural forces, media culture, and usage, inter alia, can be explained comprehensively. In the current book, six mediation spheres are identified as *presentational, representational, mechanical, electronic, intelligent* and *biological*. The central focus is to introduce the concept and theory of intelligent mediation sphere, in the context of the contemporary history.[50]

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[50] Alvin Toffler divided human civilization into three waves: agricultural age, industrial age, and information age (see Toffler: 1990). Each wave has a dominant communication pattern. The first wave, during agricultural era, the oral traditions were dominant. The second wave, the industrial age, is marked by introduction of the electricity to various spheres of life from economy and society to art practices. This phenomenon is commonly referred to as 'electrification' (See Chun & Keenan, 2006: 3). In the third wave, the information age, although the electricity remains among important indicative, algorithms, 'programification' and intelligent 'processing' of information reflect the spirit of the age. There could be a critique that Toffler's model, essentially is informed by Western history. In Orient, there are various types of civilizations between agricultural and industrial era. Furthermore, the industrialization and modernization are not the same in all societies.

2

History of Medium Theory

Philosophical Approach

Plato's medium of Dialogue

Rumi & Hafiz
Mystic Medium

Mystical Turn
Mind-Body-Medium
Time-/Space-based Medium

Medium of Thought

Mediation Sphere   (Re)Presentational
                                   Media

Pre-Medium Theories

Mystical Approaches   Ontology of Media

Zarathustra's Self-Revealing Media   Aristotle's Medium of Perception

Buddha's medium of Silence

Philosophical Turn

2 Pre-Medium Theories:
Philosophical and Mystical Approaches

Mediation is not a new phenomenon. The concept of media can be traced in history of thoughts. In this chapter, the attempts are made to investigate the conceptualisation and theorisation of media prior to the modern medium theories. Subsequently, the thoughts of the ancient Eastern as well as the Western philosophers are excavated. It should be mentioned that a set of coherent references is not available on the issue of media or mediality in pre-medium theories. The investigation begins with the analysis of the philosophy of Zarathustra and Buddha in the Eastern history of thought.

Zarathustra and Siddhartha Gautama, known as Buddha, are considered as the founders of the influential worldviews with a historic span. Their thoughts are beyond boundaries of religions and regions. Their philosophies can be examined in order to reflect on the issues of human communication and media. Zarathustra and Buddha are considered as the notable seekers of the 'Truth.' They based their spiritual ideas on the existence of suffering in human life. Buddha – a name that literally means *Tathagata* state, 'awakened or Enlightened one'[51] – was born nine years after Zarathustra – a name that literally meaning one who owns the golden camel.[52] Although they share similarities, there are major differences between the two. Zarathustra (Zarthosht in Persian and Zoroaster in Greek), was a Persian nobleman, who founded the Zoroastrianism, which was a dominant philosophy and religion during the Persian empires (from 559 B.C. to 651 A.C.).[53] Buddhism is similarly an influential worldview, especially across East Asia.[54]

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[51] Wolf, 2004: p. 20

[52] There are various opinions about the actual birth of Zarathustra. It is believed that he lived during (ca. 628-552 B.C.) (See Wolf, 2004, p. 15).

[53] The point here to highlight is the importance of Zarathustra's world view, not only as a religious sage but as holder of certain paradigm on nature of human and his/her communication, which may shed lights on discourse related to necessity of media.

[54] Besides Buddhism, there are other traditions such as Taoism (based on philosophy of Tao), Zen Buddhism and Confucianism which are influential in China, and Korea, and Shintoism in Japan. Within the scope of the current work it would be not possible to elaborate all.

It is important to notice that both Zarathustra and Buddha are originator of thoughts and they are not essentially bound with rituals and practices of their followers in the sense we may understand today. Zoroastrianism and Buddhism are 'a way of living,' 'a thinking pattern' and a 'communication style.'[55]

Furthermore, the philosophical literature of Plato and Aristotle, which are considered among the major references in the Western media scholarship, are examined. Plato, who lived between ca. 428 – 348 B.C., and Aristotle, Plato's pupil, who lived between c.a. 384 – 322 B.C., are among the notable and influential Greek philosophers. Plato drew a comparison between speech and writing, which is a mediation concern. Aristotle introduced for the first time the concept of medium and defined it with respect to sensory perceptions.

Moreover, a brief analysis is conducted into Hafiz Shirazi and Jalal Al-Din Mohammad Rumi thoughts – the influential Sufi spiritual masters and poets during the thirteenth and the fourteenth centuries in the East.[56] Among the influential and widespread thoughts in the East, one can name Sufism (emerged during the eight century A.D.), which spans from Turkey to China.[57] Sufis thoughts and concepts are spread out in Europe and the United States. Exploring the thoughts of Sufism can bring a new perspective on media and mediation process, since their definition of communication is quite different from the Western theories.

Finally, the literature of Lessing and Herder – the philosophers and literary critics during the eighteenth and the early nineteenth century in the West are briefly examined. Gotthold Ephraim Lessing (1729-1781 A.D.), a German writer, art critic and the father of modern dramaturgy,[58] was among the prominent figure of the Enlightenment era in Europe. Apart from his literary contribution, his critical essays are very influential. His criticism of aesthetics and forms of medial representation are noticeable. For instance, in *Fables* he discussed the form of a fable, formulated the 'laws of the genre by analysing its didactic and allegorical structure.'[59] In his *Laocoon*, similarly, Lessing highlighted the medial distinction between the temporal linearity of poetry and the spatial dynamism of visual arts. Lessing's critical analogy influenced the movement of *Sturm und Drang* (storm and stress), in which Herder was associated. Johann Gottfried Herder (1744-1803 A.D.) besides being a critical figure during the Enlightenment and Sturm und Drang, belonged

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[55] Chuang & Chen, 2003: p. 77

[56] In Sufism, it is believed that the thoughts cannot be reflected merely in prose. Poems are the only way of expression, which can reflect the mystic ideas. Therefore, Sufism thoughts are mostly available in poems.

[57] See Bolouri, 2011

[58] In his influential series of theatre reviews, the Hamburg Dramaturgy, Lessing introduced the concept and field of dramaturge.

[59] Müller (2015)

to Weimar Classicism in Europe.[60] Herder's influential theory on mediality of language established a stepping-stone in the modern philosophy of language.

Zarathustra: Spenta Mainyu, the self-revealing medial of Ahura Mazda

Zarathustra's worldview is based on three values: pure thoughts, pure words and pure deeds.[61] Zarathustra was enlightened upon the reality of only one God *Ahura Mazda*, the Wise Lord. He believed that 'good thought' (Vohu Manah) is the ultimate way to the truth of the Creator, Ahura Mazda. In this light, the communication is viewed as an inward journey. A very popular practice in Zoroastrianism is the act of worshiping. The 'Mazda-yaz(s)na' means worship (yaz) of the 'Truth' (Mazda).[62] In Avestan yashts (Hymn) or Niyayesh (Litany), which are dedicated to the praise of Zoroastrian's *Izadan* (gods) and *Amesha-Spentan* (bounteous immortals), there are many references to the communication concept of good thoughts, good words, and good deeds.

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[60] Sturm und Drang is a 'proto-romantic' movement during late 1760s and early 1780s in German literature and music. This movement, as a response to aesthetical rationalism of the Enlightenment era, celebrated the individual subjectivity and freedom of expression of extremes emotions. Goethe and Schiller are among prominent figure of this movement. Later the movement turned to Weimar Classicism and early Romanticism. Herder, Goethe, and Schiller respectively turned to the literary and cultural movement of Weimar Classism, establishing a new humanism based on Enlightenment, Romanticism and Classicism.

[61] Much of Zarathustra's works has also not survived and his disciples may have modified it. There remained a series of hymns known as 'Gathas', which is believed to be the word of Zarathustra himself.

[62] The 'veneration of fire as a symbol of truth and of water as a symbol of purity' are central in Zoroastrian practices (Wolf, 2004: p. 18).

(Avesta script text)

4. How does the Moon wax? How does the Moon wane? Fifteen (days) does the Moon wax. Fifteen days does the moon wane. As long as (is) her waxing, so long the waning. So long (is) the waning, even as the waxing. Who (is it) through whom the Moon waxes (and) wanes, (other) than you?

5. We sacrifice unto the Moon that keeps in it the seed of the Bull, the holy and master of holiness. Here I look at the moon, here I perceive the moon; here I look at the light of the moon, here I perceive the light of the moon. The Amesha-Spentas stand up holding its glory; the Amesha-Spentas stand up, pouring its glory upon the earth, made by Mazda.

(Mah-Niayesh [Litany to the Moon], Avesta Transcript in in AbolGhasemi, 2003: p. 11-12, Translation Dhalla, 1908 & Darmesteter, 1898)

The litany starts with the praise of Ahura-Mazda, and the perception of the light and the moon. It follows with the worship of the moon. This litany can be interpreted in the triad of *thoughts* (seeing, perceiving and thinking about the moon), *words* (worshiping the moon) and deeds (the ritual of scarifying to the moon).

(Avesta script text)

9. For her splendor and fortune I shall sacrifice to her with audible worship, I shall sacrifice to her with the well-sacrificed worship. Through this may you be commanded when invoked! Through this may you be more than well-sacrificed! (We sacrifice) to Aredvi Sura Anahita, the righteous, with libations. We sacrifice to Aredvi Sura Anahita, the righteous, master of Asha, With Haoma-containing milk ... and with correctly uttered words. We worship the male and female Entities in the worship of whom Ahura Mazda knows (there is (or: consists) what is) best (lit. better) according to Asha.

(Aban-Niayesh [Litany to the Waters], Avesta Transcript in in AbolGhasemi, 2003: p. 11-12, Translation by Dhalla, 1908 – see also Darmesteter, 1898)

The communicational model is based on balancing three elements of *thoughts, words,* and *deeds*, which underline the flow from within to the outer world. This is in contrast to the dominant Western models of communication, which are based on the reversed process of moving from the external to the internal world. The Western communication model is based on three elements of sender-text-receiver. According to Zarathustrianism the important communication elements are thoughts-words/text-actions.

There are four principal values in Zoroastrianism: first, the 'role of the individual person,' second, 'the material world in which we live,' third, 'time and human history' and fourth, the 'role of a supremely powerful, transcendent Creator God.'[63] Subsequently, the role of the 'individual' and the 'measurement of time' are significant part of the mediation processes.[64] The key to this communication model is the knowledge of goodness that is bestowed by Ahura Mazda, the Wise Creator, who is 'the perfect,' 'the immutable' and manifestation of spiritual unity.

The issue of mediality can be deduced in the dichotomy between the individuals and the Ahura Mazda. As Zarathustra considered worldly matter as a principle, he solved 'the problem of reconciling the unchangeable nature of Ahura Mazda with the world of change by postulating a principle that intervenes between the unmoved mover and the moved.'[65] *Spenta Mainyu*, the Holy Spirit, is the 'image' and 'replica' of Ahura Mazda. Spenta Mainyu is the 'medium of Ahura Mazda,' who represent and project the 'creative attribute' in the 'relation to the created world,' 'between the super-sensuous and the sensuous.'[66] From this insight, it can be argued that mediation in Zarathustrianism is viewed as a space between the infinite worlds and the material worlds.

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[63] Wolf, 2004: p. 17
[64] Ibid, p. 18
[65] Dhalla, 1908: p. 32
[66] Ibid

Ahura Mazda offered ears to humans through Spenta Mainyu in order to empower him.[67] Through Spenta Mainyu, the Wise Lord, Ahura Mazda, gave immortality and perfection to those who devoted their lives to the best thoughts, best words, and best deeds.[68] He knows the 'attitude of the false speaker and the true speaker, the wise and the unwise as they are led by the promptings of their hearts and minds'.[69] Besides Spenta Mainyu, as medial of Ahura Mazda, there are indirect references to other six spirits such as Vohu Manah, the guards wisdom, or Spenta Armaiti, the holy devotion, who are told to be the medium to reach to the truth, Ahura Mazda.[70] Aša Vahišta, divine fire, is also viewed as a medium to reach the truth. It can be inferred that, the medium is viewed as a spirit, a practice or even an object which connect worldly dimension of human to the 'truth,' the immaterial dimension. The medium itself has flexibility, not purely material or immaterial. Zarathustra emphasised the balance between the two worlds and mediation creates this equilibrium.

There are other examples of the mystic approaches in defining the concept of medium and the process of mediation in the religion anthropology.[71] For instance, Régis Debray tried to formulate the history of mediation in Christianity. He believed that the 'messenger' is a manifestation of a communication act, whereas the 'mediator,' who 'determines the nature of the message' is an embodiment of a mediation act.[72] He associates the idea of angels to the messenger, who disappear behind their messages, while the mediator 'outpaces what he mediates.'[73] The important issue to highlight here is the association of angles, spirits and the truth to the medium in pre-medium theories.

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[67] Here there is an emphasis on the act of hearing. The concept of media in Persian, *Resane*, which literary mean amplification, reflect the dominance of oral communication.

[68] Dhalla, 1908: p. 33

[69] Ibid

[70] Ahura Mazda, the wise lord, has six divine manifestation including, Vohu Manah (good thought and creative source), Aša Vahišta (sparkle, fire, truth and order), Xšaθra Vairya (wise kingdom and power), Spənta Ārmaiti (sincerity, devotion and tolerance), Haurvatāt (integrity, salvation and perfection), Amərətāt (immortality and redemption). Each of these six divine (good) aspect has a contra (evil) forces. The act of creation includes the seven dimension that is Ahura Mazda, or its representative and active principle known as Spenta Mainyu. It is believed that Zoroastrianism had influenced monotheistic worldview.

[71] In his book, Wolf (2004), believed that Zarathustra was 'one of history's first monotheists' (p. 16). He stated that although there is no 'direct evidence', some 'believed that the Jews adopted some basic ideas […] from the disciples of Zoroaster [...] during the sixth century (586-539 B.C.E.),' which in turn influenced 'Christians and Muslims, both of whom accept basic Hebrew beliefs' (p.17). Similarly, Boyce (1979) supported the influence of doctrine of Zoroastrianism on Judaism, Christianity and Islam (p.1-29). It would be difficult to make a conclusion in a linear way, as they may have in return influenced each other to a great extent throughout history.

[72] Debray (1996) believed that the formula of Christian revolution is the fact that the 'Mediator supplants the messenger,' and the 'rational mediology' takes 'the founding Christian myth as paradigm,' namely 'it takes the trouble to say what suffering, misery and exclusion are inscribed in any effective transmission of a message, and because it works on the obstacle or perverse effect of the systems of delivery [messageries], namely that the good messenger is he who disappears behind his message like the angel of the Annunciation, vanishing as soon as it appears' (p. 5).

[73] Debray (1996), p. 6

Nonetheless, it is not wise to oversimplify and generalise this idea to the whole pre-medium era conception of medium.

Buddha: 'Silence' as the medium of mind-body-spirit

Buddha believed in four noble truths: 'all existence is suffering,' 'all suffering is caused by craving or desire,' 'suffering can be ended by eliminating desire' and one can take eight steps to end suffering, including right views, right intentions, right speeches, right actions, right livelihood, right efforts, right mindfulness, and right meditation.[74] In simple terms, these eight paths can be divided into three clusters of wisdom, precept, and meditation.[75]

The life of Buddha is manifestation of *silence*. According to Buddha, any dialogue, in form of question and answer arises due to the desires in human soul. He believed that where words end truth begins. One must drop all questions and reach to joyful silence, which is a source of human life. From this silence, one can reach to a true *awareness*. Therefore, the consciousness and awareness of the world is only achieved through a mediation of silence. In the Western philosophy, communication essentially means to build a bridge between oneself and the others. For instance, according to Plato, the dialogue, which is based on interaction (questions and answer), is the most trustworthy medium in revealing the 'truth.' In the Eastern philosophy communication is viewed as a source of unity with oneself, which leads to communal harmony with others. In this respect, the mediation of silence is the only way to reach this inner harmony and unity.

Buddha is believed to have been enlightened on a full moon night in the month of May, after he kept silence for a week.[76] He believed that, words cannot communicate the truth and the purposes of words are to create silence.[77] There exist no direct references in using the term medium in the ancient scripture as we may use it today. Silence is viewed as a source of life. Through this mediation process one is connected to the 'ultimate truth.'[78] In Sanskrit scripture, it is stated that 'distortion is the root of speech.'[79] The moment one starts to speak, one is distorted, because the 'words cannot capture existence but silence can.'[80] The 'mind is noise,' while the 'source of mind is

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[74] From psychotherapist perspective, the four Noble Truth are interpreted as 'symptom (nature of suffering), diagnosis (source of suffering), cure (cessation of suffering) and treatment (path to nirvana)' (Chuang & Chen, 2003: p. 68).

[75] Chuang & Chen, 2003: p. 70

[76] Shankar, 1996

[77] Ibid

[78] There are various forms of silence. For instance, in mood distortion such as anger, fear, shock, sadness, or even ignorance and wisdom one may go naturally to silence. At the pick of any emotion and every happening is silence (Shankar, 1996).

[79] Shankar (1996)

[80] Ibid

silence,' and therefore Buddha said 'no mind,' meaning no 'chain of thought' wondering in mind.[81] Silence is a space, which align oneself with the universe.[82]

Buddha as the manifestation of silence derived out of saturation not a lack or emptiness. In other words, 'noise is about something and silence [is] about nothing,' namely, silence is the 'base' and noise are the 'surface.'[83] Silence and noise here should not be interpreted in a dualistic sense. The silence is a source, a space that one can always move into, while the noise is a distortion of mind and arises due to desires or cravings. Silence is a source in which one can truly hear the 'music of existence.'[84] The way to reach silence is wonder, not a question. Questions create violence, since they create demands.[85] Buddha's middle way approach to life extinguishes the material and physical world as well as individual ego and the self.

> Form is emptiness and the very emptiness is form; emptiness does not differ from form, form does not differ from emptiness; whatever is form, that is emptiness, whatever is emptiness, that is form, the same is true of feelings, perceptions, impulses and consciousness.

> (Cited in Chuang & Chen, 2003: p. 66)

According to Buddhism, the chain of perception has many layers, known as Twelve Dependent Originations (*Nidanas*) which are the source of suffering, including 'ignorance, volitional activities, karma formations, previous impressions, consciousness (in the present life), name and form, six senses, touch, feeling, craving and desires, attachment, existence, birth and rebirth, and […] old age and decay.'[86]

In Buddhism, the reality is viewed as 'the state of *Samyaksambodhi* (unexcelled complete enlightenment) in which duality is transcended' by '*Madhyamaka* (the middle way)'.[87] The reality is not defined based on dichotomy, in tension between subjective or

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[81] Shankar (1996)

[82] Ibid

[83] It is believed that emptiness creates complains and noise in mind while wise silence is outcome of the saturation and fulfillment. The noise is outcome of lack and need (Shankar, 1996).

[84] Shankar, 1996. The misery, as Shankar believed, has a cause, and every cry is out of a need, but a true joy does not need a cause, it is the normal state of mind. Buddha made his first principle as there is 'misery', second as there is 'cause to misery', and third it is 'possible to eliminate misery' by right type of silence.

[85] Shankar (1996)

[86] These twelve layers are interconnected, that is from 'ignorance volition arises; from consciousness there is cognition; from cognition is the six-fold sensory (eye, ear, nose, tongue, body, and will); from the six sensory faculty there is contact; from contact there is feeling; from feeling there is craving; from craving suffering arises; craving and thirst lead to grasping and attachment; grasping leads to possession; possession results in the wish for long life; and finally, from life there is inventible aging, sickness and death' (Chuang & Chen, 2003: p. 69-70).

[87] Chuang & Chen, 2003: p. 65

objective, inter alia. The complexity of reality is explained with the concept of 'non-duality' and the notion of '*sunyata* (emptiness, void)'.[88]

> […] when two beings encounter each other, […] they begin to establish the experience of non-separateness […]. This mutual dependence or dependent origination, in accord with non-duality or non-dichotomy, discloses the themes of relationality and circularity.
>
> (Chuang & Chen, 2003: p.72)

This interrelated nature of certain phenomena defines mediation as a complex set of relational processes.[89] Besides that, there is 'a constantly transforming temporal and spatial' communication environment.[90] Therefore, the explanation of media based on time and space is put into challenge. Another concept is 'tranquillity,' that lay stress on 'the mind sounding insider, rather than the mouth talking outsider'.[91]

> To Buddhism, the internal mind working for a spiritual breakthrough in the quest of enlightenment represents a non-mechanical process to reach internal and external confirmation without relying on verbal expressions. Silence then becomes an effective nonverbal expression for mutual understanding.
>
> (Chuang & Chen, 2003: p.74)

Silence is an 'interactive' mutual medium to express oneself. The silence may be interpreted differently in various cultures.[92] Some Eastern rhetorical practices are influenced by Buddhism. For instance in Japanese Agui School, 'theme glorification, tenet explanation, allegory demonstration, karma evidence, and concluding persuasion' are effected by Buddhism.[93] The Zen Buddhists, emphasise the 'intuitive observation, meditation, mindfulness, sudden enlightenment (*satori*)' and direct perception of the nature of reality.[94] The 'language and logical reasoning' is viewed 'incompetent in

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[88]The concept of emptiness should not be considered analogous in Western discourse, meaning 'nonexistence,' rather it refers to 'interdependent co-rising, impermanence, and non-self' (Chuang & Chen, 2003: p. 66).

[89] Chuang & Chen (2003) stated that 'Relationality indicates that the meaningful existence of human being is embedded in an interdependent and interrelated network. Circularity infers that the trasnscendence of time and space "provides a sense of relatedness of the present to the past and the future, and a sense of relatedness of the life world to the whole of nature" […]. In a nutshell, human communication becomes meaningful only in relation to others in a harmonious way (p. 72).

[90] Chuang & Chen, 2003: p. 72

[91] Ibid, p. 74

[92] For instance, in American culture, silence is interpreted as 'critique, embarrassment, obligation, regret, and sorrow' (cited in Chuang & Chen, 2003: p. 74).

[93] Chuang & Chen (2003) argued there are also influences from 'five canons of Western rhetoric' (p. 76).

[94] Chuang & Chen, 2003: p. 76

describing reality' and 'segment the holistic nature of reality.'[95] Any verbal rhetoric is expressed natural, 'subtlety' and concise.[96]

Organic and naturalness of communication are important notions. Any artificiality and external rules are considered barriers to the expressions. Therefore, the media should not be artificial in the first place. This idea supports the arguments that the silence is considered the preferable medium according to Buddhism. The silence brings the state of 'no-mind' and 'non-attachment,' which in return create a space for reflection, creativity and imagination.[97] Buddha's preaching reveals his influence from Hinduism.[98] The contemporary Indian Hindu spiritual leader, Ravi Shankar, believed that the human as the knower has seven layers: body, breath, mind, intellect, memory, ego, and spirit.[99]

Figure 2.1.: Seven layers of human being [100]
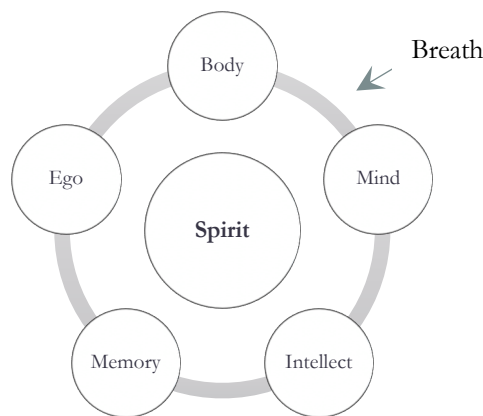
The breath is the 'medium' between the body and the mind. Awareness of the rhythms of the breath bring the consciousness to the mind and releases it from confusion, disease, trauma, prejudice, and uplifts the wisdom of the self.[101] The breath is the medial, not only as a physical system, but also as an *awareness* about the system. The breath is viewed as a technique in the mediation of silence, which can lead to the understanding of the 'truth'. The ontological view of the concept of mediality according to Buddha is very similar to Zarathustra. They both view communication in terms of unity with oneself,

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[95] Chuang & Chen, 2003: p. 76

[96] For this reason, poetry and paintings are valued in almost all Asian countries. The idea of naturalness in Zen Buddhist is similar to notion of wu wei in Taoist, meaning 'to let one's mind work by itself without action, doing, making, or striving' (Chuang & Chen, 2003: p. 76). This is similar in Sufis mysticism and concept of hal, meaning living in moment and be open to intuition, which is discussed later in the section.

[97] Chuang & Chen, 2003: p. 76

[98] The philosophy of Buddha, however, 'differed from that of classical Hinduism by making salvation (which he called Nirvana) accessible to all, not just to members of the higher castes of priests, warriors, and merchants' as well as the 'middle way' approach to life (Wolf, 2004: p. 21).

[99] Shankar (2013)

[100] Visualised based on discussion of Ravi Shankar (2013)

[101] Ravi Shankar (2013)

cosmos and the ultimate 'truth.' The mediation is the formation of a *state* of mind. Nevertheless, unlike the Zarathustra's *external* medial of spirit, the medial source of Buddha is *internal*. The former sees the act of *worshiping* as mediation, while the latter considers the act of *silence* as the mediation.

Plato: 'Dialogue' as the medium of thought and critique of writing

Plato is considered among influential Greek philosophers in the contemporary Western scholarship. Among his compiled works, *Phaedrus* (370 BC) and *The Seventh Letter* (360 BC) addressed the tension between speech and writing, which is a mediation concern.[102] Besides that, 'The Allegory of the Cave' mentioned in his *Republic* (370 BC) is frequently used as a metaphor to explain the nature of media today.

> Above and behind [… prisoners who are chained since childhood see] fire is blazing at a distance, and between the fire and the prisoners there is a raised way; and you will see, if you look, a low wall built along the way, like the screen which marionette players have in front of them, over which they show the puppets. […] men passing along the wall carrying all sorts of vessels, and statues and figures of animals made of wood and stone and various materials, which appear over the wall. Some of them are talking, others silent. […] they see only their own shadows, or the shadows of one another, which the fire throws on the opposite wall of the cave […]

> (Plato, *The Republic*, 370 BC, book VII, p. 197)

Based on this allegory, media are described as a shadow or a reflection of reality. In order to understand the reality, one needs to move beyond the medial. This metaphor, in fact, represent an ontological criticism on the nature of media. In this allegory, the mediation process essentially distorts the reality.

The major criticism of Plato on the nature of mediality is argued in his comparison of speech and writing. There are remarkable key references to the nature and distinctions between speech and writing in *Phaedrus*.[103] The first conflict had arisen as Socrates asked Phaedrus to narrate the tale of love heard from Lysias, the son of Cephalus. In response, Phaedrus reflected on the fact that his *memory* may not help him

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[102] See Pettersson (2010) and Mersch (2006), p. 29-33.

[103] Phaedarus is dialogue between Socrates and Phaedrus, as they meet 'under a plane-tree, by the banks of the Ilissus' (p. 37). Their dialogue is initiated by the theme of 'love after a fashion,' lover and non-lover, which made the mind of Phaedarus busy after he heard the speech of Lysias. Their discussion developed further to the nature of rhetoric, art, writing and speech. At the end, they discussed the proprieties and improprieties of writing and speech as Socrates suggested that 'Shall we discuss the rules of writing and speech as we were proposing? (p.71).

to repeat what Lysias, the master of rhetoric has said. Socrates preferred to hear the *written* words of Lysias as he found Phaedrus hides it in his hand.

> SOCRATES: [… Lysias] words would be quite refreshing, and he would be a public benefactor. For my part, I do so long to hear his speech […]

> PHAEDRUS: What do you mean, my good Socrates? How can you imagine that my unpractised memory can do justice to an elaborate work, which the greatest rhetorician of the age spent a long time in composing. […]

> SOCRATES: Yes, my sweet one; but you must first of all show what you have in your left hand under your cloak, for that roll, as I suspect, is the actual discourse. Now, much as I love you, I would not have you suppose that I am going to have your memory exercised at my expense, if you have Lysias himself here.

> PHAEDRUS: Enough; I see that I have no hope of practising my art upon you.

> (Plato, *Phaedrus*, 370 BC, p. 38-39)

For Plato, what distinguished the media at a first glance is the functionality of them. The *storage* capacity of writing system that can *authentically* repeat one's rhetorical speech and overcome the shortcomings of memory. It can further resemble the experience of the direct presence. There is no emphasis on the *transmission* capacity of it. He believed that a 'wise' person might write 'memorials to be treasured against the forgetfulness of old age.'[104] This characteristic for him, paradoxically, is not an advantage of medium. Plato drew a sharp criticism of writing. He believed that it is similar to writing 'thoughts' on 'water' with 'pen and ink, sowing words which can neither speak for themselves nor teach the truth adequately to others' and they can be regarded falsely as words of gods.[105] Plato believed that even the god of Egypt alleged the misleading nature of writing as a support for his argument.

> SOCRATES: At the Egyptian city of Naucratis, there was a famous old god, whose name was Theuth; the bird which is called the Ibis is sacred to him, and he was the inventor of many arts, such as arithmetic and calculation and geometry and astronomy and draughts and dice, but his great discovery was

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[104] Plato, *Phaedrus*, p. 93

[105] Socrates posed a rhetorical question to Phaedrus that 'when the king or orator has the power, as Lycurgus or Solon or Darius had, of attaining an immortality or authorship in a state, is he not thought by posterity, when they see his compositions, and does he not think himself, while he is yet alive, to be a god' (p. 69).

the use of letters. Theuth [… came to the god Thamus who was the king of Egypt] showed his inventions, desiring that the other Egyptians might be allowed to have the benefit of them; […] when they came to letters, This, said Theuth, will make the Egyptians wiser and give them better memories; it is a specific both for the memory and for the wit. Thamus replied: O most ingenious Theuth, the parent or inventor of an art is not always the best judge of the utility or inutility of his own inventions to the users of them. […] for this discovery of yours will create forgetfulness in the learners' souls, because they will not use their memories; they will trust to the external written characters and not remember of themselves. The specific which you have discovered is an aid not to memory, but to reminiscence, and you give your disciples not truth, but only the semblance of truth […].

(Plato, *Phaederus*, 370 BC, p. 91)

For Plato, the writing is an empty glass,[106] which cannot reflect the inner truth of human soul. It is a *silent* medium, which cannot provide answers to the questions of the seekers. In this sense, Plato believed that 'writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence.'[107] Some believe that Plato is not merely criticizing the writing but the medial *technique*.[108] There is another dimension, which make the art of rhetorical speech more desirable, and that is its wide currency in all aspects of life. It exists in all spheres of life from public to private.

SOCRATES: Is not rhetoric, taken generally, a universal art of enchanting the mind by arguments; which is practised not only in courts and public assemblies, but in private houses also, having to do with all matters, great as well as small, good and bad alike, and is in all equally right, and equally to be esteemed […]

(Plato, *Phaederus*, 370 BC, p. 73)

Plato, not only criticised writing but also speech.[109] For him the 'truthfulness' or efficiency of medium relies on the spirit of *presentation* of it that is connected to the human

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[106] The metaphor of 'glass' is used in Socrates dialogue as he said, 'For there is no light of justice or temperance or any of the higher ideas which are precious to souls in the earthly copies of them: they are seen through a glass dimly' (Plato, Phaedrus, p. 61).

[107] Plato, *Phaedrus*, p. 92

[108] Mersch, 2006: p. 33

[109] Socrates said that, 'Have we not heard of the Eleatic Palamedes (Zeno), who has an art of speaking by which he makes the same things appear to his hearers like and unlike, one and many, at rest and in motion?' (p. 74)

soul.[110] There is a reference in the dialogue of Socrates, where he gave priority to the 'truth,' which is not conditioned by the *source* of medium or the technique in which the meaning is delivered. In other words, truth requires no medium.[111] Plato was in search of a 'kind of word or speech […] having far greater power.' [112] An 'intelligent word graven in the soul of the learner, which can defend itself, and knows when to speak and when to be silent.'[113] For him 'every spoken word is in a manner plainer than the unspoken.'[114] The pure knowledge is concerned with 'the colourless, formless, intangible essence, visible only to mind, the pilot of the soul'.[115] The medium, as a tangible material entity, having forms and colours, cannot represent this formless mental knowledge.[116]

The German philosopher and media critique, Mersch, interpreted the passage of Plato in terms of an emphasis on the 'performativity of speech' (Performativität Rede), the nature of 'dialogue' as an open way to provide answers, against the writing and its cognitive performance, which cannot provide what the speech can offer.[117] He believed that under the structural discourse and persuasive power one could disseminate 'lies' (Lügen).[118]

> Platon konstrastiert also die Performativität der Rede und die Tatsache, dass wir im Dialog immer antworten und für das Gesagte und seine Glaubwürdigkeit einstehen müssen, gegen die Schrift und ihre Gedächtnisleistung, die alles dies nicht erlaubt, ja die hinter ihrer vermeintlich diskursiven Struktur und Überzeugungskraft auch Lügen verbreiten kann.

> (Mersch, 2006: p. 30-31)

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[110] As Phaedrus is concerned about the opinion of Socrates on the language and rhetorical expression of speech of Lysias as he read it to him, Socrates is overwhelmed by the presentation of him reading out the text meaningfully and with joy. 'PHAEDRUS: […] What Now, Socrates, what do you think? Is not the discourse excellent, more especially in the matter of the language? SOCRATES: Yes, quite admirable; the effect on me was ravishing. And this I owe to you, Phaedrus, for I observed you while reading to be in an ecstasy and thinking that you are more experienced in these matters than I am, I followed your example, and, like you, my divine darling, I became inspired with a phrenzy (Plato, Phaederus, 370 BC, p. 45).

[111] Socrates said to Paedrus that 'There was a tradition in the temple of Dodona that oaks first gave prophetic utterances. The men of old, unlike in their simplicity to young philosophy, deemed that if they heard the truth even from 'oak or rock,' it was enough for them; whereas you seem to consider not whether a thing is or is not true, but who the speaker is and from what country the tale comes' (p. 92)

[112] Plato, *Phaedrus*, p. 92

[113] Ibid

[114] Ibid, p. 49

[115] Ibid, p. 59. For Plato, this knowledge is 'recollection' real truth of the other world.

[116] In scholarship of Belting (2011), one can also see the tension between image and medium, which is discussed in the next chapter.

[117] Mersch, 2006: p. 30-31

[118] Ibid

Perhaps Mersch has interpreted and used such critical notion of dissemination of 'lie' in writing with reference to our contemporary understanding of propaganda theory. Apart from this critique, Mersch's philosophical interpretation of Plato remains invaluable. To my understanding, in Plato's passage there is less emphasise on the notion of 'lie' with reference to the writing. Rather he emphasised the inability of the medium of writing to reflect the truth, which can be best understood with reference to Plato's philosophy of truth in general. Plato used the term 'lie' with reference to art (or even in court) in *Phaederus* and it is not limited to the act of writing.

> But the art, as far as there is an art, of rhetoric does not lie in the direction of Lysias or Thrasymachus.

> (Plato, *Phaederus*, 370 BC, p. 85)

There is an interesting reference to the process of this mental knowledge, which 'supplies from the reasoning faculty mind (nous) and information (istoria) to human thought (oiesis)'.[119] In Plato's view, the dialogue is the medium of human thought. He believed that 'sight is the most piercing of our bodily senses; though not by that is wisdom seen.'[120] This idea is developed in Plato's *The Seventh Letter* to the relatives and friends of Dion.[121] Ironically, his letter, in comparison to Plato's other writings which is written in format of a dialogue, is a monologue.

Plato in his letter has referred to the 'power of persuasion' of words, and he travelled the 'length of the sea voyage' with many 'labours involved' to meet Dionysios, after the request of Dion to teach him philosophy, and the 'path of goodness and justice.'[122] Plato believed that as a true insight may not be achieved easily, there are *deaf ears* who may not hear the truth. A wise man only teaches a person who want to learn. Otherwise, it would be of no use to advise a person who will not hear. He believed one needs to be the master of his own self. Dionysius had written a handbook of metaphysical treatise and claimed its superiority over Plato's lectures. Plato blamed him and believed metaphysics could not be expressed in writings.

> I hear also that he [Dionysios] has since written about what he heard from me, composing what professes to be his own handbook, very different, so he says, from the doctrines which he heard from me; but of its contents I know nothing; I know indeed that others have written on the same subjects; but who they are, is more than they know themselves.

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[119] Plato, *Phaedrus*, p. 56

[120] Ibid

[121] *The Seventh Letter* is the longest epistle, which is ascribed to Plato, which is an autobiographical narration on his three-time invitation to Sicily and on a request from Dion's follower after his assassination. His letter is significant since it elaborates Plato's opinions on writing and theory of form.

[122] Plato, *The Seventh Letter*, p. 6-7

For Plato, written treaties are not of 'most worth' and criticised this writing since it brings possession and false understanding. He believed that writing is acceptable only when it is an 'aid to memory.' Plato believed that Dionysios is not a real philosopher and he is not enlightened by the wisdom if he truly learnt it from him. Plato denied any attempt of writing his philosophical teachings. He believed that 'if the things were written or put into words, it would be done best by me [Plato]'.[123] He, however, is not in favour of such attempts himself. He suggested that, circulation of philosophical thought in a written format is not a benefit to the public, and only few could learn it if they are determined and make it part of their lifestyle to acquire wisdom.[124]

Plato justified his argument with elaborating on five layers of any knowledge. In the third part of his letter, he articulated his theory of knowledge. Plato's narrative style is 'philosophical digression,' defending his teaching against possible wrong beliefs.

> For everything that exists there are three instruments by which the knowledge of it is necessarily imparted; fourth, there is the knowledge itself, and, as fifth, we must count the thing itself which is known and truly exists. The first is the name, the, second the definition, the third the image, and the fourth the knowledge.

(Plato, *The Seventh Letter*, p. 19)

To visualise his opinion the following figure can be depicted. Plato's fivefold notions consist of three basics, i.e. name (ὄνομα: ónuma), definition/account/explanation (λόγος), and image (εἴδωλον: *eîdos*), which builds knowledge (ἐπιστήμη: *epístamai*).[125]

Figure 2.2.: Layers of Knowledge [126]

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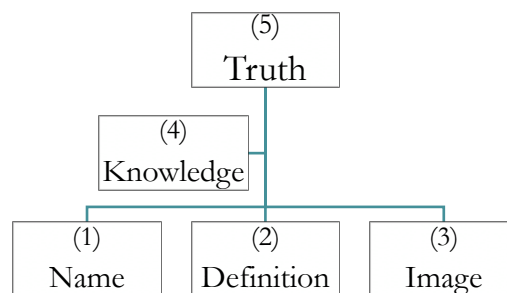
[123] Plato, *The Seventh Letter*, p. 19
[124] Ibid
[125] Latin transcript of the words based on Pettersson, 2010: p. 33
[126] Developed based on Plato, *The Seventh Letter*, p. 19-20

Plato believed that any concrete or abstract issue has a 'spoken word' referring to that.[127] Secondly there is a definition for it, made up 'names and verbal forms,' elucidating the name. Thirdly, it is followed by a 'form,' 'image' or 'bodily shape' drawn out of these two layers. Plato believed that this image is 'rubbed out,' 'broken up' and of a 'different order from them.'[128] Fourthly, come the 'knowledge,' 'intelligence' and the 'right opinion,' which is a *soul's form* beyond words and bodily shapes. The truth as the fifth layer is far beyond these four. The order of the knowledge of the fifth is completed after these four levels.[129] Plato held that the span of language practices encompass all these four levels. Based on the fact that, the fifth is only a true knowledge, language does not have the capacity to reflect reality in his opinion. Therefore, he explained his critique of writing on this ground.

> [O]n account of the weakness of language, these (i.e., the four) attempt to show what each thing is like, not less than what each thing is. For this reason, no man of intelligence will venture to express his philosophical views in language, especially not in language that is unchangeable, which is true of that which is set down in written characters.

> (Plato, *The Seventh Letter*, p. 20)

Among these four, he considered the image, 'the act man drawn,' as 'full of that which is opposite to the fifth thing.'[130] Similarly, 'definitions' and 'names and verbal forms' do not have 'sufficiently durable permanence.'[131] These four abide with endless ambiguity. Plato believed that there are two realities, one, *quality* or *howness* (τὸ ποῖόν τι) and two, *essence* or *whatness* (τὸ τί). The soul seeks to know the essence/whatness, however, these four layers present to it the quality/howness via senses, and hence, everyman struggles with a 'puzzlement and perplexity.'[132] In other words, Plato believed that media is dealing with the *howness* rather than *whatness*. With this insight, we may argue that media is a style, compositions, and howness in Plato's view. The ontology of media remains only in terms of *how* they are rather than *what* they are.

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[127] Plato explained these five layers with example of a circle. 'Circle' is the verbal word as a name, then it has a definition of something which 'has the distance from its circumference to its centre everywhere equal', and it has an image which is the 'bodily shape' of it. Then out of these comes knowledge of the 'circle' and the truth of it is beyond all these four. With reference to the range of type of knowledge, Plato stated that this 'applies to straight as well as to circular form, to colours, to the good, the, beautiful, the just, to all bodies whether manufactured or coming into being in the course of nature, to fire, water, and all such things, to every living being, to character in souls, and to all things done and suffered (Plato, *The Seventh Letter*, p. 20).

[128] Plato, *The Seventh Letter*, p. 20).

[129] For in the case of all these, no one, if he has not somehow or other got hold of the four things first mentioned, can ever be completely a partaker of knowledge of the fifth (Plato, *The Seventh Letter*, p. 20).

[130] Plato, *The Seventh Letter*, p. 20

[131] Ibid

[132] Ibid, p. 21

Media in Plato's theory of knowledge is a second order of reality. It is only a reflection of reflection, and a shadow of shadow (observable world as the first reflection/shadow). Plato criticised the fact that there is no investigation beyond these four layers of knowledge, and education made everyone 'satisfied with whatever images are presented,' so they are 'accustomed even [not] to search for the truth.'[133] Plato's media critique is quite sharp, although he has not explained that these four layers are mediation between the *quality* of external world and the *essence* of inner souls. In some schools of thought in the East the order is reversed, namely the way to the truth is not achieved through these four layers.

Plato prioritized the meaning over the form. According to him, these four 'medium' are 'defective' in nature and are unable to convey the meaning.

> [I]t is not the mind of the writer or speaker which is proved to be at fault, but the defective nature of each of the four instruments. The process however of dealing with all of these, as the mind moves up and down to each in turn, does after much effort give birth in a well-constituted mind to knowledge of that which is well constituted.
>
> (Plato, *The Seventh Letter*, p. 21)

In a sense, Plato viewed these medium to be the *encoder* of the knowledge, which are not yet capable of true transmission and reliable 'channels' of the truth. To reinterpret Plato in today's discourse, it can be suggested that he believed in an active process of meaning making. That is, the truth can be revealed after using these four instruments, observing, criticizing and understanding their paradox and ambiguity. The ultimate insight, according to Plato, is only achievable, when one has a 'natural kinship' to the matter and applies it in his day-to-day life, allied to justice and honourable lifestyle, besides having good memory and learning capacity.[134]

> After much effort, as names, definitions, sights, and other data of sense, are brought into contact and friction one with another, in the course of scrutiny and kindly testing by men who proceed by question and answer without ill will, with a sudden flash there shines forth understanding about every problem, and an intelligence whose efforts reach the furthest limits of human powers.
>
> (Plato, *The Seventh Letter*, p. 21-22)

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[133] Plato, *The Seventh Letter*, p. 21

[134] Plato explained that 'if men are not by nature kinship allied to justice and all other things that are honorable, though they may be good at learning and remembering other knowledge of various kinds-or if they have the kinship but are slow learners and have no memory one of all these will ever learn to the full the truth about virtue and vice. For both must be learnt together' (*The Seventh Letter*, p.21).

Language scientists believe that *The Seventh Letter* is the ontological, epistemological and theoretical treatises of Plato on the issue of language in general. They hold that two notions in his work, namely *sunousia* and *tribô* meaning *lived conversation* and *spending time*, are the powerful act to overcome the limitations of language in particular,[135] and the four processes of knowledge in general. In order to overcome the limits of these medial, one can use 'means of rubbing' (τρίβω), refutation (ἔλεγχος), and cross-examination (ἐλέγχω) to find truth,[136] since these media are constrained by their permanency and are not open to question and answer process.

Sunousia (συνουσία), live/repeated conversation, which is used in *The Seventh Letter*, is the mediality, which overcomes the limits of the four. This notion is also used in Plato's *Republic*, as the process of dialogue.[137] This will allow individuals to exercise the power of their mind and mental capacities. This mediation, paradoxically, is an attempt to achieve an 'unmediated apprehension' or 'direct cognition.'[138] Plato's emphasise on the dialogue as the medium of thought is widely accepted. For instance, Mersch supports the idea and mentioned that for Plato medium, to a greater extent, is the dialogue.[139]

> Es gibt demnach keine Schrift, die nicht zugleich aufzeichnet und dokumentiert, wie sie im selben Maße als Dokument oder Archiv die Erinnerung transformiert. Es ist diese Transformation und ihre unabsehbaren Implikationen, die Platon thematisiert und in der seine Schriftkritik ihren tieferen Grund besitzt: *Sie ist weniger eine Kritik der Schrift als vielmehr eine Kritik der Technik.*
>
> (Mersch, 2006: p. 33)

With reference to Derrida, Mersch pointed out that Plato has treated writing as a kind of téchne, which is located in between artistry and technique. Mersch believed that Plato is drawing a critique of the technique and its incalculable implication of transferring memories rather than the writing itself. Analysing Plato's conception of media, based on speech versus writing, can be biased by our today's discourse and contemporary perception of what media are. Nevertheless, it can be suggested that, for Plato, being aware of various existing techniques in reflecting thought, the outstanding quality of medium is its truthful ability to tell the truth and to be loyal to gods and human souls.

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[135] Pettersson, 2010: p. 31

[136] Latin words extracted from Pettersson, 2010: p. 36

[137] Plato introduced this concept in his Republic, 'For it does not at all admit of verbal expression (ῥητὸν) like other studies, but from repeated conversations (συνουσία) regarding the matter itself and in living with it (συζάω), it is brought to birth in the soul on a sudden, as light (φῶς) that is kindled (ἐξάπτω) by a leaping spark (πυρός), and thereafter it nourishes itself' (Cited in Pettersson, 2010: p. 39).

[138] Pettersson, 2010: p.43

[139] Mersch (2006) believed that for Plato 'Medium sei vielmehr der Dialog, die Ereignishaftigkeit der Aussage, die auf eine Gegenrede trifft und Verteidigung provoziert und dadurch das Argument erst schärfen hilft' (p. 31).

Therefore, with his medial concern comes the perception and reflection of meaning and thoughts into question.

Aristotle: Medium as an 'in between' entity

Aristotle's teaching span a wide range of subjects, from physics, biology, politics, philosophy, to poetry. His influence on science is quite remarkable in terms of transforming idealism (Platonism) into empiricism. He is notable for introducing a variety of technical terms.[140] It is believed that Aristotle introduced for the first time, the common Greek preposition, metaxú (μεταξυ), meaning between or intervening, into a noun or concept: *tò metaxú*, the medium.[141] His works is divided into two types: one, 'exoteric truth for public consumption,' which had been published. However, the publications have not survived. And two, 'esoteric truth reserved for students in the Lyceum,' which are unpublished treaties and doctrines that are available today. In his treatise, *De Anima* (O*n the Soul*), Aristotle has addressed the nature of living things and much of the discussion concerned the philosophy of mind and soul.[142]

His approach in examining soul begins with *matter* and the nature in general, similar to his *Physics*.[143] Matter for Aristotle is a 'potentiality.'[144] He considered soul as 'the first actuality,' 'the principle of life,' and general capacities and potentialities of living things for various forms, which makes them alive, and is 'responsible, in some sense, for the different living functions.'[145] In his view, all living things can be categorised based on the nutrition ('self-nourishment, growth, and decay'), reproduction, locomotion (movement in place), perception and intellect/thought. Respectively, he classified souls as: 'nutritive soul (plants),' 'sensitive soul (all animals)' and 'rational soul (human beings).'[146]

Aristotle's introduction of the conception of medium is in the context of perception of five senses. In *De Anima*, book two, chapter seven to eleven he discussed the medium of each sense. He believed that 'in perception a sense-organ is affected in some way that

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[140] Hamlyn in introduction to Aristotle's De Anima (1993) stated that Aristotle has 'the reputation of being a philosopher with a largely technical vocabulary' (p. xvii).

[141] Kittler, 2009: p. 25. Mersch, 2006: p. 19, Gendlin, 2012, p. 3

[142] De Anima is consisted of three books. The first book is consisted on five chapters, which is an introduction to the topic of the treatise and a general overview of existing theories on soul. The second book is consisted of twelve chapters, defining his conception of soul, and discussing issues on sensation, elaborating on five senses. The third book is consisted of thirteen chapters, discussing the issue of sensation of senses, imagination, mind, intellect, and soul.

[143] Aristotle, *De Anima*. Trans & Intro. by Hamlyn, 1993: p. ix

[144] Gendlin, 2012: p. 3-4

[145] Ibid, p. ix-x. Aristotle tried to 'distinguish living things from inanimate things and to give a descriptive account of forms of life, summed up in a few schematic concepts like those of 'potentiality', 'activity', 'actuality', and 'being affected' and the life is manifestation is thought in forms of 'change' and 'actualization of various potentialities' (ibid, p. x - xi).

[146] Cohn, 2008: p. 2

changes are caused in it by things around us.'[147] For perception to occur, there is a need for medium, as an 'in between' entity, e.g. as air *in between* ears and water *in between* eyes.

> There is a clear indication of this; for if one places that which has color upon the eye itself, one will not see it.

> (Aristotle, *De* Anima. Trans by Hamlyn, 1993 – BII-Ch6, 419a6)

He identified medium in association with physical entities or the basic natural elements of air, glass, water or crystal.[148] Aristotle distinguished between the nature and artificially made things, and living from the non-living things.[149] He considered the act of *thinking* (νοεῖν – noein) independent of the body, and *imagination* as the result of sense perception.[150] Accordingly, he distinguished between affairs that are separable from the body (thinking/intellect), inseparable (active powers of souls), and soul-and-body affections and emotions.[151] Among these categories, sensation, movements, and bodily affections cannot move the soul. Soul-body relations and emotions can be changed in place and time. This idea is criticised by Eastern philosopher, Mulla Sadra, who proposed the concept of *substantial motion*. Sadra initiated a 'process metaphysics of change, founded upon and moved by acts of being'.[152]

Aristotle believed that, the soul is not affected by bodily perception. The acts of sensorial perception are not essentially conditioned by the body.[153] Aristotle believed that the 'matter is potentiality' and the 'form is actuality.'[154] He explained in a reductionist manner that if eyes were an 'animal,' 'sight would be its soul'.[155]

> The eye is matter for sight, and if this fails it is no longer an *eye,* except homonymously, just like an eye in *stone* or a painted eye.

> (Aristotle, *De* Anima. Trans by Hamlyn, 1993 – BII-Ch1,412b17)

He argued that all plants have the nourishment, but animals have all sense perception. The dominant perception is touch, since it is attached with the perceptions of hot/cold, and moisture/dryness which are essential for nourishment. In order to understand the

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[147] Aristotle, *De Anima*. Trans & Intro. by Hamlyn, 1993: p. xi

[148] This idea of medium as basic physical elements (medium als 'physukalische Grundstoffe oder Grundelemente') is based on the Aristotle's theory of perception (cited in Mersch, 2006: 18).

[149] Gendlin, 2012: BI-Ch-1, p. 3

[150] Ibid, p. 11

[151] Intellect (nous) in view of Aristotle and his previous Greek philosophers such Anaxagoras is not purely a human ability, rather it is an 'order of universe' which also exist in human being (Gendlin, 2012: BI-Ch2, p.3 & p. 13)

[152] Rizvi (2019)

[153] For instance, if an old body have new eyes, since the soul is not aged, he/she can perceive as young.

[154] Aristotle, *De Anima*. Trans by Hamlyn, 1993 – BII-Ch1,412a6

[155] Ibid, 412b17

concept of medium, which is proposed by Aristotle in relation to the perception, it is important to review his ideas on this matter. He viewed perception as 'being moved and affected,' that is 'a kind of alteration.'[156] The faculties of sense perception, in his view are not a 'way of activity,' rather it is a 'way of potentiality.' Therefore, the perception cannot occur by itself, as fuel cannot burn by itself.[157] Sense perception has two ways of *potentiality* (affected by object of perception) and *actuality* (altered the object of perception).[158] He distinguished between sense perception and knowledge, as the latter is particular and not voluntarily and the former is universal and voluntarily.[159] In relation to the object of perception and each sense, he elaborated that each object can be understood in three ways:

> [...] we perceive two in themselves, and one incidentally. Of the two, one is special to each sense [ideon], the other common to all [koinon]. [...] special-object whatever cannot be perceived by another sense, [...] e.g. sight has colour, hearing sound, taste flavor [...] while those that are spoken of as common are movement, rest, number, figure, size [...].
>
> (Aristotle, *De* Anima. Trans by Hamlyn, 1993 – BII-Ch6,418b7, 418a11 & 418a16)

Aristotle introduced his conception of medium in chapter seven, elaborating on the sense of sight. He believed that a medium is necessary for sensorial perception though may not be recognized initially. He distinguished between two types of medium, one as the *mover* (kinetikon), the moving medium and the *maker* (poietikon), the medium that performs activity (hexis or energeia).[160] According to Aristotle's logic, something can be present in another. By an experiment, he proved that medium is essential to perception, namely, vision cannot see by itself and requires an 'in between' entity.[161]

> For Democritus did not speak rightly, thinking (οἰόμενος) that, if the intervening (μεταξυ, medium), were to become empty (κενός), then even if an ant were in the sky it would be seen accurately; for this is impossible. For seeing takes place when that which can perceive is affected by something. [...] It remains for it to be affected by what is intervening, so that something must exist between (τι εἶναι μεταξύ). But if it were to become empty, not only should we not see accurately, but nothing would be seen at all.

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[156] Aristotle, *De Anima*. Trans by Hamlyn, 1993, BII-Ch5, 416b32
[157] Ibid, 417a2
[158] Ibid, 417a9, 417b29 & 418a3
[159] Ibid, 417b16
[160] Gendlin, 2012, BII-Endnote 56, p. 66
[161] See Ibid,, BII-Ch7, p.8

In Aristotle's view, sound and smell (as example of distance-senses or any other contact-senses such as touch and taste) cannot produce 'sense-perception when it touches the sense organ, but the intervening medium is moved' by them and in return the sense-organ.[162] If this sense-object is to be placed in sense organ no perception can be produced. Aristotle elaborated that the 'medium for sounds is air' and 'for smell has no name.'[163] Air is considered a medium for sound, not for smell, since it is involved in vibration of air, which can produce sound.[164] He initially discussed medium in terms of potentiality, activities of the medium and finally how a medium takes up of forms of things since it has no form by itself.[165]

The medium is not only an intervening, which transfer the sense-forms (*through* medium forms can travel), but also it provides an *activity* 'whose forms are the sensible forms apart from their things.'[166] This lies on the idea that the 'sensible form does not first exist and then travel' rather a '"form" is inherently something that travels, because it is first generated as the form-of a medium's ongoing activity.' [167] If the medium is in activity, the matter can give medium characteristics and traits, however without reaching to sense-organ, perception may not occur.[168] Aristotle's triangle of *matter*, *medium* and *organ*.

With respect to the sound, Aristotle introduced the category of inactive medium. However, he prioritised the *active medium*. He believed that there is a need for an active 'in between' entity since the matter and sense organ are unchangeable and unmovable substances. The medium, which has no form of its own, is 'actual' and 'continuous' to the sense organs.[169] Aristotle believed that among the sense organs, the smell is not precise, and the most accurate sense is the sense of touch, which is superior to all other senses. Touch as an accurate sense, in his opinion, makes the man the most intelligent animal. He believed that the smell takes 'place through a medium, such as air or water,' however, he did not specify the type of medium.[170] For taste, he believed that the medium could be the tongue itself and the taste-form can travel *through* this organ, since

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[162] Aristotle, *De Anima*. Trans by Hamlyn, 1993 – BII-Ch7, 419a22

[163] Ibid

[164] In modern physic this idea may not be true, however, it is important to notice the quality and characteristic of the air to be distinguished as a medium for Aristotle. He distinguished between voice and sound, that the blood animals since they have breath, voice is meaningful. He distinguished between 'phone and graphe, voice and writing' and mentioned that 'while speech sounds are signs of being, written letters are only secondary signs of those sounds' (Kittler, 2009: p. 26).

[165] Gendlin, 2012, Endnote 62, p.78

[166] Ibid, p.80

[167] Ibid, p.80

[168] Ibid

[169] Ibid, p. 82

[170] Aristotle, BII, Ch9, 421b13

it has a different perception than vision.[171] Based on his analogy instead of the (saliva) fluid, tongue is the medium. This depicts the action- or function-oriented approach in defining a medium. Air is active in transmitting sounds, similarly tongue is active in mediating the tastes.[172] This is analogous to the sense of touch where the medium is flesh and the sense organ is considered deeper in the body.

> But there is a difference between the object of touch and those of sight and hearing, since we perceive them because the medium acts (ποιεῖν) on us, while we perceive objects of touch not through the agency of the medium but together (hama) with the medium, […].

> (Aristotle, Trans. Gendlin, 2012 – BII-Ch11, 423b12-17)

Aristotle believed that what brings the awareness of the sensations are 'pairs of opposites,' e.g. high or low pitch in sound.[173] He held that one can understand phenomenon in binaries. In his *De Gen and Cor*, Aristotle explained that each element can be defined by 'a pair: hot and fluid (air), cold and fluid (water), hot and dry (fire), cold and dry (earth).'[174] He believed that the rule of composition is based on the possibility of discrimination in the object of perception and mostly 'between contraries.'[175] It is important to highlight that, at the core of Western philosophy, this binary opposition or dualism is a well-established reasoning strategy.[176] Besides that for Aristotle, 'living and perceiving are as natural as elements and heat, and they are studied within natural science'.[177] This shows that medium is viewed as a natural continuation, physical and chemical, or technological one. It is important to notice that he did not address the material aspect of the medium in details, since in *De Anima* he focused on the 'soul-functions' rather than material functions. For him, media is not defined based on matter, and matter is not based on time and space.

Another conception, which is interesting to discuss here, is *mixture* versus *medium*. The former is 'a form in a matter,' and we can contact directly, but the latter is medium activity, which 'takes on a form apart from the thing.'[178] Aristotle believed that, the

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[171] Gendlin, 2012, BII-Ch10, p. 3
[172] Ibid, Endnote 73, p. 88
[173] Aristotle, BII, Ch11, 422b27
[174] Gendlin, 2012, BII-Ch11, p. 9
[175] Ibid, BII, Ch11, 424a4-7
[176] This is a core difference between the Oriental and Occidental philosophy. Since the Western philosophy is based on the process of sensory perception to thought, the discrete quality of perception is the base for logical reasoning, i.e. dualism, or binary oppositions. Nevertheless, in the Eastern philosophy, the perception is considered as distortion, and the inner wisdom, which is holistic in nature, determines the quality of the reasoning, i.e. non-dualism or unity.
[177] Ibid, p. 10
[178] Gendlin, 2012, Endnote 73, p. 88

medium should not dissolve and its existence continues.[179] He believed in existence of medium in all type of perception and stated that 'we perceive everything surely through a medium but in these cases we fail to notice.'[180] The mixture has a complex ratio and proportion and it is not simply the 'combination of the simpler ingredients.'[181] Another triplet conceptions in Aristotle's works are 'mean' (μέσον - meson), 'medium' (μεταξὺ) and 'broad mean' (μεσότης -mesotetos), which are closely associated concepts 'separable from that of which they are the proportions.'[182] The proportion is understood in sense organs if they are not too violent, otherwise, it destroys the organ. Gentle proportion is the *aesthetics*. With respect to sense perception, he believed that the proportions of sensible, i.e. colour, sound, smell, taste and touch, are what is sensed.

> Universally ("katholou"), with regard to all sense-perception, we must take it that the sense is that which can receive perceptible forms without their matter, as wax receives the imprint of the ring without the iron or gold […]

> (Aristotle, Trans. Gendlin, 2012 – BII-Ch12, 424a17-20)

The organ is the *mean* and the matter-and-form instrument of sensation. The sense is a proportion and 'a power or potentiality of that extended thing.'[183] The copies are representing the proportion of the things. In this light, we may deduce some ideas regarding the genre of representing reality. Some are very exact proportions while others are exaggeration and underestimation. A 'form is what can be in many places, what can be separated from one thing and reproduced in another because it is a proportion or a set of proportions.'[184]

In Aristotle's view, there are 'two distinguishing characteristics by which people mainly define the soul: motion in respect of place, and thinking, understanding and perceiving,' where '[t]hinking and understanding are thought to be like a form of perceiving (for in both of these the soul judges and recognizes some existing thing)'.[185] He believed that there is a clear difference between perceiving, understanding and

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[179] In delineating the medium of taste, he mentioned that, since the salvia fluid is dissolving, the tongue is the medium.

[180] Aristotle, BII, Ch11, 423b1

[181] Gendlin, 2012, Endnote 74, p. 90

[182] Ibid, Endnote 77, p.92-93- 'A mean (meson, μέσον) becomes to each extreme in turn the other extreme. The flesh is at the mean of all bodily compositions. But the sense is a mesotetos (μεσότητος), a broad mean, not the exact mean but rather a range' (424a4-7).

[183] Gendlin, 2012, BII, Ch12: p.3. 'The proportion consists of relations along the whole range, all notes or all colors in relation to each other. A form is some particular pattern within that whole proportion, or as he says, "according to" (kata) the proportion-system. […] The system of proportions is provided only by the organ. A given air vibration is potentially a certain sound which means that when it is heard the organ will receive is as having certain proportions, certain relations to other sounds' (p.5).

[184] Gendlin, 2012, BII, Ch12: p.7

[185] Aristotle, BIII, Ch3, 427a17

thinking, and the former is unique to human beings. Most animals can perceive special-objects, and it is true thinking can be false and no animal without reason can practice that. He believed that imagination is also closely associated with and occurred in accordance with perception.

He believed that the 'perceptible is a range, a quantitative continuum.'[186] In Aristotle's view the 'images are memories and they are "affection" (pathos) of the common organ,' and the 'memory-image' only works in association with sense perception, this is similar to thinking which 'depends on the joint sensing and sense-image'.[187] In order to sense the 'sensible form' it is required to 'receive it without the thing.' In other words, the 'sensible form must first become separate by becoming the form of a medium activity' and the 'medium activity must take on (and thereby enact) the sensible form without the material thing,' e.g. 'color is a form of the light activity' and the 'sound form of bronze is the form of vibrating air.'[188] This is quite similar to the idea of Mersch, who has proposed the Negative Media Theory, where the medium is the mediality of what it represented.

> And just as that which is to perceive white and black must be neither of them actively (energeia, ἐνέργεια) […].
>
> (Aristotle, Trans. Gendlin, 2012 – BII-Ch11, 423a7-10)

Additionally, there is a taxonomy of activities, which is relevant to our discussion. Aristotle categorised human activities into three areas: theoría (thought), praxis (action), and poíesis or teckne (production). The last activity, teckne, in Aristotle's view, is divided into *art*, which is imagination and imitation from nature and *technology* (instrument and civilization) which is the extension and complementary to nature. This idea perhaps has influenced McLuhan's medium theory, who suggested that medium is an extension of man senses (the intelligent animal of the nature). In contemporary discourse, media is defined in a passive technological sense, rather than Aristotelian definition of medium as an active participant in perception. The idea of medium in the Aristotelian sense is based on the thought that substance is considered without change and movement. Therefore, there is the requirement of a third active entity to connect unmovable substances.

To recap briefly, it can be argued that Aristotle believed in medium in terms of natural and physical entity. Aristotle defined medium in a causal relationship.[189] He has

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[186] Gendlin, 2012, commentary, BII, Ch11, p. 12
[187] Ibid, Endnote 69, p. 84-85
[188] Ibid, Endnote 70, p. 85
[189] There are various type of causality in Greek philosophy which Aristotle has refined them in his work: 'by which' (by means of which, or source of its motion), the 'out of what' (the ingredients, the material), the 'what it is (Its form), the 'that for the sake of which 'as a result of' Moving cause (in

an analogical and comparative approach in defining media in terms of sensory perception. He believed that 'In the middle of absence and presence, farness and nearness, being and soul, there exists no nothing any more, but a mediatic relation.'[190]

Rumi and Hafiz: Reed as the mystic medium of unity

Rumi[191] and Hafiz[192] are among the most influential Sufis poets and *Urafa* (spiritual masters) during the thirteenth and the fourteenth centuries A.D. There are various views on the origin of Sufism. The 'linguistic controversy regarding derivation' of the term Sufi, is due to the counter argument regarding the origin of it.[193] Sufism, known as Tasawwuf, Islamic mysticism, emerged during the eight century A.D., approximately two hundred years after the emergence of Islam.[194] The influence of Sufism spans from Turkey to China over a thousand years.

Sufism is derived from Gnosticism (*Irfan*), which is a discipline of Islamic sciences. There are two major dimensions to Irfan, one is social practices and the other scholastic theories.[195] Sufis are the social practitioners of Irfan, which is widely known as Tasawwuf. Urafa are Gnostic Islamic scholars.[196] In other words, Tasawwuf or Sufism is known to be the practical and social aspect of *Gnosticism*.[197]

Latin: efficient cause') 'body (or part . . . of a body)' material cause, 'such and such kind formal cause and for the sake of' final cause (Gendlin, 2012: BI-Ch1-15-16).

[190] Kittler, 2009: p. 26

[191] Molavi Jalal ad-Din Muhammad Balkhi (1207-1273 A.D.), lived during thirteen century A.D. in Persia, who is known as Rumi in the west, is one of the greatest Sufis poets. His great masterpiece, Masnavi Manavi (Spiritual Couplets), contains six books, which is an allusion to Attar's spiritual journey of seven city of love. The seventh book is never written and is left for the perfection of the reader.

[192] Khwāja Shams-ud-Din Muhammad Hāfez-e Shirāzi (1325-1390 A.D.), was a prominent Persian poet and Sufi mystic. His major poems are compiled in a book entitled Divane-Hafiz, which is a great masterpiece in Persian literature. Johann Wolfgang von Goethe, the prominent German poet, wrote his West-östlicher Divan (1819) based on his inspiration from Hafiz.

[193] Akhtar, 1991: p. 78. Some scholars believe that Sufism is derived from the word 'soof', meaning the 'wool', or from 'soof', meaning a 'row', which alludes to their first-row position in Judgment Day, while others believe the roots of the term, is from Greek 'sophia', meaning they were sophists (see Bahadur, 1999: 1). Nevertheless, Lings (1975) and Motahari (1978) argued that there is less evidence that the term is originated from Greek or outside the terminology of Islam (See Bolouri, 2011: p. 50-52).

[194] Motahari, 1978: p. 203. Motahari believed that Irfan and Sufism is originated from Islam. Urfa (Gnostics or Guru/intellectuals of Sufism) significantly differ with other cultural-scientific classes of Islam, say Exegetists (Mofaserin), Traditionist (Mohadesin), Jurists (Foghaha), Theologist (Motekallemin), Divine Philosophers (Phalasafe), and that is they created a social sect in the history of Islam with distinctive characteristics (p. 186).

[195] See Motahari (1978) & Bolouri (2011)

[196] Ibid

[197] Ibid

Figure 2.3. The origin of Sufism [198]
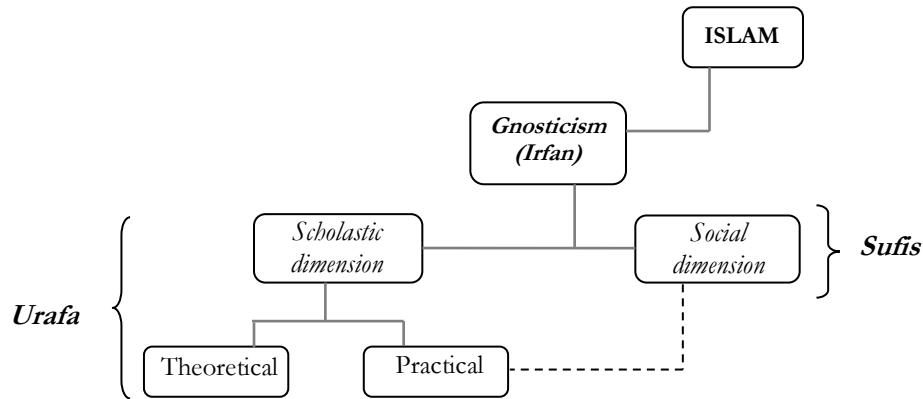
In Sufism, a core emphasis is on *Safa* (purification), that is a way to achieve a unity with the divine from the plurality of the world.[199] On a journey from *plurality* to *unity*, the Sufi poet, Rumi, said,

كز نيستان تا مرا ببريده اند
در نفيرم مرد و زن ناليده اند

From the reedbed cut away just like a weed
My music people curse, warn and heed

سينه خواهم شرحه شرحه از فراق
تا بگويم شرح درد اشتياق

Sliced to pieces my bosom and heart bleed
While I tell this tale of desire and need

هركسى كو دور ماند از اصل خويش
باز جويد روزگار وصل خويش

Whoever who fell away from the source
Will seek and toil until returned to course

(Rumi, *Masnavi Manavi*, Book I)

To achieve a unity with the divine, one should take the path of *Seir-o Soluk* or *Tey Tarigh*, a spiritual journey of seven stages of the perfection in love.[200] This is achieved by willingness of the heart (*Talab*), not the mind or intellect. Al-Ghazzali, a prominent Scholar of Islam during the eleventh Century A.D., held the view that institution (*kashf*) is 'the higher level of reason (*aql*).'[201] The major Sufis notions are briefly discussed in the following.

a) *Unity (vahdat)*, is the ultimate aim of a Sufi (moving from plurality to unity).

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[198] Bolouri, 2011: p. 54. Based on Motahari (1978)

[199] See Akhtar, 1991: p. 87 & Bolouri, 2011: p. 50

[200] These seven cities, viz. Quest; Love; Understanding; Independence and Detachment; Unity; Astonishment and Bewilderment; and Deprivation and Death (annihilation), refer to 'transformation of one from the lower level of the self, up to the near end in the hierarchy of self-soul-spirit (See Bolouri, 2011: p. 12).

[201] Cited in Akhtar, 1991: 96, see Bolouri (2011)

b) *Spiritual journey* (*Seir-o Soluk*), is a journey from *plurality* to *unity* with the divine. This path is consisted of seven spiritual cities:[202]

1) The city of *Quest* (*Talab*), is the initial step, desiring for unity.
2) The City of *Love* (*Ishgh*) is the divine essence.
3) The city of *Knowing* (*Marefat)*, is the recognition of the aim of life. In Sufism it is believed that human being is originated from the divine and returns towards it (a journey from *origin* to the *ultimate*).
4) The city of *Independence* and *Detachment* (*Isteghna*), is state of detaching from all material world.
5) The city of *Unification* (*Tohid*), is the realm of unity with the divine and every particle in the universe.
6) The city of *Astonishment* and *Bewilderment* (*Heirat*), is a state of wonder caused after unification with the divine.
7) The City of *Deprivation* and *Mortality* (*Faghr* and *Fana*), is an absolute state of unification with the divine and vanishing the borders of the 'self'.

<div dir="rtl">

چون گذشتی هفت وادی، درگه است   گفت ما را هفت وادی در ره است

وادی عشق است از آن پس، بی کنار   هست وادی طلب آغاز کار

پس چهارم وادی استغنا صفت   پس سیم وادی است آن معرفت

پس ششم وادی حیرت صعبناک   هست پنجم وادی توحید پاک

بعد از این روی روش نبود تو را   هفتمین، وادی فقر است و فنا

گر بود یک قطره قلزم گرددت   در کشش افتی، روش گم گرددت

</div>

(Attar's Seven City of Love)

c) *Intuition* (*del*), is the only unlimited instrument which guides the Sufis. The intellect and mind are incapable of grasping the unity since they are trained to see the world in plurality and discreteness.
d) *Morshed* (guru), is the spiritual leader who already gone through the seventh cities of love and can guide *morid* (spritual seekers) to safely go through this journey.

In addition to the abovementioned notions, there are several important concepts, which are fundamental in understanding the epistemology of Sufism. One is the concept of *vaght* (time/moment), which is different from *zaman* (time) as a tangible concept. Vaght is a synchronized time (including context and space), which one cannot be measured. It is in this *vaght* that one reach to a *hal* (a mystical state). In this state of joy, one can achieve the unity with the divine.[203] There are several references in Hafiz's poems to this mental state.

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[202] Based on Attar's Seven City of Love.
[203] Bolouri, 2011: p. 104

دوش **وقت** سحر از غصه نجاتم دادند

و اندر آن ظلمت شب آب حیاتم دادند

I was survived from grief last night in the ***time*** of dawn

They gave me eternal water during that dark night

***

من اگر باده خورم ورنه چه کارم با کس

حافظ راز خود و عارف **وقت** خویشم

If I shall drink what work do I have with others

I shall be the keeper of my secret and the master of my own ***time***

(Hafiz, *Divane-Hafiz*)

The communication process in Sufism is viewed as a journey from the outer world to the inner world, from plurality to unity. This is in contrast to the concept of communication in the Western scholarship, in which the communication process is viewed as a journey from the inner world to the outer world in order to *express* oneself.[204] In Occident, the communication is viewed as *continuous* flow. According to Sufism, the communication process is not continuous, but in transition from *gheibat* (absence) to *hozour* (presence). The technique to connect to the inner world in Sufism is the *state of love* and *joy*. The metaphor used to achieve this mystical state of joy is *reed*. The reed symbolizes the divine state of human being, hollow and empty, where divinity can play the songs of unity. The reed is an empty medium, in which the state of unity can be achieved. This reed-like being, who has crossed the seven cities of love, is the true medium according to Sufism.

همچو نی زهری و تریاقی کی دید

همچو نی دمساز و مشتاقی کی دید

Who has borne deadly opium like the reed?

Or lovingly to betterment guide and lead?

(Rumi, *Masnavi Manavi*, Book I, P. 1)

The mediality, therefore, is viewed beyond the *sensorial* perception. Rather mediation is defined in terms of a *mental-state*. In other words, medium is not a sensory instrument, but a state of transforming oneself to the higher self. Consequently, medium cannot be defined positively. It is beyond the concepts of time and space. The mediation is not viewed in terms of functionality, an 'in between' entity or sensorial attributes.

Lessing and Herder: Time- and space-based medium

Gotthold Ephraim Lessing[205] in his *Laocoon: An Essay upon the Limits of Painting and Poetry* (1766) (English Translation in 1887) addressed the tension between painting and poetry

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[204] Bolouri, 2011: p. 104

[205] Gotthold Ephraim Lessing (1729-1781), was a German critic, philosopher, writer and dramatist. His critical essays influenced German drama, art and literary society. He affirmed the 'religious and

as a response to the dominant criticism of his age considering the two arts similar.[206] His concern is a medial critique. He argued that painting is bound to 'observe spatial proximity' and therefore, 'select and render the seminal and most expressive moment in a chain of events.'[207] Rather, poetry depicts 'an event organically' in its 'temporal sequence,' therefore, the essence of poetry does not lie in 'description but in the representation of the transitory, of movement.'[208] Some have criticised him on the basis that essentially poetry (written language) is not comparable to painting (visual representation).

Prior to exploring thoughts of Lessing on medium and mediality, it is significant to analyse briefly his paradigmatic orientations. Lessing believed that one can achieve the truth in a process of approaching towards it.[209] Lessing was influenced by the Enlightenment ideals of the rationalism, empiricism and universalism of the human being condition.[210] In his comparison of painting and poetry, Lessing distinguished between three types of points of view, an amateur, a philosopher and a critic. The amateur is 'a man of fine feeling' and she/he is 'conscious of a similar effect' from both arts.[211] The process of perceiving and representing painting and poetry are similar and they portray 'the absent things as present,' which result in producing pleasurable illusions.[212] The philosopher, who aims to analyse the nature of pleasure, finds the source of the two similar and believes that 'corporeal objects' have 'universal laws' extending to actions, thoughts and forms.[213] The critic ponders upon the 'distribution of these laws' as some are 'obtained more in painting, others in poetry.'[214] Among these three, the critic bears more responsibility in arguing her/his claims in distinguishing the difference between the two art forms.

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intellectual tolerance and the unbiased search for truth' (Müller, 2015). In his Briefwechsel über das Trauerspiel (1756-7) contribute to the aesthetic of tragic drama and consequently influenced Goethe with his Faust drama. He was a critic of style and genre, i.e. Fables (1759) and Laocoon (1766).

[206] Laocoon is a famous sculpture in Hellenistic times (c. the 1st century BC), that depicts 'the priest Laocoon and his sons as they are about to be killed by the serpents that hold them' (Müller, 2015). Lessing took up the interpretation of his contemporary art historian Johann Winckelmann, in Gedanken uber die Nachahmung der Grieschiechen Werke in der malerey und Bilderkunst, on the Laocoon as a theme to discuss his thoughts on the medial distinction of painting and poetry. Lessing contested Winckelmann conception of Ut pictura poesis and believed that the painting and poetry are subjected to different rules.

[207] Müller (2015)

[208] Ibid

[209] For Lessing 'the pursuit of Truth was more agreeable to him than the capture of the object of his pursuit' (Phillimore, 1874: p. xix)

[210] Lessing doubted the concept of revelation in Christianity and started to publish pieces of a manuscript, attaching on the historicity of Christian revelation, known as Fragments from an Unnamed Author. Later in his life, in Die Erziehung des Menschengeschlechts (The Education of Humankind) positioned his thought on superiority of human reasons.

[211]Lessing, 1887: p. vii

[212] Ibid

[213] Ibid

[214] Ibid

Lessing criticised the common belief that the painting is a 'dumb poetry' and the poetry is a 'speaking painting.' Poetry was viewed 'within the narrower limits of painting,' and painting is viewed 'to fill the whole wide sphere of poetry.'[215] He believed that the critics were misled by this particular 'fault-finding criticism' to see in poetry, 'a fondness for description, and in painting, a fancy for allegory.'[216] This fallacy is out of the desire to make

> the one a speaking picture without really knowing what it can and ought to paint, and the other a dumb poem, without having considered in how far painting can express universal ideas without abandoning its proper sphere and degenerating into an arbitrary method of writing.

> (Lessing, 1887: p. x)

It is said that Lessing was influenced by Plutarch, who distinguished between poetry and painting based on their material and mode of imitations.[217] His categorisation and definition of media is based on two criteria: *space* (figures and colours in painting) and *time* (poetry). The time-based mediation provides a 'wider scope of representation,' since it is compatible to the logic of imagination and creating mental image.[218] According to Lessing's theory, it is more likely that painting imitates poetry. Hence, poetry is supreme to all modes of arts. Lessing's conceptions of time- and spatial-based medium have influenced the early medium theorists.

Johann Gottfried Herder,[219] in his *Critical Forests* (1769), the *First Grove*, addressed the Laocoon. Similarly, he examined the differences between poetry and other art forms. In his view, poetry can unite a nation and the poet is the creator of such. His effort to collect the ancient folks and Norse poetry of German origin is remarkable. Herder

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[215] Lessing (1887) criticised his contemporary critics for drawing 'the crudest conclusions possible from this agreement between painting and poetry' as 'they confine poetry within the narrower limits of painting, and at another allow painting to fill the whole wide sphere of poetry' (p. ix).

[216] Lessing, 1887: p. x

[217] Phillimore (1874) believed that Lessing adopted and developed the motto of his Laocoon from Plutarch's passage, Bellone an Pace clariores fuerint Athenienses (p.xvii). Plutarch referred to the Simonides's dictum, considering 'painting as silent poetry' and 'poetry as speaking painting' and believed that actions in painting is presented by colors and figures, while in poetry by names and phrases, hence, 'they differ in the material and in the modes of their imitation' (Cited in Phillimore, 1874: xvii).

[218] Phillimore, 1874: p. xxvi

[219] Johann Gottfried Herder (1744-1803), was a German philosopher, theologian, and literary critic and poet during Enlightenment, Sturm und Drang, and Wiemar Classicism movements. He was a student of Immanuel Kant and Johann Georg Hamann, and a friend to Goethe. According to Stanford Encyclopaedia of Philosophy, Herder is 'a philosopher of the first importance' due to his 'intrinsic quality of his ideas' and 'his intellectual influence', i.e. Hegel's systematic elaboration and development of Herder's ideas of mind-history-God, Schleiermacher's philosophy of language, mind, God, and art, Böckh's (pupil of Schleiermacher) systematic formulation of Herder 'interpretation-theory' and foundation of modern Hermeneutics, Nietzsche's ideas on mind, history and value, Dilthey's ideas on history, Mill's political history, inter alia (Forster, 2015).

published his philosophy of language in *Treatise on the Origin of Language* (1972), which earned him an award from the Berlin Academy.[220] He was among the early philosophers who has claimed that thoughts are determined by languages. [221] This idea is put into the question by the modern philosophy of language.[222] According to Herder, the mediality of language should be the most flexible and unsystematic way to flourish creativity.[223] His identification of thought with language, created a dualistic approach between language, on the one hand, and thought process or meaning, on the other hand.[224] His emphasise on the sensorial knowledge as a base for all conception may bring certain limitations.

Having analysed various thoughts, which implicitly addressed the issue of mediation in pre-medium era, it can be concluded that the main tendency is philosophical and mystical approaches. In the following a brief review and critique of the pre-medium theories are discussed.

Critique of philosophical and mystical approaches in pre-medium theories

As discussed in detail, the aforementioned pre-medium theories, are mainly concerned with a philosophical ontology of mediation. The philosophical understanding of the medium is elaborated with reference to the issue of the *divinity* in the Orient and the *truth* in the Occident. The significant ontological shift from Oriental philosophers to Greek philosophers with respect to the understanding of human communication and the issue of mediality originates in the definition of the truth and the manifestation of it. There are, undoubtedly, fundamental differences on assumptions, worldview and definition of the human being between the philosophical traditions. The main concepts related to our discussion are the mediation between the inner world and the external world.

As much as Buddha emphasised the inner harmony and Zarathustra accentuated the middle path, Plato highlighted the external medial distortion to grasp the truth. For Plato, in contrast to the teachings of Buddha, silence has a negative connotation. The media, which are unable to provide answers to one's question, is a misleading one. In

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[220] In his Treatise on the Origin of Language, Herder examined the origin of language and examined whether it has a natural or divine source. He argued for the former one (see Forster, 2015). His treaty develops three fundamental issues: nature of language-thought-meaning, theory of interpretation, and theory of translation (Forster, 2015).

[221] Herder's three fundamental theories on relation between language, thought and meaning are as the following: 1) The thoughts are fundamentally dependent on and determined by languages. In other words, without a language, one cannot think, and linguistic expressions are essential means of thoughts. 2) 'Usage of words' is equated with meaning and concepts. 3) Sensorial perception determines the conceptualisation of first-order. The metaphoric extension of the sensational concepts can build further the second-order types of concepts. See Forster (2015).

[222] Forster (2015)

[223] Ibid

[224] Forster (2015). Mersch (2006) believed that, Herder with his medial language theory defined ontologically the mediality as a fundamental principle (37).

his critique, he mentioned that 'writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question, they preserve a solemn silence.'[225]

Aristotle had a physiological approach in the definition of medium. He reduced medium to sensory perception and incorporated a perceptual approach in understanding the media. He delineated how sensory organs are communicating with the outer world and how we perceive the world through unnoticeable media. His technical approach in understanding media is quite remarkable and influential. Medium theories ontologically relied on this definition of media as a technology for sensory perception, e.g. Canadian School. During the thirteenth and fourteenth centuries, Sufism in the Orient viewed the human being as the medium, with certain mental-state of hollowness (the metaphor of the reed). The mediation is not the sensorial perception, but it is a mental state of being. Lessing and Herder, during the eighteenth century, the Enlightenment era in the Occident, established the medial concept in relation to the mind and language. They have added a semiotic value to the concept.

There are other influential thinkers and philosophers, who addressed the issue of mediality in pre-medium era. For instance, in Kantian philosophy, human beings cannot 'interact directly with the world' without 'mediation.'[226] Georg Wilhelm Friedrich Hegel,[227] an influential figure in the Western philosophy, whose analytical approach, known as Hegelian dialectic, marked a new chapter in the history of reasoning, has referred to the dialectic of medial in his explanation of the system.[228] Similarly, Friedrich Nietzsche, addressed the 'masks of mediality.'[229] In the next chapter, the dominant medium theories are critically analysed.

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[225] Plato, *Phaedrus*, p. 92

[226] Grossberg (2010) believed that this distinguished human beings from other creators (animals), which can directly interact with the world with 'instinctual apparatus' and without mediation (p. 530).

[227] Georg Wilhelm Friedrich Hegel (1770-1831), was a German philosopher during late the Enlightenment era, who influenced greatly the Western philosophy.

[228] Mersch, 2006: p. 40. Dialectic, as kind of logic, an art of good thinking, is as old issue. Aristotelian logic, which is static and dualistic in nature, is based on the cause and effect reasoning. Hegel introduced a new form of dialectic, which is dynamic in nature, and it is based on synthetic analogy. His triangular chain of reasoning is consisted of thesis (i.e. being), and antithesis, a negation or conflicting thought of thesis (i.e. nothing), leading to a synthesis in a process (i.e. becoming). In his *Lecture on Aesthetics*, which is compiled by his student Heinrich Gustav Hotho in 1835, Hegel discussed three major themes, remaining faithful to his dialectic analogy, arguing the relation of beauty and ideal, evolution of symbolic architecture, to classical sculpture and romantic poetry, and five types of art forms. Herder, as a student of Immanuel Kant, was influenced by his critical philosophy. Respectively, Herder is said to have influence Hegel. Hegel is considered an influential figure in revisiting the Western philosophy and his thoughts and logics influenced to a great extent the Western and to some extent the Eastern philosophers afterwards.

[229] Ibid, p. 45-56

3

Social-Technological
Approach
Mechanical

John Fiske

Media Spheres

Samuel Beckett

Channel-Medium-Code

Régis Debray

Theory

Medium as Extension of Man
Senses
Marshall McLuhan

Media Evolution

Electronic Media

Mediality

Claud Shannon: Communication Model

Joshua Meyrowitz

Media as Cultural

Medium Theories

Environment

Mediation Spheres

Mass Media

Béla Balázs: Language of Film

Mass Communication

Linguistic Turn

3 Medium Theories:
   ## Linguistic, Social and Technological Approaches

The development of medium theories during the twentieth century is influenced by various research traditions, including literary studies, linguistic, social science, communication studies, art criticism, and information science. The early medium-related theories are proposed by film critics in Europe. They tried to explain the nature of the 'new medium' of film in relation to art-history, e.g. Béla Balázs.[230] Medium theories during the second half of the twentieth century are addressed in technological, social and communicational context.[231] Most medium theories during this era are concerned with the *massification* of media and communication.[232] The technological transition from mechanical (printing press) to electronic modes of communication (broadcasting, radio and television) prevailed medium theories. Among the wide range of approaches, there are a number of influential schools of thought, which influenced immensely the theoretical frameworks and discourses of media studies, including Bell Laboratory, Canadian school, Frankfurt school, Vienna circle, and Marxism, inter alia.

Claude E. Shannon's mathematical model of electronic communication, which was developed during 1948 in the Bell Laboratory, is considered one of the most influential informational models of communication. According to this model, media is

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[230] Pearce (2009) believed that 'Although newspapers had been around for many years, it was the introduction of film and radio that ushered in the academic study of the media as a form of communication' (p. 623).

[231] The modernism defined media in terms of energy. Mersch (2006) in his *book Medientheorien – zu Einführung*, divided the media theories into systematic media theory (Systematische Medientheorien), including the Marxist critical media theory (Marxistische Medienkritik), and Canadian school (die Kanadische Schule), and media philosophy (Medienphilosophen). In his view the third category, which deals with the 'new media' theories, are not fit into a branch of philosophy (Bereichsphilosophien). Rather it is foundational philosophy (Grundlagenphilosophien), which move from a general understanding of 'mediation' in cultural technique or dispositive, to a philosophizing the 'a priori' (Mersch, 2006: p. 131).

[232] Mersch (2006) highlighted the discourse on massification and mass communication in developing media theories during the early twentieth century.

defined in terms of a transmitting *channel* in the communication process. In the same year, Harold D. Lasswell published *The Structure and Function of Communication in Society* (1948), in which he discussed a mass communication formula. He introduced the notion of media *effect* to the transmitting channel of Shannon's theory. Subsequently, this theoretical discourse is widely established, and the media are considered as channels of communication. The Canadian school of medium theories brought about an ontological specificity on the nature of medium during the 1950s until the 1970s.[233] Some of their ontological views are influenced by classical theory of media, similar to the Aristotelian concept of 'in between entity,' 'Figur des Dritten' or 'tertium datur.'[234]

Harold Innis and Marshall McLuhan have grounded *medium theories* in a modern sense. They have questioned the nature of mediation in the a historical, cultural and technological context. Innis investigated the bias of media in shaping civilizations. In continuation to his legacy, McLuhan dedicated his works to the theorisation of media. He introduced many concepts and believed that media are extensions of human being senses. Therefore, the forms and structures of media are as important as the messages are. Although he is criticised on many levels including his techno-deterministic approaches in understanding media, he has epistemologically influenced many later media theorists.

Raymond Williams was among the critics of McLuhan's thought, who emphasised the social forces in defining media. Joshua Meyrowitz, in similar vein, supported the definition of media in the context of social situations and cultural environments. Some theoreticians conceptualised media based on the relations created between elements of communications, i.e. communicator-text-communicatee. For instance, the literary critics and scholars such as Ronald Barth and Samuel Beckett defined media in terms of textual-communicational relationships. Roland Barth posed a critique of a sender-oriented culture in his distinguished essay, *The Death of the Author* (1967). Samuel Beckett, who wrote for various modes of media practices, theorised mediation based on the formation and articulation of communicative relationship in a particular situation. His approach in theorising medium is primarily aesthetical in nature.

There are other less known theoreticians during the modern *medium theories*. For instance, Nicholas Mirzoeff, believed that the medium is a communicative 'complex field of relation' between sender-text-user.[235] Hartmut Winkler equally highlighted the importance of both communication and technological aspects of media.[236] John Fiske conceptualised media based on their communicative functions. He divided media into three categories of presentational, representational and mechanical media. Régis

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[233] The Canadian school, as Mersch highlighted, aims at understanding the influence of writing system on culture. The intellectual conventions can be divided into three generations, first Harold A. Innis, second Eric, A. Havelock, Marshall McLuhan, Walter J. Ong, Jack Goody and Ian Watt, and third, Derrick de Kerckhove (see Mersch, 2006: p. 92).

[234] Mersch, 2006: p. 132-3

[235] Mirzoeff (2006)

[236] Winkler, 2004: p. 3

Debray argued for mediasphere as a broader framework in defining media. The following are theories of Balázs, Shannon, McLuhan, Beckett, Meyrowitz, Fiske, and Debray, which are critically analysed.

Béla Balázs: 'New' medial order and language of medium

Béla Balázs,[237] is among the early influential film critics, who addressed the issue of mediality with reference to the 'new' emerging medium of his time, the 'film art.' In his 1924 book, *Der Sichtbare Mensch* (*The Visible Man*), written during the era of silent film, Balázs discussed the transformations of visual culture from printed book, to photography and film.[238] Another influential books are *Der Geist des Films* (The Spirit of Film) (1930), and *Theory of the Film: Character and Growth of a New Art*, published posthumously in 1952 in which Balázs' ideas are presented on the aesthetics and elements of film art as 'new' medium during his era.[239] He discussed the medial differences between the printing texts to the moving visuals. In his view, the *textuality* of printing press, limited the expressions within the framework of the *conception* and reduced the whole-body sensation and movement to the face.[240] The 'new medium' of film art, brought the invisible man *visible* and revitalised the long-forgotten faculty of seeing.[241]

Balázs has compared the mediality of theatre, photographed theatre (a transforming form, from theatre to film with the emergence of camera) and film art. He believed that film art is a new form of mediation and cinematography has a unique language-form of its own, largely due to its montage.[242] In other words, he attempted to theorise the new media art of his time by distinguishing the gestalt principles and

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[237] Béla Balázs (1884-1949) was a Hungarian Jewish writer, film critic and aesthetic theoretician. He was an influential figure in Sonntagskreis. In his long period in the exile, he became a film critic in Vienna, writing his *Der Sichtbare Mensch* (*The Visible Man*) in 1924. As a film critic, he wrote a column in daily papers, both on theories and practices of then new film art. Herbert Marshall, who wrote a preface to Balázs 1952 book believed Balázs is 'a classical pioneer in the sphere of film theory' and the area of expertise of Balázs spans from 'theoretical aesthetics to technicalities of scenario-writing, the refinements of lighting, and camera-angle, or silence in the sound film as a mode of expression to the implications of associative montage' (see p. 11-12).

[238] Mersch (2006) believed that this work has particularly influenced the Canadian medium theory school and respectively Marshall McLuhan (see p. 62). For instance, he put that 'Überhaupt nimmt eine Reihe von ungarisch-österreichischen Theoretikern der 1920er Jahre vieles von dem vorweg, was sich in den 1950er und 1960er Jahren bei Marshall McLuhan und anderen an vergleichen medienhistorischen Thesen findet' (p. 62). Nevertheless, Mersch, considered Balázs as 'Marxist' medium theoretician, in his broader category of systematic medium theories.

[239] The 1952 book, *Theory of the Film: Character and Growth of a New Art*, is consisted of two major parts and twenty-four chapters. This book includes some parts of *The Visible Man* and other works of Béla Balázs.

[240] See Balázs, 1952, p. 40-41. Further arguments regarding the levels of human intellectualism are discussed later in following chapter.

[241] Balázs (1952) believed that sound is 'secondary' in human communication, and the 'aboriginal mother-tongue of human race' is the 'expressive movement of the body' (p. 41).

[242] Balázs influenced Sergei Eisenstein (both moved towards aesthetics of film art) and Vsevolod Pudovkin, the Soviet film directors and montage theoretician (See Balázs, 1952, p. 11).

production processes in comparison with other art forms.[243] Balázs reflected on the evolutions of visual competency and transformations in visual cultures influenced by the motion picture. He has tried to bring to notice the internal and external dynamics of medium beyond its subject and content. He believed in a dialectical interaction of art and culture, where the 'taste of the public' can be changed by practices of art.[244] Balázs believed that the silent film, ripened the facial expression, although culturally determined, yet universally understood, which brought a new psychological dimension to the life of the public.[245] He criticised his contemporary art historians and critics for not recognizing the then new art form of the film. Balázs was concerned with a new medial order, beyond content, subject matters, and even pure technical innovation. He believed that, despite the innovation of camera in France by the Lumiére brothers, the early film art of cinematography flourished in America, since they used the true language of the new mediation form.[246] He affirmed that film art is not a mere reproduction of reality, but a new artistic production itself.

Balázs believed economic and the cultural dynamics in the United States were significant factors for the expansion of film as a new form of mediality. Similar to Béla Balázs, who argued for the language of films during the 1920s, 1930s, and 1940s, James Monaco, during the 1980s, advocated a similar approach and believed economic and political factors are among influential criteria in shaping mediality. In his 1981 book, *How to Read a Film: The Art, Technology, Language, History, and Theory of Film and Media*, Monaco[247] described media as 'techniques of communication.'[248] Although he tried to conceptualise media in the framework of social communication, his categorisation of types of media and his analysis of the structural development of the mediality is mainly

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[243] Balázs (1952) put that 'we have an unprecedented opportunity to study the laws governing the evolution of an art in the making' (p. 11).

[244] Balázs (1952) believed that the 'better taste of the public demanded and rendered possible the development of art to higher level' (p. 19).

[245] Mersch (2006) believed that, the utopian idea of universal language is repeated in Balázs work, not in a sense of 'progressive universal poesy' of Friedrich Schlegel, but as 'universal visual language', beyond the limitations of words and conceptions (see p. 64). For Balázs, nevertheless, the new psychological effect as an 'act of identification' was significant which had a universal potentiality and in film art, specially, 'reaches a degree hitherto unattainable in any other medium' (see Balázs, 1952, p. 12 & 17).

[246] See Balázs, 1952, p. 23

[247] James Monaco (b. 1942) is an American film critic and author. He is also the founder of E-Commerce database media enterprises and entertainment industry, i.e. UNET2, Baseline. He is the author of *The New Wave: Truffaut, Godard, Chabrol, Rohmen, Rivette* (1976), *How to Read A Film* (1981), *American Film Now* (1979).

[248] See Monaco (1981), p. 349. The later medium theorists, such as Shannon has substantial influence on Monaco, viewing medium as a channel of communication. He stated that the 'media, essentially, are means of communication: all more or less technological systems designed to transmit information without regard to the natural limits of space and time. They have come to be used in a variety of manners that combine elements of information and entertainment. They are, moreover, exceptionally powerful socializing forces, as the root of the word "communication" strongly suggests: to "communicate" in a sense is to forge a "community" (Monaco, 1981: p. 351).

based on economic and political forces, and rejects technological or aesthetical approaches in defining a medium.[249] In a table, which he has developed for a comparative analysis of various types of media, Monaco considered only two major factors: economic and political.[250] Paradoxically, mediums are categorised based on their technology.[251] Much of his discussions in media politics are based on communication power. Monaco considered factors such as 'access,' 'control,' and 'interaction' – which is categorised under 'political dimension' of media and address the media *usage*, as defining criteria of the medial shift.[252] Monaco predicted the democratic expansion of media in the favour of public, similar to the literature during the early development of internet. The economic forces, however, remains a powerful barrier to reach such a utopian media culture.[253] This is in contrast to the views of Balázs who believed economic dynamics are constructive forces in the flourishing film art and believed that film art could have only been 'born in an industrial civilization.'[254]

Defining mediation in terms of systemic relation is considered a new ontological tendency in medium theories. This approach is closely associated with the concept of 'mass' communication. Balázs directly addressed the issue of 'mass influence' and control of film art on 'the mind of the general public.'[255] He believed that the mentality of people in urban populations is the product of film art, which is essentially a mass art, which 'function as a big industry by itself'; therefore, he believed that it is necessary to educate masses on the principles, languages and 'critical appreciation of film.'[256] Balázs

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[249] Monaco has criticised sharply, for instance, Samuel Becket's ontological definition of media based on aesthetical relations.

[250] In the economic factors, Monaco, considered two criteria of nexus (issues of distribution, production and manufacture), and sale orientation (issues of objects, ad space or time, audience, equipment etc.). In political factors he considered five criteria which seems to be based on power-relations, including; channel (open, closed, or limited), access (good, fair, some, none), interaction (unidirectional, interactive), distribution flow (discreet, mosaic, etc.) and consumer control (yes or no) (see Monaco, 1981: p. 362).

[251] Despite the reliance on political and economic definition of medium, Monaco is aware of the technological-oriented nature of media. For instance, he stated that 'Weather the eventual form of transmission is either broadcast or physical, all the mechanical and electronic media depend on one single concept: the physics and technology of wave forms. Since our two primary senses – sight and hearing – also depend on wave physics, this is not surprising' (Monaco, 1981: p. 363).

[252] Monaco (1981) made the point that the 'most salient social effect of the rise of the media has been the shift from interactive methods of communication to unidirectional methods. Many of the newer product inventions, it will be noted, shift the focus slightly back from unidirectional dominance to more equal interaction, a phenomenon which might have considerable political significance in the future' (p. 360).

[253] Monaco, 1981: p. 360

[254] Balázs believed that industrialization of art gained momentum by film art, which then could flourish the film art, since the production cost could be afforded rarely by few nations. Although he criticised the 'large-scale exploitation of dramatic art' and stage performances, he held that this process gradually evolved as art beyond stage performance and found its own rules (see Balázs, 1952, p. 24). Besides that, the universality of film art can be due to the 'economic causes' (p. 44).

[255] Balázs, 1952, p. 17

[256] Balázs denies any passive appreciation and demands an active and 'creative appreciation' of the public (Balázs, 1952, p. 19). His arguments on issue of activity of audience, however, remains paradoxical.

believed the art forms cannot exist without the public. Especially, collective arts and creative processes require public to be present, owing to an undeniable economic aspect of films. The systematic understanding of mediation is mainly based on socio-cultural, economic or political dynamics of the masses.

Walter Benjamin and Bertolt Brecht,[257] similarly are among critical medium theorists who addressed the issue of mediation with reference to political and economic dynamism.[258] Walter Benjamin,[259] in his essay 'The Work of Art in the Age of Mechanical Reproduction' (1935), addressed the medial turn in the mechanical age and developed 'a politically oriented, materialist aesthetic theory,' which corresponded to the Frankfurt School of Critical Theory of Theodor Adorno, the Marxist poet and dramatist Bertolt Brecht, and the Jewish mysticism of Kabbalistic scholars Gershom Scholem.[260] The friendship between Benjamin and Brecht started during 1929. Benjamin wrote his radio broadcasts based on his series of studies and analysis of Brecht's 'epic theatre.'[261]

A central concept in Benjamin's mediation concern is *authenticity* and he believed that, despite the political forces, the major aesthetical differences in medial turn is the question of authenticity, which the mechanical media lacks to provide presence in time and space, 'the unique existence at the place where it happens to be.'[262] Benjamin's conception of the destruction of authenticity and authority of art is further expanded by John Berger's 1972 *Ways of Seeing*.[263] Balázs and Berger believed in visual supremacy in

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He considered public as main production elements of the film on the one hand and believed the expert should provide a 'ready-made public' to producers, on the other hand. Perhaps his definition of active versus passive audience is totally different from the contemporary discourse.

[257] Bertolt Brecht conception of mediality is similarly important. During 1929, Benjamin built an influential friendship with Bertolt Brecht. The German playwright and theatre director, Brecht, introduced innovative medial concepts, i.e. Lehrstück theater (learning/teaching-play), which reformulated the actor-audience divide.

[258] Mersch (2006) consider, Balázs, Benjamin, and Brecht as three influential (critical) Marxist medium theorists.

[259] Walter Bendix Schönflies Benjamin (1892-1940) was a German Jewish philosophers and critic. It is believed that Benjamin amalgamated various ideology and paradigms, including Jewish mysticism, German idealism, Romanticisms, and Western Marxism. Furthermore, he is usually associated with the Frankfurt school of thought as well as the thinkers, Theodor Adorno, Gerschom Scholem and Bertolt Brecht. His major contributions are Ursprung des deutschen Trauerspiels (*The Origin if German Tragic Drama*) (1928), 'The Work of Art in the Age of Mechanical Reproduction' (1936), and *Theses on the Philosophy of History* (1940).

[260] Osborne & Charles (2015)

[261] Ibid

[262] See Benjamin, 1935

[263] John Peter Berger (b. 1926) is an English art critics, novelist, poet and artist. He is the writer of Ways of Seeing (1972), A Seventh Man (1975) (With Jean Mohr), Why Look at Animals? (2009), Understanding a Photograph (2013) (Geoff Dyer, ed.). His influential 1972 book, Ways of Seeing, consisted of seven essays, three of which photo essays, written for a BBC television series. As a painter, exhibiting his work during 1940s in London, Berger examined the archaeology of seeing from oil painting during Renaissance to advertising photos in modern sense with a feminist approach. There are several references to Benjamin's 'The Work of Art in the Age of Mechanical Reproduction,' the concern of authenticity and reproduction of original art works. Berger believed

perception and stated that 'seeing comes before the words.'[264] In defining mediality, however, Berger emphasised the relation between the audience or viewer and the medium.

During the mid-twentieth century, the discourse around the nature of media revolved around the technological innovations. Among the early medium theories, the influences of the mathematical theory of Shannon is quite remarkable. His communication model standardised the definition of media as a technological channel.

Claude Shannon: Medium as a channel of communication

Claude E. Shannon,[265] known as the father of information theory, introduced his mathematical theory of communication in 1948. He has immensely contributed to the development of the digital circuit, providing a theoretical ground for the computation and emergence of digital technology.[266] Shannon's theory is rooted in 'cryptography'

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that the 'ways we see things is affected by what we know or what we believe,' and 'We only see what we look at. To look is an act of choice' (Berger, 1972). 'We never look at just one thing; we are always looking at the relations between things and ourselves. [...] we can also be seen. The eye of the other combines with our own eye to make it fully credible that we are part of the visible world' (Berger, 1972: p.9).

[264] Berger (1972) put that the 'art of the past no longer exists as it once did. Its authority is lost. In its place, there is a language of images. What matters now is who uses that language for what purpose' (33). To support his theory, he has analysed the portrayal of women in painting, which his argument can be extended to other modes of mediality such as photography, film, etc. He argued that in European context the 'men act and women appear' (p. 47). He distinguished between the concept of naked, as 'to be oneself,' and nude, as 'to be seen naked by others and yet not recognized for oneself' (p. 48). He believed that in 'European oil painting of the nude the principal protagonist is never painted' and the view belongs to the individual spectator looking at a stranger as a sexual object. This culture is dominated the European tradition, while 'in other non-European traditions - in Indian art, Persian art, African art, Pre-Columbian art - nakedness is never supine in this way' (p. 53-54). In these tradition men and women are depicted both active in sexual action and process. In his view, with this concept of appearance of women, two parts are represented in women, first, the surveyor of herself, which is male. Second her as an object of survey, surveyed.

[265] Claude Elwood Shannon (1916-2001) was an American mathematician, cryptographer and engineer and mostly referred to as father of information theory. He has influenced greatly by George Boole's philosophy and algebra and used Boolean logic in his master thesis to transform and enhance the electrical application via numerical relationships. His studies later have greatly contributed to the foundation of digital computers and digital circuit. Shannon developed his information theory based on cryptography during World War II in Bell Laboratory. He worked with Alen Mathison Turing during 1943 for two months and greatly influenced by Universal Turing Machine. His mathematical theory of communication published shortly after war in 1949.

[266] 'A good deal of Shannon's work addresses the problem of measuring communication of continuous variables – sound, images, and motion with entropies that are defined for discrete phenomenon. [...] technology has caught up with Shannon's methods of digitalising and quantifying continuous phenomena. [...] The bits of Shannon's measures or bytes in computer term – 1 byte = 8 bits – have become indispensable in contemporary life' (Krippendorff, 2009: p. 617). Weaver, similarly, mentioned that 'the ideas developed' by Shannon 'connect so closely with the problem of the logical design of great computers' and 'there is no surprise that Shannon has just written a paper on the design of a computer which would be capable of playing a skillful game of chess' (Shannon & Weaver, 1949: p. 25).

and the 'measuring telephone traffic.'[267] His ideas are popularized by Warren Weaver[268] in the field of communication studies.[269] Consequently, Shannon's model has been used as a theoretical framework in a number of communication and media studies. Shannon's mathematical theory of communication is significant from two perspectives. Firstly, he introduced the notion of media in a communication system, which is designed for information. Secondly, his information theory influenced the expansion of the contemporary digital media technology.

Shannon viewed the 'fundamental problem of communication' as 'reproducing' a selected message at another point with accuracy and exactness. [270] For him the issues of meaning and semantics are not relevant to the engineering aspect of mediated communication. His structural design of the communication system is based on the idea of *message selectivity*.[271]

> Frequently the messages have *meaning;* that is they refer to or are correlated according to some system with certain physical or conceptual entities. These semantic aspects of communication are irrelevant to the engineering problem. The significant aspect is that the actual message is one *selected from a set* of possible messages.

> (Shannon 1948, p. 31)

The important aspect of the systematic design of communication is the separation of storage and transmitting functions. The *time* and *capacity* (bandwidth) were among the leading factors in communication system design.[272] Shannon has further explained his communication model based on binary logics.[273] His model is consisted of five essential parts.

1) *Information source* – This is a source, which 'produce the message or sequence of messages to be communicated to the receiving terminal.'[274]

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[267] Krippendorff, 2009: p. 614

[268] Warren Weaver (1894-1978) was an American mathematician and scientist, who explained humanistic aspect of Shannon's mathematical model of communication.

[269] Krippendorff, 2009: p. 614

[270] See Shannon 1948, p. 31 & Krippendorff, 2009: p. 614

[271] Shannon believed that the 'system must be designed to operate for each possible selection, not just the one which will actually be chosen since this is unknown at the time of design' (Shannon 1948, p. 32)

[272] See Shannon 1948: p. 32

[273] Shannon (1948) believed that the 'logarithmic measure' is the optimal approach in measuring 'the information produced when one message is chosen from the set, all choices being equally likely' (p. 32). He further explained that the 'choice of a logarithmic base corresponds to the choice of a unit for measuring information' and if 'the base 2 is used the resulting units may be called binary digits, or more briefly bits, a word suggested by J. W. Tukey' (p. 32).

[274] Shannon (1948) believed that the message produced by the information source can be of many types including: a) 'A sequence of letters', e.g. telegraph or telephony, b) 'A single function of time', e.g.

2) *Transmitter* – The transmitter 'operates on the message in some way to produce a signal suitable for transmission over the channel.'[275]

3) *Channel* – The channel is considered 'merely the medium used to transmit the signal from transmitter to receiver.'[276]

4) *Receiver* – The receiver 'performs the inverse operation of that done by the transmitter, reconstructing the message from the signal.'

5) *Destination* – The destination is considered a 'person (or thing) for whom the message is intended.'[277]

Shannon's major contribution is *quantification* of the communication process to meet the engineering problems. The message is divided between the elements of source and the transmitter, on the one hand, and the receiver and the destination on the other hand. The medium, that is the channel, is neutral to the message and can only be influenced by *noise*. The medium, moreover, is viewed as a transmitting process that carry the message between sender and receiver.[278] Based on this theory, the production (message source, encoding/transmitting technique) and reception (message destination, decoding/receiving technique) are distinct processes, which is mediated with an 'in between' entity. Although Shannon (1984) initially stated that his communication model, is an engineering system, including the first and the fifth elements, namely the *information sources* and *destination*, is quite paradoxical to his earlier claims disregarding issues of meanings, which in turn opened up a more universal understanding of communication process. The inclusion of source and destination as a human factor is regarded in the narrowest possible sense, incompatible to the type of elements mentioned overall in the system.[279]

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radio or telephony, c) 'A single function of time and other variables', e.g. black and white TV, d) 'Two or more functions of time', e.g. three-dimensional sound transmission, e) 'Several functions of several variables', e.g. color TV, f) 'various combination', e.g. TV with associated audio channel (p. 33).

[275] The transmitter, based on the type of mediated communication, may require various functions, from encoding, to sampling, compression, quantification, or modulation in order to meet the requirement of electrical current (Shannon 1948, p. 33).

[276] Shannon called conceptually the channel as the medium, which is specifically a technical transmitting tool assisting the transmitter in sending the message. The channel, according to Shannon (1948) can be 'a pair of wires, a coaxial cable, a band of radio frequencies, a beam of light, etc.' (p. 34). The medium, which has a transmitting function, can be the source place of noise in the system.

[277] See Shannon, 1984: p. 33-34.

[278] Krippendorff believed that the historical roots of the theory can be traced in 'cryptography and measuring telephonic traffic,' and it was a parallel work of 'U.S. cybernetician Norbert Wiener, and Soviet logician Andrei N. Kolmogorov' (p. 614).

[279] Shannon (1948) claimed that his central aim is 'to consider certain general problems involving communication systems' via representing 'the various elements involved as mathematical entities, suitably idealized from their physical counterparts' (p. 34). For this reason, he has classified communication systems into three types of discrete (telegraphy), continuous (radio and television), and mixed (PCM transmission of speech), in which the first type, the discrete communication systems, besides forming 'a foundation for the continuous and mixed cases,' have 'applications not only in communication theory, but also in the theory of computing machines' inter alia (p. 35).

There are several concepts, which are considered fundamental to Shannon's theory. The central concept is *uncertainty*. In other words, in his theory, *communication* refers to 'the extent a sender is able to limit the receiver's choices' and the *information* refers to 'the extent a receiver knows the sender's choices,' in which both are 'differences between two uncertainties.'[280] The other closely associated concept is *choice*. The more the information, the more alternatives, and consequently more choices. Shannon is in favour of 'informed choice' rather than chance in selecting the 'correct answers' from a set of possible messages.[281] His bit structural design and measurement is on the basis of 'the choice among two equally alternative,' e.g. yes or no, on or off, etc.[282]

The other important concept is *entropy*.[283] It is believed that Shannon's theory is a 'general reformulation' of the second law of thermodynamics, in which entropy is defined in a closed system and increases over time.[284] Accordingly, the communication as a closed system is in course of decline over *time* without external intervention due to the increase of noise, disorder and entropy.[285] Concepts of *coding* and *redundancy* are similarly significant in Shannon's theory. These two notions are closely associated with *transmission* and *reproduction* of the original message. Coding is an *efficient* technique in transmission to translate the message from one engineered medium to another, since technically they are different and there is a need for translation. Redundancy is an *inefficient* transmission, which evaluate the communication channel and the degree to which its capacity is utilized.[286] Within the communication system, Shannon has designed later elements of *observer* and *correction channel* to the medium part to eliminate the noise factor. These early self-correction designs are the initial steps in intelligent computer system design.

There are several misconceptions in Shannon's mathematical theory of communication. Krippendorff believed that,

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[280] Krippendorff, 2009: p. 615-6

[281] Ibid, p. 614

[282] Ibid

[283] Entropy literally mean inner transformation, that is a combination of en (meaning inside) and Greek word tropế (meaning transformation). Technically, in thermodynamics, it refers to the reduction of energy in a closed system over time, therefore increases the entropy, that is degree of chaos and disorder in the system. In physical science, it is 'a measure of the degree of randomness' (Shannon & Weaver, 1949: p. 12). In information science, entropy refers to as lack of order or predictability, and more entropy leads to more information.

[284] Krippendorff, 2009: p. 616

[285] Ibid. In this case he has a very technical view based on the type of engineering tools available at his age, and it is the issue of original and the copied. If the memory is externalised, there is a chance to reserve a photograph outside a system, but if it is copy of copy, it loses the quality over a time.

[286] Shannon believed that redundancy is essential in the communication system. If not available, the communication is destined to termination based on the second law of thermodynamics. Redundancy can be used to eliminate the noise factor as well. He has used the redundant code in order to 'identify or correct corrupted communications' (Krippendorff, 2009: p. 616).

a) in contrast to the popular view, Shannon's theory is not 'one of signal transmission'; his quantification of communication system, instead, is beyond a mere explanation of physicality of message.[287] He has essentially integrated the entropic ideas and 'push the applications to engineering communication'.[288]

b) Although his theory is depicted linear, it is not true to consider his model as a 'linear communication model'. His theory is 'versatile calculus' and can be applicable to any communication system (circular or linear).[289]

c) Some has falsely interpreted 'Shannon's entropies as measuring the information content of messages,' rather for Shannon, 'information is not an entity contained in a message, but manifest in patterns that are maintained during highly variable processes of communication.'[290]

Warren Weaver is considered among the initial communication scholars who is immensely influenced by the mathematical theory of Shannon and reformulated it in the field. Weaver believed that communication must be understood in a larger sense. He defined communication as 'the procedures by which one mind may affect another' or in a broader sense, 'the procedures by means of which one mechanism […] affects another mechanism.'[291] Subsequently, he has identified three levels of communication problems; the *technical* problem (that is 'how can the symbols of communication be transmitted'), the *semantic* problem (that is 'how precisely do the transmitted symbols convey the desired meaning'), the *effectiveness* problem (that is 'how effectively does the received meaning affect conduct in the desired way').[292] Weaver has identified the communication process within the discrete elements of sender, message, and receiver with a central problem of *transmitting* a sort of message. The message and content of communication is a fundamental base for Weaver's theory. The idea of transmission with criteria of accuracy, preciseness and effectiveness, conceptually reinforces a linearity value to the system and the hierarchical power forces.[293]

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[287] See Krippendorff, 2009: p. 618. Shannon's theory as a 'signal theory,' is popularised to some extent by Weaver. For instance, Weaver mentioned: 'The mathematical theory of the engineering aspects of communication, […], admittedly applies […to] the technical problem of accuracy of transference of various types of signals from sender to receiver' (p. 6).

[288] Weaver explained that Shannon has influenced greatly from philosophy of Norbert Wiener. While Shannon introduced entropic ideas to communication engineering, Weiner used them in biological applications (See Shannon and Weaver, 1949: p. 3 & Krippendorff, 2009: p. 618).

[289] Krippendorff, 2009: p. 618

[290] Ibid

[291] Shannon and Weaver: 1949: p. 3

[292] Shannon and Weaver: 1949: p. 4

[293] Weaver believed that 'the purpose of all communication is to influence the conduct of the receiver' and 'communication either affects conduct or is without any discernible and probable effect at all' (Shannon and Weaver, 1949, p. 5). Perhaps one can further investigate why this approach emerged in theorising the communication process based on a larger social, cultural and political context during late 1940s and early 1950s.

The dynamics of discrete symbols, time and space accordingly are significant in mediated communication design. Weaver claimed that, despite his acknowledgement that Shannon's theory is not considering the issues of meaning, it can be extended to other levels of communication problems, namely semantic and effectiveness. Although Weaver believed that level A (technical problem) corresponds to the mathematical theory of Shannon, and level B (semantic problem) and C (effectiveness problem) can be justified based on the level A.

> Part of the significance of the new theory [Shannon's theory] comes from the fact that level B and C, above, can make use only of those signal accuracies which turn out to be possible when analysed at Level A. Thus, any limitations discovered in the theory at Level A necessarily apply to Level B and C. But a larger part of the significance comes from the fact that the analysis at Level A discloses that this level overlaps the other level more than one could possible naively suspect. Thus, the theory of Level A is, at least to a significant degree, also a theory of level B and C.

> (Shannon and Weaver, 1949, p. 5).

Weaver tried to explain every communication phenomena based on Shannon's mathematical engineering theory, regardless of whether the communication process is mediated or not.[294] The major gap in his discussions is extending this theory to human communication and bringing the comparison of humans and engineering technology into one level.[295] Besides that, Weaver, attempted to contextualise the communication theory with reference to information theory and entropic measurements of information.[296] He believed that 'information is a measure of one's freedom of choice when one selects a message.'[297] In this sense, he considered the information to be a 'freedom of choice' for the 'information source.'[298] Weaver believed that the

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[294] There are many instances, where Weaver tried to explain the oral communication based on Shannon's theory. For example, he mentioned 'In oral speech, the information source is the brain, the transmitter is the voice mechanism producing the varying sound pressure (the signal) which is transmitted through the air (the channel)' (Shannon and Weaver, 1949, p. 7).

[295] Although Shannon affirms the fact that 'the semantic aspects of communication are irrelevant to the engineering aspect,' Weaver believed that 'this does not mean that the engineering aspects are necessarily irrelevant to the semantic aspects' (Shannon and Weaver, 1949, p. 8), and placed Shannon's theory as central criteria for examining all human related communication with or without engineering process involved.

[296] Weaver made a distinction, nevertheless, between information and communication, where the former does not necessarily is meaning orientated. He believed that the 'word information is communication theory relates not so much to what you do say, as to what you could say' (Shannon and Weaver, 1949: p. 8).

[297] Weaver further explain that, the 'concept of information applies not to the individual messages (as the concept of meaning would), but rather to the situation as a whole, the unit information indicating that in this situation one has an amount of freedom of choice, in selecting a message, which it is convenient to regard as a standard or unit amount' (Shannon and Weaver, 1949: p. 9).

[298] Shannon and Weaver, 1949: p. 13

communication channel, that is the medium in Shannon's terminology, is directly associated with information due to the capacity of transmission. The major distinction between different types of medium, heavily rely on their differences on the type of channel, the function and structure of each channel for transmitting information in association with the nature of the message.[299] Consequently, the coding processes (encoding and decoding) are considered crucial to medium.

The overall notion of the medium in Shannon and Weaver's theory is based on the physical notion of medium. Weaver is cognizant of his formalistic approach in communication system and medium conception. He examined the possibility of introducing a 'semantic receiver,' and 'semantic noise' to the model of Shannon, in order to make it theoretically efficient in communication studies.[300] There is another interesting concern expressed by Weaver towards the end of his book, where he discussed the idea of a computer system which is able to 'think.'[301] He put that if 'a communication system ought to try to deal with all possible messages' the 'intelligent way' is 'to base design on the statistical character of the source.'[302] He believed that the Markoff processes – the conceivable generation of message depends on previous events – is a 'promising' approach, since it answers the issue of context in semantic problems.[303] In this process, he held that entropy is the significant and essential part in a communication system and quoted from Eddington who considered entropy in close association with beauty and melody.[304]

The legacy of Shannon and Weaver is quantifying communication process, dividing communication into discrete elements, introducing medium as a channel of communication and a visionary prospect on the enhancement and effectiveness of communication systems based on computer design and 'intelligibility' of the process.[305] There are several scholars who based their theories on discrete elements of communication. For instance, Harold D. Lasswell,[306] an early mass communication

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[299] Weaver believed that 'the entropy (or information) associated with the process which generates messages or signals is determined by the statistical character of the process' and the 'statistical nature of message is entirely determined by the character of the source' (Shannon and Weaver, 1949, p. 17).

[300] Shannon and Weaver, 1949: p. 26

[301] With regards to computer design of Shannon, Weaver referred to that 'either one must say that such a computer "think," or one must substantially modify the conventional implication of the verb "to think"' (Shannon and Weaver, 1949: p. 26).

[302] Shannon and Weaver, 1949: p. 27

[303] Ibid, p. 11 & 28

[304] Weaver quoted Eddington from his 'The Nature of the Physical World' that, 'Suppose that we were asked to arrange the following in two categories – distance, mass, electric force, entropy, beauty, melody. I think there are the strongest grounds for placing entropy alongside beauty and melody […]. Entropy is only found when the parts are viewed in association, and it is by viewing or hearing the parts in association that beauty and melody are discerned' (Shannon and Weaver, 1949: p. 28).

[305] Shannon (1948) has explained the 'intelligibility criterion' in his theorem for continues source materials (See p. 45)

[306] Harold Dwight Lasswell (1902-1978) was a prominent and innovative American political scientist, who contributed to other field including communication studies. His methodological approach

theoretician, was influenced by Shannon and Weaver. In his communication model proposed in 1949, he identified five major elements of communication process: who (production), says what (message), in which channel (media), to whom (audience), and with what effect (outcome/effect). [307] Based on this system, he identified three functions for the media effect, namely, *surveillance, correlation*, and *transmission.* The major emphasise of Lasswell is on the *act* of communication, therefore, the medium is viewed to function as a channel, a *platform* for communicative actions. Besides that, he mainly focused on the effect of communication. This, in return, empowers the value of massage and delimits the conception of medium to a merely transmitting or storage system.

During the second half of the twentieth century, the medium theories focused on the issues of message and transmission of content. McLuhan with his disputed adage, 'medium is the message,' drew the attention to the nature of media.

Marshall McLuhan: Medium as extensions of man

Marshall McLuhan[308] is considered the most influential medium theorist who brought to notice the 'importance of media as media'.[309] McLuhan belongs to the so-called Toronto school[310] of media studies, which was initially formed by his mentor Harold A. Innis.[311] In his 1951 book, *The Bias of Communication*, with an introduction by Marshall McLuhan, Innis discussed the role of media and modes of communication in shaping civilization and creating a certain bias in social formations.[312] He emphasised that forms of media, independent of the content which is transmitted, can 'impact individuals and

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based a new tradition, i.e. content analysis inter alia. During World War, he focused on propaganda analysis. His influential conceptions are 'astropolitics' (political colonisation of other planets) and 'machinehood of humanity.'

[307] Littlejohn, 2002: p. 313. See also Lasswell (1948) The Structure and Function of Communication in Society.

[308] Herbert Marshall McLuhan (1911-1980), was among the most influential medium theorist. He is mostly known for his concepts such as 'hot and cold media,' 'global village,' and 'the medium is the message' among other.

[309] Littlejohn, 2002: p. 305

[310] Although it is believed that Innis is the initiator of a new school of thought, especially in field of media studies, known as Canadian school or Toronto school, McLuhan believed that he is highly influenced by Chicago school headed by Robert Ezra Park, and explicitly put that Innis 'should be considered as the most eminent of the Chicago group' (in preface of McLuhan to The Bias of Communication, 1951: p. xvi).

[311] H. A. Innis (1894-1952), a mentor for McLuhan, was a Canadian scholar in field of Political Economy. He contributed immensely to communication studies and medium theory. He believed that 'communication media are the essence of civilization and that history is directed by the predominant media of each age' (Cited in Littlejohn, 2002: p.305).

[312] The Bias of Communication (1951) is a book compiled of eight papers written by Innis. McLuhan considered the structure of Innis mosaic in nature. He highlighted the 'importance of communication in determining "things to which we attend" and suggest also that changes in communication will follow changes in "the things to which we attend"' (p. xvii). He further supported the idea of Robert Ezra Park that 'Technological devices have naturally changed men's habits and in doing so, they have necessarily modified the structure and functions of society' (cited in Innis, 1951: p. xv).

society.'[313] The critics believe that Innis has two fundamental organising principles. One is the issue of *power* in monopolizing the communication process and distribution of knowledge and information in societies, and two is the issues of *time* and *space* as important dimensions of powers and empires, which can lead to a bias against certain modes of time-based or space-based media.[314]

As an economist, Innis was involved with the theory of monopoly and extended his study to modes of communication. He believed that communication is essential to every society and civilization. He defined media as 'major resources like economic staples.'[315] In his view, a dominant medium of knowledge transfer can create monopoly within society. In such a monopoly, a 'fresh medium of communication' can emerge to stabilise the equilibrium. It can be suggested that Innis viewed media in terms of relationships, between cultural techniques, power and technologies.[316] Innis tried to investigate the patterns of media, not only technological but also the modal, in relation to the context of larger societies and historical power-shifts. Besides a macro-perspective, McLuhan developed a micro-perspective on the issue of mediality.[317] He tried to investigate the modes of media and technologies in relation to individual human beings and the extension of human faculties.[318]

In his 1964 book, *Understanding Media: The Extensions of Man*, McLuhan discussed the nature of media with reference to personal association of mediality with human existence.[319] The central argument in his book is a theory of medium and ontology of media with a historical perspective. He believed that every medium and technology are extensions of the human faculty. However, each extension has a different form.[320] His categorisation of each medium is based on aspects of medial extension. For instance, he believed that the *mechanical medium* is an extension of *bodies* in space, which has led to a

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[313] Littlejohn, 2002: p. 305

[314] See McQuail, 2005: p. 103

[315] Innis, 1951: p. xv

[316] Innis (1951) believed that even the 'alphabet is technology,' which has the 'visual fragmentation and specialism' quality and 'it led the Greeks quickly to discovery of classifiable data' (p. xi).

[317] McLuhan called his 1962 book, *The Gutenberg Galaxy*, 'as a footnote to the observations of Innis on the subject of the psychic and social consequences, first of writing and then of printing' (Preface to Innis, 1951: p. ix).

[318] Due to this macro approach of Innis, McLuhan believed that he has more tendencies to European scholarship, which address 'the larger themes' and dealing with 'the whole population' rather than dealing with 'local communities' and smaller themes which is practiced in American scholarship (Innis, 1951: p. xiv-xv).

[319] McLuhan's book is consisted of two major parts. In the first part, he has covered seven essays which are more argumentative in building his theory of medium as extensions of man. The second part, he has covered twenty-six essays, each elaborating on certain form of medium and its mediation attributes. His style is mosaic in nature, and his theory is developed based on these discrete short essays with a journalistic form of titles.

[320] He wrote that 'The wheel […] is an extension of the foot. The book is an extension of the eye […] Clothing, an extension of the skin […]. Electric circuitry, an extension of the central nervous system' (Cited in Littlejohn, 2002: p. 305).

fragmentation of historic proportions.[321] The *electronic medium* is the extension of *senses* in space and time, and he predicted a *simulation medium,* which will be an extension of our *consciousness*.[322] McLuhan believed that all media are some sort of extensions of human beings, 'seeking the principle of intelligibility in each of them.'[323] The simulation medium is not only the extension of bodies, but also the extension of senses and consciousness. Perhaps McLuhan is influenced, directly or indirectly, by Aristotle's philosophy of existence and activities.[324] The media as a technology, therefore, is an extension of nature and human being. The concept of technology that McLuhan used is in a larger context of instrumentation and civilization.[325]

McLuhan believed that the initial level of medium is technology, and the second level is the 'content of any medium,' which 'is another medium.'[326] He sharply criticised his contemporary media scholars who studied media only on the basis of content, ignoring the mediation of technology. He argued that the '"content" of any medium blinds us to the character of the medium.'[327] He further believed that 'for 2500 years the philosophers of the Western world have excluded all technology from the matter-form in entelechy treatment' and 'our philosophy systematically excludes techne from its mediations,' subsequently, only 'natural and living forms are classified as hylomorphic.'[328] Despite his emphasise on the technology of mediality, he criticised the idea that medium is to be viewed merely as 'a means,' simply *used* as instruments of 'control.'[329] The ontological concern of McLuhan is beyond, the *usage*, *content* and *programming* functionalities of medium and, in this context, he proposed thought-provoking cluster concepts of 'medium is the message.'[330] McLuhan proposed the 'sense ratio' thesis that 'the primary medium of the age brings out a particular sense ratio, thereby affecting perception.'[331]

There are several criticisms on medium theories of McLuhan. Mostly he is criticised for his technological deterministic approach in understanding the nature of media. The major reason is that his method of argumentation is Aristotelian in nature, namely based on cause-and-effect argumentation, which limited the scope of his theory.

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[321] See McLuhan, 1964: p. 3

[322] Ibid

[323] Ibid, p. 6

[324] See entry of Aristotle.

[325] Any technology is a form of mediality for McLuhan, from railways, to print.

[326] McLuhan, 1964: p. 8

[327] Ibid, p. 9

[328] Letter, 429 Cited in Kittler, 2009: p. 25. Kittler views that, in this case, Marshall McLuhan changed the meaning of the of Aristotle and argued Aristotle's idea that 'form and matter are categories stemming originally from technical things and, more or less, forcibly transferred also to natural ones' (Kittler, 2009: p. 25).

[329] McLuhan, 1964: p. 7

[330] See McLuhan, 1964: p. 11, 19 & Littlejohn, 2002: p. 306

[331] Littlejohn 2002: p. 305. In his view, the oral age was dominated by hearing-oriented communicators and therefore the sense ration was hearing. In Gutenberg age, the rise of print medium in Western culture brought a new sense ration of sight.

He raised deeper questions on the nature of technology in relation to human beings and the forms of mediation apart from forms of content. Among the critics of McLuhan is Raymond Williams.[332] He developed a cultural materialist approach. Williams believed that the concept of culture emerged with the industrial revolution. He was greatly interested in the relationship between language, literature and society. He pondered on the means and processes of cultural productions and reproductions.

In his 1976 edition of his book, *Communications*, Williams discussed various types of media, although there is no explicit use of the term media.[333] For Williams, central to cultural and social formations are communication processes. The general definition of communication according to Williams refers to a connecting element, in between people or in between places.[334] In a social context he defined communication as 'the institutions and forms in which ideas, information, and attitudes are transmitted and received,' or simply he defined communication as 'the process of transmission and reception.'[335] Nevertheless, he considered the whole process of communication around each mediality that he has elaborated without addressing the issue of media. For instance he has discussed 'means of modern communication' and explained communication processes such as printed books, press, theatre, music, games (including football matches, horse-riding, racing), circus, cinema, advertisement (billposting, handbills), television, broadcasting, and recording.[336] He also referred to a 'communication model,' a form of 'social institution as media.[337]

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[332] Raymond Henry Williams (1921-1988) was a Welsh critic and novelist, belonging to the Western Marxism school of thought and originator of the concept of cultural materialism. He contributed immensely to cultural and political Marxist critique of mass media and literature. After attending WWII, he founded the review Politics and Letters from 1964 until 1948. Upon influence from Eliot's Notes Towards the Definition of Culture, he developed an interest in the concept of culture. His major contributions are *Television: Technology and Cultural Form* (1974), *Preface to Film* (1954) (With Michael Orrom), *Communications* (1962), and *Contact: Human Communication and its History* (1981).

[333] *Communications* is first published in 1962, and the third edition with correction appeared in year 1976. The book is consisted of six parts, including: definitions, history, content, controversy, proposals, and retrospect and prospect, 1975. In the first section, he has defined his key terms with central focus on the concept of communication and society. He has avoided to use the term media in the first section and provided no definition for it. The first use of the term media appears only in page 21 in section two that is history with reference to 'media for advertising'.

[334] The general definition of communication according to Williams (1976) is 'passing of ideas, information, and attitudes from one person to person' or it can also mean 'a line or channel from places to place' (p. 9). He referred to the new inventions of his time (e.g. steam printing, railways, film, photography, etc.) as communication.

[335] Williams, 1976: p. 9

[336] He has discussed these 'means of communication in his second section on history and elaborated them in his following chapters. It seems that the examples that Williams used for elaboration are limited to the Western culture. Another point is that he has discussed his communication examples with respect to entertainment. He considered 'printed book' as 'the first great means of modern communication' and the press as an extension to printed book (p. 14). His remaining examples are explained based on press model of communication and historical evolution.

[337] Williams, 1976: p. 11-12

It is important to notice that organisations, institutions and society are central discourses in Williams's theory of communication. Williams criticised the traditional definition of society in association with politics (i.e. issue of power and government), and with classical economics (i.e. issues of property, production, and trade) and believed that 'society is a form of communication, through which experience is described, shared, modified and preserved.'[338] In his explanation of communication, it seems that he eliminated the *production* aspect (possibly due to his criticism of the dominance of classical economics models based on production and trade and their extension to entire human activities), and limited his definition to *transmission* and *reception*.[339] His opinion on communication is based on the concept of *learning,* which corresponds to the second part of Shannon's communication model.[340] He believed that due to the 'abuse' of political and economic profits towards all 'means of communication,' the modern communications are not embraced fully as 'an expansion of men's power to learn and to exchange ideas and experiences.'[341] His rhetoric, emphasising the '*men's expansion*,' resemble McLuhan's phrase *men's extension*, with a more moderate approach in going beyond men's limitations. Williams, in general, has a more macro-perspective on the issue of mediality, and inevitably it clashes with the micro-perspective of McLuhan on medium.

Despite being aware of technical means, Williams failed to address the controversial issue of mediation. He acknowledged that the problem in defining (new) media, or in Williams terminology, the 'modern communication model' are 'the speed of invention' and 'the difficulty of finding the right institutions, in which these technical means are to be used.'[342] William chose to remain at the social and institutional definition of media with moderate emphasis on the content. He emphasised the 'uses' of mediality, which is highly determined by social norms rather than technological factors.[343] McLuhan criticised the ontological definition of media based on the *usage* and

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[338] Williams (1976), similarly, expressed that 'what we call society is not only a network of political and economic arrangements, but also a process of learning and communication' (p. 11).

[339] Williams (1976), believed that 'we are used to descriptions of our life whole common life in political and economic terms' (p. 10).

[340] There are several references that Williams (1976) used communication and learning in parallel to each other in his discussions. He believed that communication is rooted in human needs 'to learn, to describe, to understand, to educate' (p. 11).

[341] Williams, 1976: p. 10. He criticised 'taking communication as secondary' and calling for an 'alternative version of human society' free from 'political control' and 'commercial profit' (p. 10-11). He believed that it is wrong to consider first, there is a 'reality' and second, a 'communication about it' (p. 11).

[342] Ibid, p. 12

[343] For instance, he provided example of Britain in his contemporary era that they 'have a whole range of uses of printing, of photography, of television, which do not necessarily follow from technical means themselves [Italic added]'. Inevitably, the issue of uses is limited to social and cultural context, without addressing the essence of mediality.

content. Despite the major criticism on McLuhan, he has established the modern discourse of *medium theories* in the field of media studies.[344]

Samuel Beckett: Mediation as aesthetical relationships

Literary critics and theoreticians have been contributing remarkably to the field of media theories. Yet there are few who addressed the core philosophical existence and ontological question of mediality.[345] Samuel Beckett,[346] a playwright, theatre director, novelist, poet, and critic, and scriptwriter, produced various programmes for radio, TV and Cinema during the 1960s. His cross-media experience span from presentational medium of theatre, the representational medium of novel and the electronic medium of TV, radio and cinema. Hence, he defined media beyond technology and captured 'the essence of each form' of mediation.[347] He wrote a series of analytical dramas and produced them in various modes including; *Play* (stage performance, 1964),[348] *Film* (a cinematic film, 1965), *Eh Joe* (television broadcast, 1966), *Cascando* (Radio performance, 1963/64), and *Word and Music* (Radio performance, 1962).[349] Beckett defined media based on *types of communication relationship* and *aesthetical interplay* created between communicator-text(meaning)-communicatee or in a triad of Beckettian aesthetic frameworks of 'meaning-illusion-subject.'[350]

What shapes mediation, as Beckett tried to depict in his practices, is the changes in the dynamics of aesthetical relationship created during the communication processes. For instance, Beckett considered stage play as a 'deep focus mise en scène' rather a 'controlled montage.'[351] In a stage play, the meaning and communicator is inseparable. There is no gap between the creator and the creation, and the meaning is presented

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[344] Littlejohn believed that 'McLuhan's theory is not much in favour anymore, but few would deny that his basic idea – that media forms in and of themselves do have an impact on culture – has had a major effect on our thinking about media. […] They are valuable in that they point to the importance of media forms in society, but they do not give a realistic picture of the variables involved in the effects of media forms' (Littlejohn, 2002: p. 306).

[345] There are several remarkable literary critics and philosophers who contributed to media studies, including McLuhan and Kittler.

[346] Samuel Barclay Beckett (1906-1989) was an Irish author, playwright, theatre director, novelist, and poet, who is considered an influential figure during the twentieth century and key figure in 'theatre of the absurd'.

[347] See Monaco, 1981 p. 349-351

[348] Performed in German, *Spiel* (1963)

[349] See Beckett, 1967. The works of Samuel Beckett (1906-1989), the Irish writer and intellectual, is divided into three periods: 1) early works until 1945 (end of World War II), 2) middle period from 1945 until 1960 and 3) late period from 1960s till 1989. His works for radio: All That Fall (1957), From an Abandoned Work (1957), Embers (1959), Rough for Radio I & II (published 1976-written 1961), Words and Music (1962), Cascando (1963-4). His works for TV: Eh Joe (with Jack Mac Gowran) (1966), Beginning to End (with Jack Mac Gowran) (1965), Ghost Trio (1977), …but the clouds… (1977), Quad I+II (1981), Nacht und Träume (1983), Beckett Direct Beckett (1988/92). His works for Cinema: Film (1965).

[350] Oppo (2008) believed that the triad of meaning-illusion-subject is 'the hidden aesthetic framework of both Beckett and Adorno' (p. 21).

[351] Monaco, 1981: p. 349

through the communicator. The observer has less involvement in the communication scenario. The cinematic mediation is a dialectic relationship between filmmaker and subject.[352] The cinema displays a close relationship between the producer/communicator and the meaning created, yet they can stay separate from each other. This characteristic is enhanced due to 'transmitting' quality of the electronic medium. While the mediality of a play is based on the interrelation of characters among themselves and a 'relative freedom' of observer to be part of this coherent flow, the mediality of film isolates the characters and subjects, build a relation with the director and distanced observer with a 'lack of involvement' in the experience.[353]

In television, Beckett recognized the involvement of the audience or observer. The video and audio component affirm the television experience, firstly, he emphasised the sound significance of television and secondly, he highlighted the psychological intimacy of the medium.[354] Observers are no more sitting in the dark side of the communication action but viewed as an existing participant in which the meaning is consciously tailored for them. The essential elements of medium of radio for Beckett is 'word' and 'music.'[355] The cinema is targeting the visual senses of the receivers while radio is targeting the audio sense and television stands somewhere between these two senses, an audio-visual medium. The audio facet of television makes it more intimate rather than the cinema where a dominant sense of visuality and audio are metaphorical, which implies cognitive distance, and tries to build psychological intimacy via various visual technique. In radio, the auditory is the dominant and visual sense is metaphorically incorporated. James Monaco summarised the analytical cross media practices of Beckett and defined the interrelation between elements of each medial form.

> […] for the stage, audience choice versus the flow of dialogue; for film, the director's control and the subject's integrity; for television, the intense nature of audio versus the psychological intimacy of the image; and for radio, more simply, words and music, information and background.
>
> (Monaco, 1981: 351)

Beckett's series of cross-media plays underlined the differences between various modes of mediation. It is important to notice that, the dramatic tension that Beckett has incorporated in various types of media is not designed between the characters and the stories, but between the structures and forms of each media forms, in order to demonstrate the aesthetical experience.[356] He is often criticised for his aesthetical

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[352] Monaco, 1981: p. 349
[353] Ibid
[354] Ibid, p. 350
[355] Ibid, p. 351
[356] Ibid, p. 349

approach.[357] James Monaco in a critique on Beckett wrote that technological and social aspects of medium are more important than the aesthetical relationships.[358]

> The connotation of the word "media" in fact, suggest that we regard the phenomenon as having a latitude much more extensive then the limits of esthetics would suggest.

> (Monaco, 1981: 351)

Another significant literary scholar, who had an influential critique on the hierarchal system of author-text-audience is Roland Barthes,[359] known for his essay 'The Death of the Author' (1967). Barthes is usually associated with media studies in terms of his semiology, analysis of myth and code theory.[360] Nevertheless, what makes his scholarship relevant to the ontology of media, similar to Beckett, is his views on communicative relationship between author/'scriptor' – work/text – reader (spectator)/participant articulated in certain medium. Barthes has significantly emphasised a performative role for the reader. The metaphors that Barthes used, especially the word *command* is significantly relevant in today's media scholarship. The performative power given to the reader is discussed later with reference to intelligent mediation sphere.

> […] to write can no longer designate an operation of recording, of observing, of representing, of "painting" (as the Classic writers put it), but […] a performative, a rare verbal form (exclusively given to the first person and to the present), in which utterance has no other content than the act by which it is uttered: something like the / Command of kings or the I Sing of the early bards; the modern writer, […] buried the Author […].

> (Barthes, 1967)

In this regard, two concepts of Barthes stand out, *readerly text* and *writerly text*. Barthes believed that there has been a substantial shift from 'work' to 'text,' from *author* of readerly text with a certain *product* and passive audience to *scriptor* of writerly text who is engaged in *writing* with active, meaning-making readers. What remains significant to our

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[357] Monaco criticised Beckett for being 'aesthetic determinants' who failed to consider political, socio-cultural, and technological forces of the media (see Monaco, 1981: p. 351).

[358] See Monaco (1981)

[359] Roland Gérard Barthes (1915-1980) was a French philosopher, critic and literary and linguistic theorist. His ideas influenced various schools of thoughts from structuralism, post-structuralism, to semiotics, social theory and anthropology. His thoughts, moreover, were influential in formation of communication, literature, photography, and even computer models.

[360] In his 1970 book, *S/Z: An Essay*, Barthes identified five types of codes, including; hermeneutic code (the mysteries of the text), proairetic code (the narrative drive of the text), semantic code (the resonances of the text), symbolic code (the symbolic structure of the text), and cultural code (the background of the text). He believed that a 'code cannot be destroyed, it can only be "played with"' (Barthes, 1976).

discussion here is Barthes criticism of the author's power and the changes in cultural productions of meaning. During the late twentieth century, the central discourses in medium theories shifted towards social and cultural context of the mediation. For instance, Joshua Meyrowitz, defined media in terms of cultural environments and social situations.

Joshua Meyrowitz: Media as cultural environment

Joshua Meyrowitz,[361] in his 1985 book, *No Sense of Place*, discussed the social, institutional and cultural formation of mediation. He was concerned with electronic media and significant changes they made in 'physical presence' and the 'experience of social events.'[362] Meyrowitz, in his 'situational analysis,' examined 'how electronic media affect social behavior' beyond the issues of content and message, addressing the re-organisation of social setting and 'perception' of society.[363] He believed that the electronic media has diminished the social boundaries and the lines between the presentational media and omnipresent electronic mediated communication.[364] He criticised media production and content analysis, which ignore the cultural context of mediation. Meyrowitz rejected the dichotomy between 'real life' and 'the media.' He considered the both as a 'part of same system of "behaving".'[365] Alternatively, he was interested in media studies which focus on 'new patterns of access of information about social behaviour.'[366]

Meyrowitz primarily tried to bridge the gap between the existing *medium theories*, by reviewing Innis and McLuhan and *situation social theories* or *situationism*, by examining Erving Goffman's social environment theory. With the former, he speculated 'the historical and cross-cultural study of the different cultural environments created by different media of communication' and with the latter 'the exploration of the ways in which social behaviour is shaped by and in "social situations".'[367] The central aims of his studies are, initially to investigate 'how changes in media may change social environments' and secondly, to find out 'what effects a change in social environments may have on people's behaviour.'[368] He considered the similarity of medium theories and situation analysis, one, in rejecting the 'lower-level' changes in media environment

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[361] Joshua Meyrowitz (b. 1949) is an American media and communication scholar and professor at University of New Hampshire. He is the author of *No Sense of Place: The Impact of Electronic Media on Social Behaviour* (1985), *Images of Media: Hidden Ferment – and Harmony – in the field* (1993), and *Media evolution and cultural change* (2010) among others.

[362] Meyrowitz, 1985: p. vii

[363] Ibid, p. viii-ix

[364] Meyrowitz prioritized the 'physical presence' and 'direct sensory contact' as 'primary forms of experience' (Meyrowitz, 1985: p. viii). The example that he has provided is more applicable in Western context. Nevertheless, in his later writing he has a more cross-cultural approach.

[365] Meyrowitz, 1985: p. x

[366] Ibid, p. xi

[367] Ibid, p.16

[368] Ibid, p. 15

systems (i.e. content within a medium or individual receptions) and, two, in prioritizing the 'pattern of access' of information with the environment.[369]

In his media ontological approach, Meyrowitz explicitly criticised the definition of medium as 'means of communication,' a 'delivery system', or 'a channel for convening information.'[370] He believed that addressing the so often 'invisible' medium, and unique identity of mediation is quite challenging. Nevertheless, it could provide a critical understanding of social and cultural environments. Meyrowitz argued that, the central difficulty joining the medium theories with situational analysis is a theoretical gap between the two. While 'medium theorists discuss as if they have little to do with the dynamics of face-to-face interaction,' 'the situationists barely seem to notice that media exist.'[371] This problem is due to the lack of a holistic approach in theorisation of medium. If we inclusively define media beyond technology, there is a scope to analyse other forms of mediation, from presentational media to electronic media.

Meyrowitz criticised a wide range of existing vocabularies in media studies and concluded that there is a lack of 'common understanding' of the subject matter in general.[372] He believed that in order to explain and comprehend 'complex phenomenon' and systematic process, we are thinking 'subconsciously' in metaphorical terms. Meyrowitz expressed his awareness of the 'limiting' or 'liberating' aspect of describing the nature of media metaphorically.[373] This resembles the negative conception of media argued by Mersch, that is; media cannot be defined positively and must be defined *in relation to*. Meyrowitz identified three broad metaphors describing the media ontology, including *media as conduits*, *media as language*, and *media as environment*.[374]

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[369] Meyrowitz, 1985: p. 16

[370] Ibid. Meyrowitz criticised that 'most studies of the impact of media ignore the study of the media themselves. The content and control of television are studied the same way the content and control of newspapers, comics, movies, or novels, have been studied. The medium itself is viewed as a neutral delivery system' (p. 15). In his 2010 book chapter, 'Media evolution and cultural change,' Meyrowitz, there again highlighted that 'Content-focused research has led to many significant findings, but it has ignored larger questions about the ways in which changes in media, apart from messages, may alter the textures and forms of social life' (p. 52).

[371] Meyrowitz, 1985: p. 34

[372] Meyrowitz (1993) believed that media scholars 'rely on rather ambiguous dichotomies such as "content vs. structure," "content vs. form," or "manifest vs. latent", and they are used these terms 'differently in different media studies' (p. 55).

[373] Meyrowitz (1993) acknowledge that 'Although media metaphors abound, they are sometimes treated as unproblematic descriptions of aspect of media or, more commonly, they are seen merely as figures of speech that have aesthetic rather than epistemological implications. Yet, different metaphors flow from and foster different perceptions of media and lead to different research questions and findings. Metaphors are potent tools for seeing clearly, but they also blind us to other ways of seeing' (p. 56).

[374] Meyrowitz (1993) identified TV metaphors as 'companion, new state religion, plug-in drug, big brother, window on the world, baby-sitter, teacher, instrument of terror, network of social relations, thief of time, pulpit, shared arena, cultivator, agenda setter, white noise, new language, glass teat, electronic wallpaper, anthology of texts, and nineteen-inch neighborhood' (p. 56).

Viewing *media as conduits*, is perhaps the most common understanding of mediation, seeing media as a channel or a pipe transferring information or 'content.'[375] This ontological understanding of media is in analogy with Aristotle's conception of 'in between' or technologically defining media as a 'channel' in Shannon's theory. Remarkably, Meyrowitz observed that this dominant ontological view of media as conduit has raised the sensibility toward media products. Accordingly, the main research questions in media studies revolve around 'what is content?,' what are factors influencing the 'development and perception of content?,' 'how accurately does media content reflect reality?,' how different audiences in certain cultures interpret the content and what are the effect and influence of the media contents.[376] Not surprisingly, media content research represent the main corpus of media studies, since the differences in the messages draw immediate attentions, responses, and investigations. Meyrowitz believed that despite the attempts to define content in a more complex terminology, the conduit understanding of media is '*medium-free,*' since the 'focus on media content tends to minimize the attention given to the nature of the particular medium,' which supposedly sends relatively unchanged messages without medial effect.[377]

Media as language, in Meyrowitz' view, address 'the unique *grammar* of each medium,' exploring 'the particular expressive variables,' and the 'production techniques' in each medium.[378] He believed that media as language theories view 'plasticity of the medium,' in contrast to the relatively passive view of medium in conduit, in changing the 'presentation and meaning of content elements.'[379] Paradoxically, despite having medium specific approaches in explanations, media as language draws attention to content. Meyrowitz believed that in language metaphor, the focuses of attention are on 'variables that function only within a specific medium or within a particular type of media.'[380] Meyrowitz has explicitly acknowledged that 'grammar choices' cannot be discussed without 'considering content,' however, he believed that the nature of questions in media grammar is quite different from the content questions.[381] He believed

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[375] Meyrowitz, 1993: p. 56

[376] Ibid

[377] Ibid, p. 57

[378] Ibid, p. 58-9

[379] Meyrowitz (1993) delineated the types of questions in media as language category as 'what are the variables that can be manipulated within each medium? What are the effects of such manipulations in terms of perception, comprehension, emotional reaction, and behavioral response? To what extent are the grammatical codes for each medium shaped by the physical nature, […] cultural variables […], and/or by early production conventions? What political and ideological factors affect typical grammar variable choices? How do different audiences react differently to similar manipulations of production variables?' (p. 59). The types of questions proposed by Meyrowitz are quite diverse, some address the issue in relation with content, while others deal with larger issues on mediation.

[380] Meyrowitz, 1993: p. 59

[381] Meyrowitz (1993) discussed media grammar only with reference to media content or message. For instance, he stated that, the 'contribution of grammar to the overall message is made most apparent when one actually or hypothetically holds content elements constant as grammar variables are

that the content-specific questions are more general meaning-oriented, addressing the issues of representations, ideologies, viewpoints without any reference to medium, while grammar-specific questions tackle issues of media technique, production, structure, and form.

Media as environment, according to Meyrowitz, is an appropriate metaphor describing the essence of mediality, in which medium is viewed as a sort of '*environment,*' '*setting,*' or '*context,*' which is beyond the content variation as in media as conduit, or 'production variables,' as in media as language metaphors, and can possibly 'transcend' both. He believed that the medium features, are the *implicit* concern of both content and production technique (grammar), while 'differences among media' is the *explicit* issue of media as cultural environment.[382]

Meyrowitz believed that theories in media studies can be divided into *lower-level media theories* (plural form), which deals with immediate visible mediality, such as content and grammar, and *higher-level medium theories* (singular characteristic of each medium), which address the nature of mediation, such as media as environment and context. The former is further divided into micro-level and macro-level. Micro-levels medium theories address the magnitude of choosing between one medium to another (individual communication preferences) and the macro-levels explore the changes in social and cultural environment with emergence of one medium over another.[383] The media as conduit, therefore, can be considered in the category of lower-level media theories. The media as language analogy similarly belongs to lower-level media theories. The media as socio-cultural environment is in the category of higher-level medium theories, which primarily address the macro-level issues. He acknowledged that the media as environment is, in its truer sense, a '*medium analysis.*'[384]

> […] most scholars have been hesitant to explore the intricate ways in which changes in the forms of communication – such as the addition of writing to oral societies, the addition of printing to scribal societies, the addition of radio to print culture, and the subsequent wide use of television, the internet, and other electronic media – may encourage new forms of social

changed. Of course, in naturally occurring media artifacts the specific content generally shifts along with the grammar, but often one can still sort out the different strains of impact' (p. 60).

[382] Meyrowitz, 1993: p. 61. The major questions concerning the media as environment, in Meyrowitz's view are 'What are the characteristics of each medium (or each type of media) that make it physically, psychologically, and socially different from other media and from live interaction, regardless of content and grammar choice? How do the features of a medium influence content and grammar choices for that medium? What social, political, and economic variables encourage the development and use of media with some features over media with other features? How does the addition of a new medium to the existing matrix of media alter the function and use of older media? How does the rise of new forms of media alter social roles and institutions whose structure and functions were dependent in some way on the characteristics of previously dominant media? How do the characteristics of each medium interact with cultural codes and customs?' (Ibid).

[383] Meyrowitz, 1993: p. 53

[384] Ibid, p. 61

organization and undermine old ones. Even in the field of media studies itself, the primary focus has been on the safer and simpler view of media as relatively passive conduits that deliver "messages".

(Meyrowitz, 2010: p. 52)

Meyrowitz believed that the various levels of medium theories must be 'complementary and additive,' which are mistakenly, 'misconstrued as competing and contradictory' in several cases.[385] He believed that the conception of media genre, portrayal, image, structure, form, code, and latent have different meanings in any of these three media metaphors. Therefore, one can build a three-layer structure of the media meaning. He believed that any fully comprehensive 'media-related issues' requires the investigation in three areas of media as conduit, media as language, and media as environment.[386] His interpretation of media as environment is influenced by social system theory, in which major elements are objects, attributes, and environments. He believed that medium theory mainly deals with social, physical and psychological formation, regardless of choices of content and grammar.[387]

Some scholars used socio-cultural and historical context in order to categorise various forms of mediation. For instance, Innis, McLuhan, John Fiske and Debray argued for 'epochs' or 'spheres' of mediation in history.

John Fiske: Media in triad of channel – medium – code

John Fiske,[388] in his 1990 book, *Introduction to Communication Studies*, defined communication as an exchange between individuals and the society. He believed there are two major schools of thought in communication studies.[389] One is *process school* that views the communication as the process of *'transmission of messages,'* emphasising the coding systems (encoding-decoding), efficiency or accuracy and *act* of communication.[390] In this school media is viewed as a transmitting channel of communication. Mathematical theory of communication developed by Shannon is considered a notable example in the process school. Two is *semiotic school*, which views the communication as *'the production and exchange of meanings,'* highlighting how media text interact with people of

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[385] Meyrowitz, 1993: p. 61
[386] Ibid, p. 63
[387] Ibid, p. 61
[388] John Fiske (b. 1939) is Australian media critic and emeritus professor of Media and Communication Art at university of Wisconsin-Madison. His area of interests is media semiotics, television studies, communication theories, cultural studies, and popular culture among other. He is the author of *Introduction to communication studies* (1990), *Power Plays, Power Works* (1993), and *Media Matters: Race and Gender in U.S. Politics* (1996).
[389] Fiske, 1990: p. 2
[390] Ibid. Fiske believed that the process school view communication as a social process, in which, one interacts with one another.

culture to produce meaning and focus on the *work* of communication.[391] Fiske limited the methodology in this school to semiotic analysis. The media in this school is viewed as a cultural text, a storage entity or collective memory of culture.

In these both schools of communication, the media is, directly or indirectly, defined based on the medial text or products. In other words, they are two different theories of media messages. Fiske has implicitly addressed the nature of mediality in the context of process school, and distinguished between three concepts of: *channel*, 'the physical means by which the signal [that is the 'physical form of a message'] is transmitted,' *code*, 'a system of meaning common to the members of a culture or subculture,' and *medium*, a system, which converts 'the message into a signal', a physical form, to be transmitted via appropriate channels.[392] Channels determine the type of technology and physical entity of medium, and in return, medium determines the range of codes for transmitting messages.[393] His definition of medium is slightly different from the process school, despite the fact that he has elaborated the concept of medium with reference to Shannon and Weaver's model. He attributed the physical properties to the channel and communicative aspect to the code. Medium is considered both communicative and physical/technological.[394] In other words, a medium seems to be an active agent, sensitive to changes of channel which is a physical means of transmission, and codes, is cultural systems of meaning. Although he defined explicitly the medium as technical means, which correspond to the requirement of signal and channel, he implicitly noted the major operation and properties of medium to convert messages.

It can be argued that, in Fiske's view, medium is an in between entity or frame, both technical and communicational, which transform the message into its form. Based on this insight, he divided the media conceptually into three main categories: *presentational media*, *representational media*, and *mechanical media*. He considered the issues such as technology, time and apace, communication process (including communicator-text-communicated), and physical properties into account. In *presentational media,* the concept of the medium is meaningful when the communicator has a direct presence in the process of communication, 'he or she is the medium' and is 'restricted to here and now,' producing the '*acts* of communication', i.e. the voice, face, body, or use of 'natural languages of spoken words, expressions, gestures.'[395] In *representational media,* the medium is viewed to 'create' a 'text that can record' the presentational media, and 'exist independently of the communicator,' producing the '*works* of communication,' i.e.

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[391] Fiske, 1990: p. 2. In semiotic school, Fiske believed that, the social interaction is viewed individual member as active constitutes of a culture, therefore, the meaning of cultural text with reference to individual and wider culture is significant.

[392] Ibid, p. 18. According to Fiske (1990), the code is further divided into, primary code (verbal language and its re-encoded variety) and secondary code ('determined by the physical properties of their channels, or mechanical media of communication') (p. 20).

[393] Ibid, p. 18

[394] Ibid

[395] Ibid

books, paintings, photographs, writing, architecture, interior decorating, gardening, or any creative use of cultural and aesthetic conventions.[396] In *mechanical media*, the concept of medium is considered as transmission systems of the presentational and representational media, i.e. telephones, radio, television, telexes.[397] This system, to be sure, has no meaning conceptually without the existence of the two previous categories. The main difference between the mechanical and representational media, in Fiske's view, is the fact that the former one 'use channels created by engineering,' which are subjected to 'greater technological constraints.'[398] The technological factors in the mechanical media are deterministic in the nature.

The ontological view of Fiske on medium cannot promise a holistic view to fully address the nature of mediation. His categorisation of media types, nevertheless, which arise from his awareness of the communicative aspect of medium as well as technological aspect of it, is noticeable. These three categories of media are further developed in this book. The concept of intelligent mediation sphere is developed as an extension to this taxonomy, informed theoretically by Debray, Mersch and Grossberg among others.

Régis Debray: Medium as socio-cultural sphere

Régis Debray[399] in his influential book entitled *Media Manifestos: On the Technological Transmission of Cultural Forms* (1996) introduced the concept of 'mediology' and 'mediasphere,' marking a new philosophical turn in media studies. Debray built his argument based on two notions of the 'communication' and 'mediation' from a religious anthropological point of view, with a reference to Christianity. He believed that there is a shift from the philosophy of communication (messenger), which is a 'fluid' nature and 'traverses space' to a philosophy of mediation (mediator), which is a 'weighty' and is 'traversed by time.'[400] Whereas the messenger, 'disappears behind his message' and vanishes as soon as it appears, the mediator 'outpaces what he mediates.'[401] The mediation, in Debray's view, determines 'the nature of the message' and an intermediary 'makes the law'.[402]

The 'conceptual apparatus' of what he called 'mediology,' at a ground level, is established on the question of '*how* an abstract symbol can produce concrete effects,' formulated under the name of 'symbolic efficacy.'[403] He justified his neologism of mediology in the context of a fresh investigation into the '*power of signs,*' in a much wider

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[396] Fiske, 1990: p. 18
[397] Ibid
[398] Ibid
[399] Jules Régis Debray (b. 1940), a French philosopher and scholar, is best known for his theorisation of the field of 'mediology.' He investigates the relations between the dominant media at each millennium, and re-examines critically the overall cultural, sociological and technological practices in that framework.
[400] Debray 1996: p. 6
[401] Ibid
[402] Ibid
[403] Ibid, p. 5

prospect, beyond 'the arbitrary, the differential, the linear, [and] the discreet' approach of linguists to the '*meaning of signs.*'[404] He claims that his mediology address 'all the sensory traces of an intended meaning,' in other words, 'the material traces of meaning,' surpassing the mere '*verbal*' communication.[405] His approach to mediology is informed by a multi-disciplinary outlook. Debray essentially advocates the idea that what the thought is 'the product of' is less relevant question than 'what has it effectively produced.'[406] In other words, he believed that the origin of information, i.e. 'where it comes from' and 'what does it mean' – which is a quite dominant discourse in media theories few decades earlier, e.g. Lasswell formula – is not the core concern. Rather, the major concern of mediology is what has 'information transformed in the mental space' of a collective socio-cultural community and what are 'its devices of authority,' or in short, the issues of *effectiveness* and *power*, the 'becoming-material' forces of medial process as well as symbolic forms.[407]

Debray, in a way, tried to move beyond the deciphering culture of signs in media scholarship and attempted to stretch the boarders of signs into a new realm, more 'operation' rather than 'signification,' explicitly 'the transition of the sign to the act.'[408] A central notion to his mediological scholarship is 'fact or deed of transmission.'[409]

> [...] "mediology" the discipline that treats of the higher social functions in their relations with the technical structures of transmission. I call "mediological method" the case-by-case determination of correlations, verifiable if possible, between symbolic activities of human group (religion, ideology, literature, art, etc.), its form of organization, and its mode of grasping and archiving traces and putting them into circulation.
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> (Debray, 1996: p. 11)

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[404] Debray 1996: p. 6

[405] Ibid, p. 6-7

[406] Ibid, p. 7

[407] Debray (1996) believed that messages should not be considered solely 'in their literalness' and 'the 'underlying epistemé' of the domain of the utterance, rather the 'obscure and trivial phenomena of processes of advance, diffusion, [and] propagation,' since 'it is no longer then is a matter of deciphering the world of signs but of understanding the "world-becoming" of signs, the Churchification of a prophet's word, the scholarization of the series of seminars, the formation of a Party from Manifesto, or Reformation from a printed poster in a public place, the "becoming-Revolution" of enlightened ideas, the "becoming-national" panic of a radio broadcast of Orson Welles in the U.S.A., or the "becoming-delivered" rice sack of a humanitarian broadcast on French television' (p. 8)

[408] Debray 1996: p. 10. The major thesis of Debray is the fact that 'a representation of the world shall have modified the state of the world, and not just its perception (a fact we hold to be something natural)' (p. 10). In a way, as he claimed, his work 'arise out of intellectual wonder at the clichés that naturalize an even more mysterious operation than signification' (p. 10).

[409] Ibid

In his mediological approach, two points stands out, which is significant to the definition of media in the current book. One is the larger *social dynamics* in close association with the *medial technology* of a given era, and two, the dynamics of 'symbolic activities,' their 'forms of organizations,' and techniques of circulating them, i.e. transmission, archiving, and sensorial 'modes of grasping.'[410] In reference to McLuhan's approach to medium, Debray believed that one can use it as 'ground floor,' but not 'rest there.'[411]

The content of medium, as Debray referred to as 'objects and 'works,' is less important in his argument; what matters is the 'operations.'[412] He criticised the definition of medium as 'a device or system of representation [*dispositif*]' and the content-signification oriented scholarship of his age. Instead, Debray proposed a definition of medium as 'mediation' as 'the actual use or disposal of resources [*disposition*],' that is the operation of mediality, e.g. instead of using the names of media as books or images, he suggested the '*ways* of reading [or] looking,' including their 'social frameworks and styles.'[413] He believed that, the term 'media,' as plural form, is similarly used at a surface level, denoting the technical means of information diffusion.[414] Media as an in between (technical) means of communication, of course, is the most immediate definition any one can come across. Debray preferred not to be bound to the fuzzy boundaries of the term media, with a fairly established orientation after the massification storm. He succinctly advocated the fact that mediology has deeper roots in history and it is not limited to the 'presently fashionable mass-mediology,' e.g. he referred to Aristotle's 'reflections on rhetoric,' and Plato's criticism of writing.[415] Debray believed that '[any] contemporary media are only decrypted over the long term, in temporal depth.'[416]

> To begin to approach television as a mediologist and not a sociologist
> of communication, one needs to take up an ancestral soul and observe
> it in perspective, against the light surrounding the Byzantine icon, the
> traditional form of painting, photography, and cinema. The moment
> is understood through process, as is the past through the whole.

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[410] Debray (1996) firmly expressed his hypothesis that the 'symbolic productions of a society at a given instant cannot be explained independently of the technologies of memory in use at the same instant. This is to say that dynamics of thought is not separable from a physics of traces' (p. 11).

[411] Debray, 1996: p. 11

[412] Ibid

[413] Debray (1996) explained that the 'inversion of hierarchies,' that the 'text as an ideal unity is less pertinent than the book as object, and the object in its turn less so than its metamorphoses' (p. 11).

[414] Debray (1996) has referred to Petit Robert in defining media as 'any means of technical support making possible the massive diffusion of information (press, radio, television, cinema, advertising, etc.)' (p. 12). He held that the 'media' is not an 'autonomous, coherent field liable to be constituted into its own specific discipline,' 'not only because they are overdetermined, spanning a multiplicity of determinants at once economic, technical, political, cultural, ideological, etc. – as is the case with any process of transmission – but because they are but a more particular variant, inflated yet derived from a permanent question of global principle' (p. 12).

[415] Debray: 1996, p. 12

[416] Ibid

In his discourse, Debray, used the singular form medium. He admitted that this not the better solution, however, it can address the complexity of the mediation. It seems that Debray advocated the idea of the 'in betweenness' of medium, not as a secondary phenomenon, but as a decisive 'interposing environment of transmitting symbols' or a 'message.'[417] In this sense of the concept, he believed medium can be divided as

1) a *general procedure of symbolizing* (i.e. 'the word, writing, the analogical image, digital calculation');
2) a *social code of communication* (i.e. language);
3) a *supporting material system* for receiving and archiving (i.e. 'clay, papyrus, parchment, paper, magnetic tape, screen');
4) and a *recording devices* which is 'paired with a certain distribution network' (i.e. 'scribes, print workshop, photograph, television, information system').[418]

Based on these four aspects, he defined medium as 'the system of *apparatus-support-procedure*,' which is in course of unsettlements in 'mediological evolution' organically.[419] Debray's view on mediological revolution, referring to historical phases in which certain medialities is shaped and practiced is very significant. He believed that the writing system during the printing era and the writing during the computer era are different medial practices, a shift from graphosphere to videosphere. From this analogy, he further built his 'mediasphere' concepts, in order to distinguish between various eras of medial transformations. Debray associated the concept of *medium* with '*milieu*.'[420] The milieu is structured by 'technique and practice of memory-formatting,' types of 'discourses in currency,' 'a dominant temporality,' and 'modes of grouping together' – e.g. forming 'collective personality' and 'psychological profile,' which are distinguished in each 'mediological period.'[421] The idea of social environment reinforced by milieu resemble Meyrowitz's concept of medium as cultural environment.

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[417] Debray (1996) believed that '[i]t is in reality the intermediate space and time, the betweenness of two things or periods, the trough of the wave [les entre-deux], that are decisive; but our language works the opposite way: it spontaneously subordinates the signs of relation to those of being, and doing to being' (p. 12). He believed that the medium in singular can be used 'insofar as the interposing environments of transmitting symbols are structured by a dominant medium one cannot not envisage a role for this muddled term, on condition of granting its complexity (so much does its ordinary use often prove mystifying and simplistic)' (p. 13).

[418] Debray, 1996: p. 13

[419] Ibid

[420] Debray, 1996: p. 16

[421] Ibid, p. 26

Debray defined *mediasphere* as 'middle ground, setting or environment [milieu] of the transmission and carrying [transport] of message and people.'[422] Accordingly he has identified three mediaspheres, which are time- and space-specific, including: the *logosphere*, the *graphosphere*, and the *videosphere*. Debray's approach in definition of media is holistic and inclusive in nature. Medium theories marked a new chapter in the theoretical definition of media. Following is a brief review and critique of medium theories.

Critique of Linguistic, social and technological approaches in medium theories

With the rise of the 'new' media of cinema during the 1910s and the 1920s, film critics proposed modern medium theories. The new production technology, the techniques of montage in cinema, among other social and cultural factors, raised the possibility of new forms of expression and 'new' visual language. Balázs, a Hungarian film critic, addressed this issue during the silent years of cinema in the 1920s by his *The Visible Man* (1924), and later in a posthumous work *Theory of the Film: Character and Growth of a New Art* (1952). He believed that the 'new medium' of film, is the art of the industrial society and the capitalist economy. From the production perspective, he emphasised the emergence of 'new media language.' John Berger influenced greatly by Walter Benjamin's essay, 'The Work of Art in the Age of Mechanical Reproduction' (1935), similarly discussed the dynamics of gaze and the grammar of production in his influential book and documentary, *Ways of Seeing* (1972). James Monaco, in his *How to read a film: The art, technology, language, history, and theory of film and media* (1981), comparably argued for language-specific character of film. The magnitude of this impact is reflected in Meyrowitz metaphor of 'media as language.'[423] In the contemporary discourse with the development of the so called 'new' media, scholars such as Lev Manovich discussed the possibilities of the emergence of a 'new' language of expression.[424]

In response to the language approaches, influenced by a linguistic turn during the early twentieth century, the institutional and social definition of media gained popularities. Besides that, the processes of massification and their impact on social communication marked a new wave of consideration to the social definition of media, especially with the rise of mass broadcast technology (i.e. radio and later TV) during 1940s-1950s. Interestingly, the television was usually referred to as 'social media,' which is not comparable to the contemporary idea of social media or social networking websites. Alongside the *production* studies, which emphasised the media language theories, *reception* studies gained larger attention with the development of media psychology and

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[422] Debray, 1996: p. 26

[423] See Meyrowitz (1993)

[424] Mersch (2006) believed that the new tendency of new language of new media is influenced by McLuhanism technological orientations. Mersch referred to this notion as 'skripturalen Medienbegriff' (Mersch, 2006: p. 92).

sociology. Media contents provided a considerable proportion of cultural *text* and increased the sensation on the cross-cultural reception. This ontological view influenced two approaches: one socio-cultural (collective receptions) and two, communication (emphasising the individual receptions and meaning).

Theories of social science are imported and adopted in media studies, addressing the 'new' content of culture. In most of socio-cultural media theories medium is viewed as a 'channel' of communication, or in Meyrowitz term 'media as conduit.' For instance, in classical media Marxist theory medium is considered as *instruments* of 'the dominant class and means by which capitalists promote their profit-making interests,' therefore media are *dissemination tools* of 'the ideology of the ruling class and thereby oppress certain classes.'[425] In political-economic media theory media are defined as *content*, which is 'a commodity to be sold in the marketplace, and the information disseminated is controlled by what the market will bear.'[426] In the Frankfurt School media are viewed as *means* of 'constructing culture,' 'the domination of the ideology of the elite' and manipulation of images and symbols to benefit the interests of the dominant class.'[427] In hegemonic theory media are considered as *tools* to perpetuate dominant false ideology or ways of thinking over 'true conditions,' since ideology is pervasive and unconscious and cannot be 'caused by the economic system alone' or 'forced by one group on another' but it is 'deeply embedded in all activities of society.'[428] In cultural theories the emphasis is on media as 'text.'[429] As the wide range of socio-cultural orientation shows, the media is viewed as an *instrument, text,* and *institution*.[430]

Communication approaches during 1960s and 1970s emphasised media content and audience. Mass communication was understood as 'the process whereby media organizations produce and transmit messages to large publics and the process by which those messages are sought, used, understood, and influenced by audiences.'[431] Subsequently, mass media and communication theories underline the immediate and visible aspects mediation. These theories are based on the 'message,' 'the content and form' of message and structural elements including *signs and symbols*, *language*, and *discourse*.[432]

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[425] Littlejohn, 2002: p. 309

[426] This theory, similar to classical Marxism, 'blames media ownership for society's ills' and believes that the media system makes 'a conservative, non-risk-taking operation, making certain kinds of programming and certain media outlets dominant and others marginalized' (Littlejohn, 2002:309).

[427] Littlejohn, 2002: p. 309

[428] Ibid

[429] 'In cultural studies, various competing meanings are viewed as cultural productions. Cultural studies are becoming an increasingly popular and useful approach, and it can be used to integrate insights from a variety of schools of thought' (Littlejohn, 2002: p. 309).

[430] Mersch (2006) put that '[marxistischen Medienkritiken] orientierten sich allein an massenmedialen Phänomenen, bezogen sich dabei vor allem auf die öffentlichkeitskonstitutiven technischen Medien Film, Rundfunk und Fernsehen und blieben somit im Grunde eine generelle Medientheorie schuldig' (p. 90).

[431] Littlejohn, 2002, p. 324

[432] Littlejohn, 2002: p. 15, 57

The early theories of (mass) media and communication are influenced by Shannon and Weaver's mathematical theory of communication, in which media are viewed as technological means. This model has been widely accepted in the field and the elements of communication process, *sender-message-receiver*, became a base for many studies. The major criticism against this approach is voiced by 'non-Western' communication theories during 1980s and 1990s.[433] In most of the Western theories, mediation is defined as the *continuous* exchange of messages between sender and receiver. Therefore, media play the role of a channel to connect the elements during the communication process. The *dualism* between the encoding and decoding process is pre-eminence.

The tremendous emphasis on the media content, message and linguistic theories, and the growing interest in media audiences and reception theories, on the one hand, and the expansion of media technologies during the 1970s, on the other hand, created a discourse of 'medial turn,' which is rooted in the Canadian school of media studies.[434] A new wave of technological definition of media emerged during the 1990s with the expansion of internet and computer devices. The following chapter is a theoretical survey of the contemporary post-medium theories.

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[433] See Bolouri, 2011. Among influential scholar in this field is Kincaid (1979), who identified seven epistemological orientations in Western theories of communication: communication as linear rather than cyclical, bias of message-source rather than relatedness and interdependence, isolated objects of communication rather than larger contexts, continuous messages instead of silence, rhythm, and timing, persuasion rather than understanding, agreement, and collective action, individualistic rather than emphasising collectivism and relationships, one-way mechanistic causation rather than mutual causation.

[434] Mersch (2006) believed that the medial turn is due to the philosophizing tendency of the media theories, where all form of perception, recognition, thinking, and acting are mediatised. He read this in terms of Derrida's 'no other media' (kein Medien-Anderes/Äußeres) and Hans-Georg Gadamers' 'media being' (Medien-Sein) (p. 131).

4

Mediation Spheres

Friedrich Kittler

Marie-Laure Ryan

Hans Belting

Thomas Mock

Typology of Medium Conceptions

Digital Media

Imaginary Machines

Image-Medium-Body

Intelligent Media

Lev Manovich: Software Command

Theory

Post-Medium Theories

Negative Media Theory

Computer-based Media

Dieter Mersch

Lawrence Grossberg:
Mediation Process

Internet of Platforms

Mediality

Processing

Media

Multi-Media

4 Post-Medium Theories:
Computer-based Approaches

With the emergence of new technological paradigm and social order during the last decades of the twentieth century, a new wave of 'new media' theories flourished. Although the early post-medium theories are developed during the 1980s and 1990s, a unified and coherent corpus of theories are evolved during the early decades of the twenty-first century. Post-medium theories are marked by profound emphasis on the evolution of electronic media technologies. The informationalism paradigm[435] and advancement of computer technologies influenced the conception and definition of 'new' media. A quite remarkable number of 'new media' theories emphasised the digital and processing attributes. Some believed that software transforms old ('mass') media into 'new' media. For instance, the most widely cited new media theoretician, Lev Manovich, attempted to conceptualise media based on new software attributes, inter alia. Friedrich Kittler considered the new media as a processing medium, besides the transmitting and storage attributes.

Other post-medium theories focused on the nature of changes in relation to the nature of mediality, the human body and visuality. For instance, Hans Belting, examined the relationships between image-medium-body, and considered the body as a living medium. His approach is inclined towards the Platonic conception of medium. Eric Kluitenberg investigated the relation between body and mediality in terms of imaginary relations. Among the post-medium theorists, there are attempts to evaluate the conceptualisation of the media based on a wide range of orientations. For instance, Thomas Mock identified four categories of media conception including; physical, code-based, technological, and societal/institutional approaches. Nonetheless, he failed to

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[435] Castells introduced the concept of 'Informationalism,' 'a technological paradigm based on the augmentation of the human capacity of information processing and communication made possible by the revolutions on microelectronics, software, and genetic engineering' (see Castells, 2004a).

propose a 'new media' concept. Marie-Laure Ryan distinguished between technical, semiotic and cultural conceptions of media.

Dieter Mersch, being cognizant of a wide range of media conceptions, proposed a negative media theory, and affirmed that any positive definition of media fails. He believed that media hide during the process of mediation. Lawrence Grossberg defined media in terms of mediation processes, a set of non-linear 'movement of events' in transformations – a dynamic state of 'becoming' between the spaces of the virtual and the actual.[436] In the following the theories of Manovich, Kittler, Belting, Ryan, Kluitenberg, Mock, Merch, and Grossberg are briefly discussed.

Lev Manovich: Media as Software Command

Lev Manovich,[437] is among 'new media' theorists, who works in a diverse field. He theorised 'new media' based on software, which he considered as the most distinguishing feature of the computer. Manovich started his research endeavour in the field of media studies and visual culture, with his doctoral thesis, entitled 'The Engineering of Vision from Constructivism to Computers' written in 1993, investigating the origin of computers in media and traced it back to the 1920s-avant-garde movement. In his 1999 paper, 'New Media: A User's Guide' published by ZKM Karlsruhe, he drafted the general history of 'how media became new' and discussed several initial principles of new media. The *Language of New Media* (2001) is widely publicised, in which he argued for the dominance of computer logic in the mediation process. He believed that, the history of computer is significant for media historians and theorists.[438]

Manovich distinguished between 'media machine' and 'computing machine.' He believed that media are *machines* which *disseminate* same 'text' to maintain 'ideological' status quo, while computers are machines which keep track of individual records. Both media and computer machines (data processing), in his view, are 'complementary technologies of a mass society.'[439] To explain the contemporary (new) media, he analysed the joint history of mass media and computer machines, and believed that computer won and took all mass media inside as 'slave.'[440] Consequently, 'all the existing media are translated into numerical data accessible for the computers' and 'media

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[436] Grossberg (2010)

[437] Lev Manovich is a Russian-American media and computer theorist and a professor at the City University of New York. His research revolves around 'new media' theory, digital humanities, big data, software studies, and social computing among others. He has background in fine art (painting), architecture, computer science, semiotics, experimental psychology and 3D computer animation among others. His noticeable books are *The Language of New Media* (2001), *Software Cinema: Navigating the Database* (2005), and *Software Takes Command* (2013) among other.

[438] Manovich, 1999: p. 2

[439] Manovich, argued that the calculating machines were developing since the 19th and 20th century and the data processing is alongside the mass media, are necessary conditions of modern mass society (Manovich, 1999: p. 3).

[440] Manovich, 1999: p. 6

becomes new media.'[441] This merging, changed both the identity of media (as mere mass transmitting machine for dissemination of ideological text) and computers (as mere 'calculator, a control mechanism or a communication device'), and transformed a computer into a 'new' 'media processor.'[442]

Base on the abovementioned analogy, he identified five essential principles of new media, including: *numerical representation*, *modularity*, *automation*, *variability*, and *transcoding*.[443] Among these, the first two principles of numerical representation, (that is new media objects are essentially exists as numerical data) and modularity (that is the new media objects are existing as independent desecrate elements), are the fundamental base of his new media theory.[444] The third principle, automation, is the most distinguishing characteristic of new media (that is new media objects are automatically created and modified).[445] For Manovich, automation is the golden principle of new media, which distinguish it from old mass media. The two last principles, variability (that is new media objects exist in multiple versions) and transcoding (that is the format and logic of computer influence the representation of new media objects) are particularly derived from computer science.[446]

It can be argued that in the history of media technological evolution, principles of discrete representations, modulation, and automation can be identified, and they are not limited to 'new media' phenomena. Manovich new media principles, which he acknowledged are not general laws but 'tendencies of a culture undergoing computerization' and essentially address the 'new media objects.'[447] The processing aspect of 'new media' is not explicitly addressed in the framework of these five principles and it is later developed in his definition of media as 'software command.' Manovich has proposed eight propositions in defining 'new media.'

1) New media versus cyberculture
2) New media as computer technology used as a distribution platform
3) New media as digital data controlled by software
4) New media as the mix between existing cultural conventions and the conventions of software
5) New media as the aesthetics that accompanies the early stage of every new modern media and communication technology
6) New media as faster execution of algorithms previously executed manually or through other technologies

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[441] Manovich, 1999: p. 6
[442] Ibid, p. 6-7
[443] In his 1999 paper, Manovich, initially identified four principles, including: 1) discrete representation on different scale, 2) numerical representation, 3) automation, and 4) variability (see p. 7-15).
[444] See Manovich, 1999 & 2001
[445] Ibid
[446] Ibid
[447] Manovich (2001) & Digler (2001)

7) New media as the encoding of modernist avant-garde; new media as metamedia

8) New media as parallel articulation of similar ideas in post-WWII art and modern computing.

(Manovich, 2003: p. 9-25)

There is a slight change in media conception from his *Language of New Media* to *Software Takes Command*. The central dimension of computer that determine the logic of new media versus the old semi-computer-based media, in his view, is the *software*. He initiated a software studies, besides his big data 'media analytics'/ 'cultural analytics' research groups. Manovich criticised the concept of 'digital' media, since he believed the 'new media' situation is not the result of transformations of analogue to digital conditions. He believed that 'there is only software.'[448]

> None of the new media authoring and editing techniques we associate with computers is simply a result of media "being digital". The new ways of media access, distribution, analysis, generation and manipulation are all due to software. […] they [are] the result of the particular choices made by individuals, companies, and consortiums who develop software.

(Manovich, 2013)

It seems that the production perspective of mediality, as well as the content of media is central to Manovich's argumentation. In his later scholarship, he focused on software and social usage of various types of software, which are developed by powerful commercial forces. This reinforces the Balázs' ideas on the expansion of film based on industrial economics. Manovich believed that the evolutions of software are influenced by economic and social forces, usually incorporated by a limited group in society and marketed to large number of users. The idea of massification and/or mass software production is quite significant in his studies. Besides that he believed that the editing attributes are significant in distinguishing a medium, for instance he stated that recording and more importantly editing made cinema a medium.[449] Similarly, he emphasised the 'editing' aspect of new media, due to the existence of software, which made the 'hyperlinking,' 'visualisation,' 'researchability,' and 'findability' possible. This type of software can determine how the digital files can be used.

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[448] Manovich (2013) raised the question that what are 'the persisting primacy of the term "digital" in understanding new media?' and response clearly stated that 'there is no such thing as "digital media." There is only software – as applied to media data (or "content".)'. In other words, 'for users who can only interact with media content through application software, "digital media" does not have any unique properties by itself. What used to be "properties of a medium" are now operations and affordances defined by software.'

[449] There are critics who considered editing significant to cinema.

There is various criticism against 'new media' theory of Manovich. Perhaps the most distinguishing one is the use of computer-based jargons and terminology in media studies.[450] For instance, he used many software-based commands, such as 'cut, copy and paste,' as a base for analysing contemporary media culture. A main disadvantage of technological terminology is their short lifespan and their lack of theoretical scope in explaining wider socio-cultural or communicational phenomena. Some technological notions that Manovich provided back in 2013, has no relevance in the contemporary time. The influence of neuroscience is quite visible in Manovich's scholarship, where he discussed media as a device to create mental representations. His oversimplification techniques, linear and casual logical reasoning, generalizing discourse to a whole universe of media phenomena, and lack of coherent theoretical framework made his new media theory inadequate to be implemented in media research.

> Manovich's references to random access, interactivity, and software and his polite but profoundly disrespectful observations on the discipline of art history and its obsolete models of representation and meaning were as unintelligible as the strange speech of the Trojan priestess Cassandra in the house of Atreus – mere birdlike twitterings to the ears of the doomed.

> (Wood, 2004: p. 370)

It can be claimed that most of Manovich media conception is 'content-oriented.'[451] He believed that what the user experienced as 'particular properties of a piece of media come from software used to create, edit, present and access this content.'[452] The cultural products of media are central to his research. This can bring us to the dominant types of medial conception discussed by Meyrowitz in considering media as *conduit* or content container (a disseminating machine of ideological text). Similarly, this resembles the peak of interest in media content analysis during the golden age of broadcasting electronic technology. In Manovich's view, this is dominated by a new technology of software. In addition to transmitting nature, the processing attributes in media as conduit is highlighted. The major contribution of Manovich, to my understanding, is not his definition of what is new media and its principles, but in his arguments, what is not new media.

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[450] There are various instances that Manovich acknowledge his IT based approach, for instance in his 2013 summary of his book mentioned that besides digital media, 'What I do want to pint out is the centrality of another element of IT which until recently received less theoretical attention in defining what "media" is. This element is software.'

[451] Manovich (2013) mentioned that 'while digital representation makes possible for computers to work with images, text, forms, sounds and other media types in principle, it is the software which determines what we can do with them.'

[452] Manovich (2013)

Friedrich Kittler: Storage-transmitting-processing medium

Friedrich A. Kittler[453] is considered a controversial media philosopher in German media studies. He addressed the core issue of ontology of media 'from Aquinas and Descartes to Fichte and Hegel.'[454] He believed that the nature of media in 'European ontology is both curtail and a difficult one.'[455] He argued that from Aristotle onwards, ontology in the Western tradition has dealt with things, their form and matter not 'relation between things in time and space' and 'philosophers forgot to ask which media support their very practices.'[456]

Kittler highlighted that philosophy since Greek neglected 'writing as its technical medium' since they 'did not distinguished between speech elements and alphabetic letters.'[457] Heidegger raised 'a philosophical consciousness for technical media,' 'when he turned philosophy into 'thought'.'[458] He elaborated that there is a 'forgetfulness of technological change in every historical detail,' namely, 'neither the philosophers concerned nor Derrida, their self-appointed deconstructor, ever posted it.'[459] In his view, thinkers, in contrast to illuminators, painters, scientists, historians, and poets, tend to forget their medium. The 'absence of a media ontology may well have been their deepest (and that means groundless) raison d'être.'[460]

Kittler's criticism of the absence of media ontology is based on the hypothesis that media are primarily technique and technology. He considered technological media as a priori. He put that writing after the invention of silicon chips no longer exists. For him the logic of binary code gives existence to everything.[461] He argued that,

> […] by shifting from discrete binary states in classical silicon architecture to quantum computing we go from particles to waves, because quantum states are wave systems and this is much more flexible in response to what nature may be – for example in string theory. […] Shannon and von Neumann mistook whole numbers as a final mathematical tool to conceive the world in simple binary identities.

> (Kittler in Gane & Sale, 2007: p. 325)

Kittler considered media as 'in between' entity, similar to Aristotle's conception of medium. He considered media as a necessary vehicle to transfer knowledge. A major

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[453] Friedrich A. Kittler (1943-2011) was a German philosopher, literary and media theorist. His interests were focused on literature, media, and technology.
[454] See Kittler (2009)
[455] Kittler, 2009: p. 23
[456] Ibid, p. 23-24
[457] Ibid
[458] Ibid, p. 24
[459] Ibid, p. 26
[460] Kittler, 2009: p. 26
[461] Kittler strongly believed that 'nur was schaltbar ist, ist überhaupt' (only that which is switchable, exist).

gap in Kittler's argument arguing ontology is the fact that he considered human 'being' conceptually equal to media 'being.'[462] This is a major theoretical paradigm in Western media and communication theories.

Kittler defined media in history primarily based on the function associated with thinking and memory. For instance, he described that 'from pre-Socratic up to Aristotle and Latin vulgarizes' the 'scribble alphabetic letter on papyrus scroll' were used where the reader 'had to open these so called volumina with their right hand, read aloud the text, and roll the reading matter back with their left hand to form again a concise storage medium.'[463] In other instances he addressed a transmitting medium. The media today, as argued by Kittler, are distinguished not only for their storage and transmission features, but also for their *processing* attributes.[464]

Highlighting the 'processing' aspect of new media is considered a common approach among media theorists. As Manovich and Kittler, prioritised processing or programmability aspect of new media, Winkler,[465] contextualised the processing in a communicative and performative order, in his 2010 paper on 'Processing: The Third and Neglected Media Function.' In another article, 'Medium Computer. Zehn populäre Thesen zum Thema und warum möglicherweise falsh sind' (2004), Winkler drew a critique on calling a computer a medium. Although he considered the technological aspect as indistinguishable characteristics of media, he defined media in terms of 'communication,' 'symbolic character,' 'technology,' 'form and content,' time and space, and invisibility features.[466] The technological characteristics of media are not a central discourse for all contemporary theoreticians. For instance, Hans Belting conceptualised media in close association with human body.

Hans Belting: Image-medium-body – Body as 'living medium'

Hans Belting,[467] a German art historian and theorist, addressed the tension between picture and medium and argued for a conceptual triad of *image*, *medium* and *body*. He

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[462]Kittler (2009) argued that 'Being, whether natural or technical, has been thought of for 2500 years (to agree with Heidegger) in the metaphysical terms of hereness and present, entelécheia and ousía, not in their many opposites such as past and future, storage and transmission' (p. 25).

[463]Kittler, 2009: p. 26

[464] Kittler (2010)

[465]Hartmut Winkler (b. 1953) is a German professor of media theories at the University of Paderborn. His research interests span media art, digital media, computer and media theory inter alia. He is the author of *Switching/Zapping* (1991), *Computers and Media Theory*, Docuverse (1997), *Basiswissen Medien* (2008).

[466] Winkler, 2004a: p. 9-10 & 16

[467] Hans Belting, (born in 1935), is a German art historian in medieval and Renaissance as well as a contemporary art and image theoretician. He authored many books and articles, including *Likeness and presence: A History of the Image before the Era of Art* (1984), *The End of Art History* (1987), The Germans and their Art: A Troublesome Relationship (1998), *The Invisible Masterpiece: The Modern Myths of Art* (2001), *Art History after Modernism* (2003), *Global Studies* (2011), and *The Global Contemporary and the Rise of the New Art Worlds* (2013) among others. The most relevant theme to media theory is his book entitled, *An Anthropology of Images: Picture, Medium, Body*, published in German in 2001 and 2011 in

conceptualised picture beyond the material embodiment of painting, sculpture, or photography, and linked it to the mental image. He considered body as a *living medium*.

> We must note the image not only as a product of a given medium, be it photography, painting, or video, but also as a product of our selves, for we generate images of our own (dreams, imaginings, personal perceptions) that we play out against other images in the visible world.

> (Belting, 2011: p. 2)

Belting discussed the nature of image as an immaterial entity in contrast to the materiality of picture.[468] It is important to highlight that his approach in conceptualising media is 'cultural anthropology.'[469] Besides that, Belting was inspired by the 'historical anthropology' of the French art historian, Jean-Pierre Vernant, who introduced the notion of 'anthropologie historique de l'image' in his study of 'The Status of the Images, of the Imagination, and the Imaginary.'[470] He critically examined Vernant's proposal of the 'fundamental interrelation' and 'even interaction' of image, body and medium. Based on this theoretical framework, Belting defined the media in analogy with body. He explained his conception of media as body with an example of the meaning of 'death' and 'funeral' as an origin of image making.

> Body and medium are both involved in the meaning of funeral images, as it is the *missing body* of the dead in whose place images are installed. But these images in turn are in need of an artificial body in order that they might occupy the vacant place of the deceased. This artificial body may be called the "medium" (and not just "material") in the sense that images needed embodiment in order to acquire visibility. To this end, a *lost body* is exchanged for the *virtual body* of the image. […] images make a physical (a body's) *absence* visible by transforming it into iconic presence. The mediality of images is thus rooted in a body analogy. Our bodies function as media themselves, living media as opposed to fabricated media.

> (Belting, 2011: p. 3)

Belting's definition of media based on the notion of body, as a realm between 'absence' and 'presence,' is influenced by Christianity. In other world religions, for instance in Hinduism, the concept of incarnation advocates non-interrupted forms of

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English. This book is based on his project entitled 'Bildanthropologie. Image-Media-Body' during 2000 in HfG and ZKM in Karlsruhe.

[468] In German language, the term Bild both refer to image and picture. In the English edition of the book, he used the term image in immaterial and picture in material sense.

[469] Belting, 2011: p. 2-8

[470] Ibid, p. 3

presence. His conception is significant in defining the *presentational* forms of media.[471] Belting believed that the living body, i.e. media, involves two acts of *fabrication* and perception. Image is symbolic exchange between these acts.[472] In his view, while the physical picture *represents,* historical and technological fabrication of 'living media' and reception interrelate to it make the immaterial image *appear.* The *gaze* is 'the force that turns a picture into an image and an image into a picture.'[473] The difference is that the image is a 'continuous process of interactions' in a continuum of endogenous (internal) to exogenous (external) appearance.[474] Belting argued that in the interaction between bodies as mental or internal images and external images, a third parameter is involved, and that is *medium*.

Accordingly, he defined medium, firstly, in terms of a 'support, host, and tool for the image' and secondly, as a 'living medium by processing, receiving, and transmitting images.'[475] Theoretically he defined medium based on the functions, i.e. transmission, receiving, processing. In the first definition, he claimed a 'need *for* and use *of* media' in order to 'transmit' mental image and make it 'visible.'[476] Although he critically claims his awareness in dominant understanding of media based on 'mass media' model, he fell into a trap of the same dominant discourse: media as transmitting 'tool,' 'agent,' 'vector,' '*dispositif,*' or an 'in between' entity in Aristotelian sense. The second definition, seeing media as bodies, as processors (minds), receivers (senses) and transmitters (actions) of image, is to some extent close to Kittler's conceptualisation of transmitting, storage and processing media, with the difference that Belting did not considered the 'storage' capacity of image in bodies.

As he argued, the distinction between 'pictorial media' and 'mental disposition' of images can be understood by mind. Perhaps he is influenced by theories of mind and considered its functionally as a separating factor to mentality.[477] Belting aimed primarily at a theory of image, and secondarily a medium theory. Subsequently, he focused on the functionality of medium as a host for image. There are criticisms on Belting's triad notion of image-medium-body. The American art historian, Christopher S. Wood,[478]

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[471] Wood (2004) believed that 'for Belting, the point of media studies – is to restore to mediation its material, somatic, "human" dimensions' (p. 371).

[472] Belting, 2011: p. 3-4

[473] Belting elaborate on the French scholars' view, Regis Debray, that '[t]he image draws its meaning from gaze, much as the text lives from reading. The gaze, rather than being a mere tool, implies the living body as a whole' (Belting, 2011: p. 4).

[474] Belting believed that there is no 'physical images,' and this is the 'mental images' that are inscribed in external world and vice a vera (Belting, 2011: p. 5).

[475] Belting, 2011: p. 5.

[476] Ibid, p. 5

[477] The text evidence of his influence from theories of minds informed by neuroscience is his reference to 'internal' vs. 'external' and 'endogenous' vs. 'exogenous' representations as terminologies of neurobiological research (See Belting, 2011: p. 4).

[478] Christopher S. Wood is professor in the history of art at Yale university.

express his wonder on media discourse that Belting has incorporated in his image studies.

> Media studies has become a dominant paradigm within the German-speaking academic cosmos to an extent that American art historians can hardly imagine, except perhaps in their nightmares. Every German art historian, it would seem, in every subfield, has been compelled to deal with the concept of media, one way or another, over the last ten years.

(Wood, 2004: p. 370)

Belting's definition of media is unidirectional and biased by the superiority of art over medium. Wood has criticised Belting's triangle, as 'mystical' and 'exotic,' and believed his analogy is influenced to a large extent by critical theory emphasising the exchange of meaning.[479] The other critique that Wood pointed out is Belting's platonic definition of image as mere mental 'ideas' and 'souls,' without any physical point of reference or 'body' in need of a medium as a 'host' to embody itself. The reference to body, as he argued, refers to a wide span of concepts, from production of mental images as in dreams, vision and memory, performance of images, and presentation of images as in tattoos or body arts. Another critique is that Belting's elaboration is limited to visual technical media system.

With an example of media-art *TV-Buddhas* installation by Korean-born video artist Nam June Paik, he argued the 'tangible,' 'material,' 'technical' aspects of media, which offer a 'circular interrelation of image, medium and body.'[480] He believed that 'media can function as the prosthesis of body' and genetic engineering can 'converts images into bodies.'[481] He called statue as an 'old medium' and TV as 'new medium' and believed the image is neither in statue nor in TV, but it our gaze. He further explored the relation between media to present the absent body, that is the image.

Belting believed that the distinction between image and medium lies in the nature of image that is '*presence of an absence,*' that is they '*are* or *mean* the presence of an absence' of 'the real object.'[482] He elaborated that 'presence, or visibility, relies on the medium in which the image appears, whether on a monitor or embodied in an old statue.'[483] He explained that 'absence, understood as invisibility, and presence, understood as visibility' is 'a body experience' – in this way memory as a body experience 'generates images of absent events or people.'[484] Belting considered the medium as the *presence* and image as

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[479] Wood, 2004: p. 371
[480] Belting, 2011: p. 7
[481] Belting (2011) and see Wood (2004)
[482] Belting, 2011: p. 6
[483] Ibid
[484] Belting (2011) believed that the 'mediality of pictures is thus the missing link between images and our bodies' (p. 6).

the *absence*. Similarly, Dieter Mersch has used this dual conception of absence and presence in the definition of media with slightly different opinions other than Belting. Mersch believed that there is an 'absence' in media's 'presence.'[485] In this way, he has freed media from the burden of 'presence,' and observed technicality, physicality or materiality.

There are other scholars, who similarly focused on the triad relations of body-image-medium. For instance, Marke B. N. Hansen,[486] authored two related studies on 'new media,' namely, *New Philosophy for New Media* (2004) and *Bodies in Code: Interface with New Media* (2006), exploring methodologically 'the theoretical and technical significance of digital revolution'[487] and in investigating mainly the relationship between technology in human agency and social life. His focus primarily centred on the importance of computation in transforming the architecture of knowledge in a social and cultural landscape. For him computer revolution plays a central role in the definition of humanities.[488] In contrast to the Platonic view of mediality between body-image-medium offered by Belting, Hansen has an Aristotelian view on 'in between' mediation of body-image-artwork.

There few female theorists, who actively engaged in conceptualisation and theorisation of media. Marie-Laure Ryan is among significant scholars, who divided media as technical, semiotic and cultural means of expressions.

Marie-Laure Ryan: Media as technical, semiotic and cultural means of expression

Marie-Laure Ryan[489] examined the relation between media and narrative structures. She is critically engaged in cross media narrative and 'media-conscious narrative.' She believed that the 'choice of certain medium' is significant for narrative structure to the extent that it can influence 'the way in which the story is shaped, presented and received' and these 'narrative differences' can be identified in three 'grammatical domains: semantics, syntax, and pragmatics.'[490] Her definition of narrative world – as a 'mental

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[485] Mersch, 2013: p. 208

[486] Mark Boris Nikola Hansen (b. 1965) is an American media theorist, literary scholar, and professor of Literature and Visual Studies at Duke University. His interests span from literary studies, film and media studies, and philosophy, to science studies, and cognitive neuroscience. He is the author of *Feed Forward: On the Future of 21st Century Media* (2014), *Bodies in Code: Interfaces with New Media* (2006), *New Philosophy for New Media* (2004), and *Embodying Technesis: Technology Beyond Writing* (2000).

[487] See Hansen, 2015

[488] Hansen believed that 'the humanities must embrace technology and that humanists must enter full-scale into the informatics revolution by, for example, contesting the meaning and value of information and rethinking what it means to be human in a realtime, digitally-networked, global world in which we often cognize in concert with intelligent machines' (See Hansen, 2015).

[489] Marie-Laure Ryan is an American media scholar at the University of Colorado. Her research focus on the narration and fiction across media. Her publication revolves around narratology, possible world theory, and cyber culture among other.

[490] Ryan (2003)

image,' 'cognitive construct' or 'mental representation' of causally connected 'worlds' (settings), 'populated by intelligent agents' (characters), 'actions and happenings' in these worlds by characters (events, plots), leading to 'global changes' – organically integrate a proportionate role of the medium in creating the 'storyworlds.'[491] The concept of medium, nevertheless, as Ryan has reflected, is a multi-facet terminology and each discipline proposed certain definitions and categorisation of media types. Ryan, admittedly, acknowledged her approach to medium theory as a 'narratologist.'[492]

The theoretical discussions on the nature of medium is reflected in two of her edited books, *Narrative Across Media* (2004), and *Storyworlds Across Media* (2014).[493] In her earlier work, Ryan started to revisit the concept of medium defined in Webster's Dictionary. She has chosen two 'etymologically relevant' definitions; one medium (singular) 'something in a middle position,' which can be traced back to the Aristotelian definition of medium, and, two, mediums (plural), used in a gnostic or a mystic sense referring to 'an individual held to be a channel of communication between the earthly world and the world of spirits.'[494] These two views are the most popular ontological views on the concept of medium since Aristotle.[495] Based on these two definitions, Ryan reformulated two primary definitions of medium, firstly, a *'transmissive'* definition, considering medium as 'a channel or system of communication, information, or entertainment,' and secondly, a *'semiotic'* definition, defining medium as a 'material or technical means of artistic expression.'[496] Respectively, she called for a 'compromise' between these two definitions. These definitions are developed based on Meyrowitz's metaphors of media as *conduits* and media as *language*.[497]

Both transmissive and semiotic definitions of media advocate an instrumental ontology, considering mediality essentiality as a 'channel' or 'technical means.' The distinguishing factors between these two types of mediality are their functions. The

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[491] Ryan (2003)

[492] Ryan (2003) critically reflected on the views of sociologists or cultural critics, artists and art critics, philosophers (in phenomenologist school), information theories and new media theories on the concept of medium.

[493] The title of the chapter written in her 2004 book is 'Will New Media Produce New Narratives?'. An extract from this chapter is published in medium theory issue of journal in 2003 as an article entitled 'On Defining Narrative Media,' in which Ryan explained theoretically medium. The 2004 book is consisted of three sections, including definition of narrative, definition of media (presented in her 2003 article), and ahistorical review of the emergence of the concept of medium in narrative study. The 2014 book is in fact in continuation to earlier 2004 book, and instead of being titled as 'narrative across media II', Ryan decided to exchange the notion of narrative with storyworlds, as she considered more relevant in the contemporary context. Her 2014 book, similarly, is consisted of three parts, including, firstly, mediality and transmediality (concerning the issue of medium), secondly, multimodality and intermediality and thirdly, transmedia storytelling and transmedial worlds. The chapter written in her 2014 book, entitled 'Story/World/Media: Tuning the Instruments of Media Conscious Narratology', in which she is elaborating on the concept of media.

[494] See Ryan (2003) and Merriam-Webster (2017) online dictionary.

[495] See Mersch (2006)

[496] Ryan (2003)

[497] Ryan, 2005: p. 8

former one is communicative (objective and goal-oriented) and the latter one is artistic expressive (subjective and aesthetic-oriented). The transmissive medium, as she delineated, includes all types of technological (TV, Internet, gramophone, telephone) or cultural (i.e. books, newspapers) channels, engaging in the encoding-decoding process, while the semiotic medium are not essentially involved in these processes (i.e. paintings, musical composition). She believed that the transmissive medium (type 1) 'involves the translation of objects supported by media in sense 2 [semiotic media] into a secondary code.'[498] In other words, she viewed media ontologically as secondary code 'translators' of other primary semiotic medial forms. Although she criticised the definition of media as pure channel and 'hollow pipes' of communications, e.g. Walter Ong, she believed that the metaphor of media as conduit – including the process of encoding, transmission, decoding, cannot be rejected fully.[499]

In order to study narrative across media, she suggested that, there should be a compromise between the two definitions of the medium, since 'different media filter different aspects of narrative meaning.'[500] She believed that the message is affected by the configuration of the medium and respectively it plays a crucial role in 'the construction of the receiver's mental image.'[501] The media, as Ryan put, can be 'simultaneously modes of transmission [transmissive media] and means of expression [semiotic media],' however, the semiotic media mostly 'impact narrative form and meaning.'[502] In her 2003 article, Ryan, discussed the conception of mediality or mediumhood as relational rather than absolute notion. The relational mediality is close to Mersch's conception of negative media and to the idea of the relational mediation in the current book.

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[498] Ryan (2003)

[499] Ryan (2003) stated that 'if we totally reject the conduit metaphor and the notion that meaning – in this case, narrative – is encoded, sent over, decoded and stored in memory at the other end of the transmission line, if, this is, we regard meaning as inextricable from its medial support, medium-free definitions of narrative become untenable.'

[500] Ryan (2003) stated that her 'compromise' between 'hollow pipe interpretation' and 'unconditional rejection of the conduit metaphor' is 'a concrete visualisation of Jakobson's model of communication.' The model of verbal communication developed by Ramon Jakobson in 1960 consisted of two ends of addresser (emotive function) and addressee (cognitive function), and four middle factors of context (referential function), message (poetic function), contact (phatic function), and code (metalingual function). This model in a way is influenced largely by Shannon mathematical model of communication (1948) and it is developed after him.

[501] Ryan (2003) believed that 'the configuring action of the medium' may not make it possibly apparent 'an encoded object from the act of encoding.'

[502] According to Ryan (2003), in order to study narrative 'the semiotic definition' should prevail over 'the transmissive one', since what counts as 'a medium is a category that truly makes a difference as to what stories can be evoked or told, how they are presented, why they are communicated, and how they are experienced.' She has, subsequently, investigated three areas of grammatical domains within semiotic media, i.e. semantics (study of plot, or story and cognitive structure), syntax (study of discourse, narrative techniques and interpretive strategies), and pragmatics (study of narrative as performance, the 'mode of participation of human agents (author, actors, readers) in the narrative events', and user involvement in the narrative). The medium, in her view, can be considered 'narratively relevant if it makes an impact on at least one of these domains.'

Another important discussion is the relation between genre and medium. Ryan believed that media depending on their affordance and limitations (i.e. material substance and mode of encoding) are invisible. Similarly, Mersch suggested that medium is hiding through the process of mediation, while genre use conventional limitations to 'optimize expression and facilitate communication.'[503] Ryan proposed a media typology based on two criteria: first, *affordances* (possibilities) of media in transmission, presentation and experience of narrative message, and, second, distinguishing *features* of media – these features includes a) 'senses being addressed,' b) 'priority of sensory channels,' c) 'spatio-temporal extension,' d) 'technological support and materiality of signs,' e) 'cultural role and methods of production / distribution.'[504] Considering these media features, Ryan chose spatio-temporal extension and sensory dimension as the primary factors in the categorisation of media. In this respect, her table of media types have three levels of indicators; initially temporal, spatial or spatio-temporal distinctions, secondly, number of channels (one channel, two channels, multiple channel), and thirdly sensory dimension (linguistic, acoustic, linguistic-acoustic, visual/static, visual/kinetic, and acoustic-visual (kinetic)). [505]

In her chapter of the book entitled 'Story/World/Media: Tuning the Instruments of Media Conscious Narratology' (2014), the addition that Ryan has made to her classification of media types is based on three criteria, *semiotic substance*, *technical dimension*, and *cultural dimension*.[506] She advocated the notion of Ludwig Wittgenstein's 'family-resemblance' and believed that it can be used to as a technique to identify the family features of medium types. According to Rayan, the semiotic substance includes 'categories such as image, sound, language, and movement' and the media examples in these categories are artistic expressions, e.g. music, painting, sculpture, and oral verbal art.[507] The technical dimension encompasses 'any kind of mode of production and material support,' having technologies or technical dimension, and the media examples she mentioned include, film, TV, and photography.[508] The cultural dimension,

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[503] Ryan (2003) distinguished between genre and medium and stated that '[g]enre differs from medium in that it is a form that is purposefully chosen with its limitations in order to evoke expectations and streamline signification, and medium is a form that is chosen for its affordances (strength) while its limitations are obstacles to be worked around.' Media 'support a variety of genres.'

[504] Ryan (2003)

[505] Ibid

[506] Ryan defined her method in categorising media as a bottom-up approach, which in contrast to an 'analytical approac' that takes 'a top-down method to determine media by applying certain criteria' and claimed that her approach takes a departure from the 'media categories informally used in Western cultures' (p.29). To my understanding, what she referred to is a matter of forms of reasoning (inductive/deductive or retroductive/abductive), and she has not specified what are her model or pattern of bottom-up categorisation, which appears technically that her categorisations ended up as top-down schemas.

[507] Ryan, 2014: p. 29

[508] Ibid, p. 29-30

according to Ryan, is 'the public recognition of media as forms of communication' and 'the institutions, behaviours, and practices that support them.' [509]

Eric Kluitenberg: Media as imaginary machines

Eric Kluitenberg[510] proposed the concept of imaginary media during 2004 at the De Balie centre for culture and politics in Amsterdam, in his work entitled 'An Archaeology of Imaginary Media.'[511] He defined the imaginary media as 'machines that mediate impossible desires.'[512] He has a media archaeological approach, that examine media apparatus in historical context. In his project, Kluitenberg observed that the emerging media genres revolve around 'unattainable' desires. He described it as

> […] a desire to overcome the separation of ordinary life from the aspired but unattainable mode of being (hence an impossible desire), and the projection of this desire onto evolving generation of media apparatuses (hardware and software).

> (Kluitenberg, 2014: p. 100)

Kluitenberg questioned the 'recurrent waves of media frenzy' and 'the unceasing quest for the ultimate communication medium.'[513] This quest can be problematic in the first place, since there could be no 'ultimate communication' to have ultimate medium for it. This again relates to the ontological view on the nature of human beings. In other words, imaginary media are 'constructs that emerge in the interplay of what is imagined and what is actualized in media and technological development.'[514]

> Imaginary media can be purely imaginary constructs, non-existent objects or systems, symbolic markers or allegorical representations of substances or processes that are difficult or impossible to capture. Imaginary media can, however, also be actually existing machines. In the latter case the imaginary is not so much in the machine itself as in its signification, in everything that is ascribed to these machines by the subject, the user, the producer, the consumer, the marketer for different (conscious and non-conscious) reasons and purposes.

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[509] Ryan, 2014: p. 29-30

[510] Eric Kluitenberg in media and culture theorist at the Institute of Network Cultures at the Amsterdam University of Applied Sciences and lecturer at the Art Science Interfaculty in The Hague. His contributions include *The Book of Imaginary Media* (2006), *Delusive Spaces* (2008), *The Network Notebook Legacies of Tactile Media* (2011), and *Techno-Ecologies* (2012) among others.

[511] Kluitenberg, 2014: p. 100

[512] Ibid

[513] Ibid p. 101

[514] Ibid

The justification for the development of imaginary media, in Lacanian formula is a 'lack,' a desire, which is a purposefully designed.[515] A desire to provide a solution to the lack. The dilemmas between interior and external realities, brings one to a 'sensation of a terrible lack of unity, coherence, and equivalence' and the fragmentation, disunity and alienation brings about 'futile attempts' to steer away from this anxious reality.[516] Kluitenberg deduced that in 'technologically saturated societies' the 'technological objects become powerful projection surfaces' for phantasmatic escape from this existential fragmented reality similar to anything or process that 'can become the object of such phantasmatic projections.'[517] Accordingly, the imaginary media becomes 'phantasmatic machines that displace such impossible (existential) desires.'[518]

As these desires folded in a more complex relations, the unattainable desires become a 'powerful motor for the development of new generations of lineages of media machines.'[519] The imaginary media are deeply attached to 'existential human desires and anxieties,' they 'displace the fear of solitude, darkness, and death, the separation in distance and time,' the limitations of body, and 'divisions of class and gender' among others, to 'populate a universe of dreams.'[520] Kluitenberg moved beyond the expression of McLuhan's conception of media as an extension of the human body, and believed that media are extension of human desires.

> [… The] imaginary media can be seen then as an invitation to regard media as the extension of human desire, not merely the extension of the physical body, the nervous system, and the brain – the ultimate desire to overcome inherent limitations of human existence by means of technology.
>
> (Kluitenberg, 2014: p. 102)

In his definition of imaginary media, Kluitenberg took into account three elements of communication, the role of producer, imaginary text and the association of user with the imaginary media. In his elaboration of imaginary media with reference to app he explained that

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[515] Kluitenberg, 2014: p. 100

[516] Kluitenberg believed that the 'sensation of a lack, in the Lacanian understanding, emerges out of the unsuccessful attempts of the subject to construct an equivalence between the contradictory emanations of the subject's body's internal apparatuses and drives, the exterior specular images the subject uses to construct a coherent self-image, and the articulations in a pre-existing symbolic system that the subject is born into' (Kluitenberg, 2014: p. 101-102).

[517] Kluitenberg, 2014: p. 102

[518] Ibid

[519] Ibid

[520] Ibid

[t]he imaginary in apps is not just suited in the stated purposes of the producer of the app or the marketing apparatus that has been built around it (delivering impossible promises), but also resides within the significations that the users ascribes to the app or device. [...] for both prospective as well as actual users.

(Kluitenberg, 2014: p. 108)

Thomas Mock: Typology of medium conceptions

Thomas Mock,[521] in his 2006 article entitled 'Was ist ein Medium,' analysed theories of German scholars in the field of communication and (mass)media studies.[522] He examined their conceptual definition of medium. Mock categorised the types of media conception, without proposing new theory or definition of medium. Based on his analysis, subsequently, he developed a typological map of medium conceptions, and introduced two broad categories: one, *medium as means of communication* (Medium als Mittle von Kommunikation), which is divided into three sub-categories of Medium as a means of perception (Mittel der Wahrnehmung), medium as a means of understanding (Mittel der Verständigung), and medium as a means of dispersion/distribution (Mittel der Verbreitung); and two, *medium as a form or mode of communication* (Medium als Form von Kommunikation).[523]

He believed that this schema can help researchers to locate precisely their conceptual definition of media on the one hand. And on the other, the dispute over the primary or secondary media conception can be resolved. In this way, the concept of medium can be modified according to the nature of research. Although Mock tried to remain neutral in elaborating the thoughts and reflect a bird's eye view on the subject, there are several evidences that his analysis of the concept of medium is influenced by communication traditions.

> Grundlage jeglicher kommunikations- und medienwissenschaftlicher Bestimmung von »Medium« ist die Beobachtung, dass Kommunikation notwendig eines Mittels bedarf, durch das hindurch oder mithilfe dessen Kommunikation stattfindet; in diesem Sinne gibt es keine unvermittelte Kommunikation. »Medium« in diesem Zusammenhang ist [...] eine Bezeichnung [...], mit deren Hilfe sich Kommunikation »herstellen« lässt. Medien sind das, was zwischen die Menschen tritt und sie miteinander verbindet.

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[521] Thomas Mock is independent writer and visiting lecturer at the university of Leipzig.

[522] Mock has analysed more than thirty-five literature, which are not mostly translated into English. His overall reference book is more than seventy. He turned the central question of his article, *Was ist ein Medium*, what is media, into the question of 'wovon ist die Rede, wenn von ‚Medium' die Rede ist?,' what do (German-speaking scholars) mean when they talk about 'medium'?.

[523] Mock, 2006: p. 195

This dispute can be traced in Shannon's media theory (mathematical definition of communication theories), in which media is viewed as a channel of communication process. Mike Sandbothe,[524] who introduced a new wave of pragmatism in media philosophy, distinguished between three media conceptions, including: the *sensorial perception* medium, the *semiotic communication* medium, and the *technological* medium.

> 1) die sinnlichen Wahrnehmungsmedien wie Raum, Zeit, Körper, die Sinnesorgane etc.
> 2) die semiotischen Kommunikationsmedien wie Bild, Sprache, Schrift, Tanz, Theater, Musik, Architektur, Skulptur etc.
> 3) die technischen Verbreitungs-, Verarbeitungs- und Speichermedien wie Schriftrolle, Buchdruck, Fotographie, Radio, Film, Fernsehen, Internet etc.

(Sandbothe, 2013)

Sandbothe's classification correspond to Mock's categorisation of media concepts. These various conceptions of media, however, cannot help us to clarify the nature of media. As Grossberg rightly pointed out, various classification confirmed the disagreement on the acceptable theoretical paradigms in the field of media studies rather than clarifying the central question of contemporary mediation.

Dieter Mersch: Negative Media Theory

Dieter Mersch[525] is a German media theorist, who proposed the 'Negative Media Theory.' In his 2006 book, *Medientheorien zur Einführung*, Mersch attempted to theorise media with a philosophical-historical perspective. He analysed Plato's and Aristotle's conception of media and elaborated, respectively, the thoughts of Lessing, Herder, Hegel and Nietzsche up to Marxist and the Canadian school of media theories. Besides that, he critically reflected on modern continental philosophers. Mersch's critical approach in analysing the theories paved the way to prove his negative media theory. For instance, he interpreted the Aristotelian conception of medium, as a negative effort to define mediality.

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[524] Mike Sandbothe (b. 1961) is a German philosopher and professor of media and culture at Ernst-Abbe-Hochschule Jana. He is among the co-founders of branch of 'media philosophy.' His philosophy inclines towards pragmatism. He is the writer of *Pragmatic Media Philosophy* (2005), *From Pragmatist Philosophy to Cultural Politics* (2013) and many article and lectures.

[525] Dieter Mersch is a Professor for Media Theory and Studies and also Director of the Department for "Media and Arts" at the University of Potsdam. His publications include, *Umberto Eco zur Einführung* (1993), *Was sich zeigt: Materialität, Präsenz, Ereignis* (2002), *Ereignis und Aura: Untersuchungen zur einer Ästhetik des Performativen* (2002), *Die Medien der Künste: Beiträge zur Theorie des Darstellens* (2003), *Medientheorien zur Einführung* (2006), Posthermenutik (2010), Tertium datur: Introduction to a Negative Media Theory (2013).

»To metaxu« bezeichnet dann das Unbestimmte als einen eigenschaftslosen »Zwischenraum«, welcher schließlich in den scholastischen Aristoteles-Kommentaren des Mittelalters mit dem Ausdruck »Medium« belegt wurde. Ohne Medium sieht man nichts: Die Wahrnehmung erfordert die Medialität eines anderen Elements, das allerdings weder der Wahrnehmende noch der wahrgenommene Gegenstand sein kann, so wenig wie ein »Nichts«, sondern solches, woran Sichtbarkeit entspringt und wovon Aristoteles keinen Zweifel hatte, dass es exisitiert. »Medium« und »Medialität« entdecken sich hier *negativ*, als etwas, das eine konstitutive Funktion erfüllt, aber ohne Kontur bleibt […]

(Mersch, 2006, p. 19)

The paradigmatic orientation of Mersch is critical in nature based on the way he approached rethinking media theories, philosophy of communication and language. In his explanation of his theory he stated that '[e]very effort of a negative theory of media is based on risking the impossible to somehow extract such exhibition of its own mediatization and becoming the visible medial in itself as medial.' [526] This reflection on his own theory can be informed by critical paradigm. He believed that nature of media 'cannot be analysed precisely,' a fact that is reflected in the indefinite concept of medium itself.[527] By distancing himself from the fact that media, as a reality, cannot be understood, he firmly positions himself having a critical ontological orientation. Mersch characterised the ontology of media by its obscuring and producing 'mediating effects.'[528] In other words, media loses their 'appearance' by making '*something* appear,' 'their presence has the format of an absence. He criticised theories of media based on materiality of medium or product of mediation.[529]

Mersch reflected on the rationality of Hegel on 'the concept of "concept" in order to unfold as much as to observe it'[530] and yet argued his negative media theory from such observational rationalism. He believed that the 'concept of medium is equivocal,' there is 'no exact point of reference' and there is an 'absence' in media's 'presence'.[531] He suggested that

the word "media" refers to something that *holds the centre* and is therefore neither one thing nor the other, neither something given or something mediated, transferred or transformed because it itself is lost in the process of mediation. No mediation can mediate its own conditions or for that matter its materiality and structure – this is the culmination of the medial paradox.

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[526] Mersch, 2013: p. 207
[527] Ibid, p. 208
[528] Ibid
[529] Ibid, p. 209-210
[530] Ibid, p.209
[531] Ibid, p. 208

He proposed the notion of 'mediality' instead of the concept of media. By this strategic shift in the syntax − from a noun *media*, to another noun *mediality* − Mersch tried to distance from the materiality and technological connotations and myths associated with the concept of media. The notion of *medial* as an adjective [meaning located in the middle, especially of the body or of an organ] turned into a noun by the suffix of −*ity* [used to form abstract nouns, from adjectives referring to the quality, or state of conforming to the adjective's description, i.e. compare real and reality]. Nouns made by suffix −ity are 'uncountable.' This in a way, can solve the confusion on the singular or plural use of the term media.

The concept of 'mediality' has an action-oriented association, attached to the Western ideas of 'productivity.' Mersch in his elaboration of the concept of 'mediality' explained that this concept should be understood in 'the sense of the structure of the medial,' the 'structure that shows what "media" create, represent, transfer, or mediate.'[532] He believed that 'medium' is not an 'adequate object of inquiry' and instead 'one should look at the underlying materialities, dispositives and performances that accompany medial processes.'[533]

Mersch's concept of mediality has three associated dimensions: *abstractness*, *uncountability*, *progressiveness*. The major indicators include *media creation*, *representation*, *transfer*, *mediation*, *underlying materiality*, *dispositive* and *performance* of media process. Mersch's Negative Media Theory is constructed on his conception of mediality, and the series of other structurally related concepts, which explain the 'characteristics of the medial itself' and argue for irreparable 'negativity of media process.'[534] He believed that these medial features can only be described negatively, 'with a series of negations that constantly state what these are not.'[535] His negative media theory is informed by Hegel's notion of negativity of mediation, 'constantly "disintegrating centre" in the process of mediation.'[536]

As this theory suggests, the mediality, as it disappears in the presence of the mediation, one cannot understand the mediality through their product or mediation. Mersch believed that, 'a theory of "media" in the sense of a study of their specific "mediality" can at best only works indirectly, as it were, looking at it "from the side"'.[537] He believed that in the field of mediality, 'it is a matter of external structures that shape

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[532] Mersch, 2013: p. 208
[533] Ibid
[534] Ibid p.208-9
[535] These features can be functions, materiality or structure of signs, moments of positioning, corpus of embodiment and limitations, form of symbolic orders, points of origin and performances (Mersch, 2013: p. 209).
[536] Mersch has used this notion which is mentioned in the second part of Hegel's Wissenschaft der Logik.
[537] Ibid, p. 209

perception, thinking and action and thereby remain antecedent to all reflection and determination.'[538] He put that a theory of media is only possible through 'a mediation that produces its own effects and practices, its structures and materiality on the process of observation and simultaneously denies them.'[539]

According to Mersch medial may partly constitute the mediated, however, it does not 'form its constituent.'[540] This idea implies the separation of media from mediated *forms*. By understanding forms of media, one cannot directly comprehend the medial. Mersch believed that any 'positive definition of mediality' fails. The media, which disappear to present the mediation, is paradoxically 'deciphered' from its products. In reality, 'no medium can communicate its own mediality,' therefore, using the mediation product one must go beyond what is obvious. The negative media theory grounded itself in a critical perspective of understanding media and openly suggests that 'the structure of the medial cannot be that which is mediated.'[541] Addressing the complexity of negative theory of media, Mersch proposes language as a methodology.

> The philosophy of language therefore cannot discover language directly (as philosophy of media cannot discover media themselves), but only traces of such modifications, and one has to constantly move and displace language in order to tease out different, surprising and unexpected channellings, just as in the case with the mediality of media.

> (Mersch, 2013: p. 211-2)

This comparison of the complexity of language and media, as hidden and unnoticeable phenomenon, inspired Mersch to use language models used by Derrida, Heidegger and Wittgenstein to reflect on mediality of media. For him Derrida's deconstruction approach is a clear way to move beyond visible and trace the invisible. Mersch believed mediality is

> […] indeterminability from which one can only make new sketches whose delineations, coming from the side and intervening in the structure involved, inventing leaps and contradictions, which attempt to tackle the paradox of medial, its disappearance at the moment of appearance, using medial paradoxes to literally tease it out of the reserve, to challenge it, break it open and expose the contours which stubbornly hide in the appearance of things that are not only technically perfect.

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[538] Mersch, 2013: p. 209

[539] Mersch believed that this very reason may have led to a 'media a priori' in media philosophy and called it 'unfortunate' since 'it evokes a "media idealism" that in turn creates an antinomy that makes one see the defining and the defined according to the same schema, that is, to posit and at the same time to lose the medial as the undefined' (p. 209-10).

[540] Mersch, 2013: p. 210

[541] Ibid

Mersch implemented 'anamorphosis' as a method. He metaphorically referred to this technique, which is introduced by Roland Barthes 'diversifying critique' for 'an operational principle for textual strategies,' as a way to 'view from the side.'[542] This technique go beyond 'the text or the interpretation from the exterior and subject it to the personal projections of the reader' to 'a reading of the dispersions of the dispersions and repetitions that reveal the mechanism of its organisation (one could say mediality) with constant reading.'[543] This methodological approach can benefit from a series of techniques from 'interventions, disturbances, obstacles, the reversal of structures, the extreme slowing or acceleration of time, the doubling up of or iteration of signs, amplifications exploited to obscenity.'[544] Mersch believed that these 'strategies' cannot be 'listed individually' and must be 'discovered anew.'[545] The negativity of media, which make it 'close and indeterminable' can, nevertheless, be reflected via use of 'medial paradoxes.'[546]

There are various criticisms on Mersch's negative conception of media. Grossberg believed that the logics of negativity, as 'poststructuralist efforts to deconstruct or fragment,' 'defer,' and destabilise realisations.[547] The theories sets in forms of 'dialectics, contradiction, absence' are 'unable to define itself'.[548] Accordingly, the unspecific and undefined negative conception of media cannot function as an analytical tool with agencies, indicators and articulation in media research project. Nevertheless, Mersch's Negative Media theory, ontologically affirms the failure of technological deterministic approaches in conceptualisation of media. Mersch's conception can open up an opportunity for setting complex socio-cultural or temporal-historical relations in definition of media.

Lawrence Grossberg: Media as mediation process

Lawrence Grossberg,[549] in his 2010 book entitled *Cultural Studies in the Future Sense*, argued that the concept of 'culture, media and the popular […] have to be rethought in response to the historical specificities and changing empirical realities of the context.'[550] In chapter

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[542] Mersch, 2013: p. 215

[543] Ibid

[544] Ibid, p. 216

[545] Ibid

[546] Ibib, p. 216

[547] Grossberg, 2010: p. 580

[548] Grossberg (2010) believed that 'The logic of negativity is a theory of sets in which a set cannot be a member of itself. The result of this act of exclusion is the construction of a boundary that marks the necessary existence of a constitutive negation, although different versions of this logic may understand constitution differently (as simple negation, dialectical negation, productive negation, etc.). The result is always the space of a set which is unable to define itself.' (p. 580).

[549] Lawrence Grossberg is a cultural theorist. His mentors are Jim Carey and Stuart Hall.

[550] Grossberg, 2010: p. 19

four of his book, 'contextualizing culture: Mediation signification and significance,' Grossberg interrogated the conceptual relationship between 'mediation, affect and the cultural.'[551] He positioned the real concern of cultural studies as 'contexts' and 'conjunctures' by studying 'relations,' 'contextual' and 'historical specificity.'[552] He held that, cultural studies are 'understanding the present in the service of the future' and are contextual and conjunctural practices.[553] In his cultural studies approach, informed by critical paradigm, Grossberg criticised attempts 'to find the universal in the concrete,' since he believed 'the concrete is not an occasion for philosophizing' and the cultural theory must be 'in the service of the concrete, enabling one to produce the concrete in more productive ways.'[554]

Grossberg defined the 'cultural' as 'discursive expression and affective mediation' and used two central concepts of 'the media' and 'the popular' in order to organise the 'cultural field' and 'work of culture.'[555] He primarily criticised the lack of contextualisation in definition of media and conceptualised mediation in relation to the cultural, affective logics and discursive formations.[556] Grossberg examined the 'new urgency' of culture as 'a new field of investigation' in post-World War II.[557] He believed that the culture became 'the most important domain shaping people's lives and their understandings of the worlds' during the Cold War.[558] In a way culture turned out to be an alternative to the alienated field of philosophy, which primarily questioned the meaning of the world. He argued that culture 'as material practice' is displaced into 'culture as meaning, aesthetics, and textuality' that produces 'the ideology of ideology.'[559]

Grossberg highlighted the 'extraordinary growth' of media and culture during the Cold War decades and argued for the centrality and omnipresence of the culture, the 'mediated nature' and the 'representational aspect of power,' the 'cultural construction of all of human reality.'[560] He believe that culture has been reshaped in favour of

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[551] Grossberg, 2010: p. 531-571

[552] Ibid, p. 486-487

[553] Grossberg believed that the 'contextualization' involves the 'forms of embeddedness and disembeddedness' which are 'not only articulatory – constituted through networks of relations and affiliation – but also machinic – produced through the agencies and apparatuses of the world-creation' (p. 488).

[554] Grossberg, 2010: p. 16

[555] Grossberg (2010) identified 'the cultural as apparatuses of mapping that depend upon the construction of others' (p. 489). He put that the cultural is not 'distinct and separable from some notion of a social or material reality but as an organization and distribution of affects (intensities) within and across the social formation' (p. 490).

[556] Grossberg (2010) believed that the central 'disability to recognize the changes in the operation of culture and the popular is due, in part, to the decontextualised ways in which the concepts of the popular and the media have been used' (p. 490).

[557] Grossberg, 2010: p. 490-491.

[558] Ibid, p. 504

[559] Ibid

[560] Ibid, p. 504-507

'economic liberalism,' through which 'people construct themselves as responsible (economic) individuals.'[561] The people of the twenty first century, in his view, see themselves 'reflected' in the discourses of economics, rather than the 'domain of culture.'[562] In other words, the economic is becoming the 'ground' of the 'lived experience of the world.'[563] The central concepts, which shaped the contemporary culture, in his view, are *the popular* and *the media*. He re-examined the relationship between the popular culture and the expansion of mass media and the development of media studies alongside the cultural studies. He raised the criticism against these two formations as they are 'commonly equated' and argued for the unique identity of each field. [564]

Besides that, Grossberg posed critique on the evolution of media studies. He argued that, firstly, the media studies 'misread the cultural studies as a theory of media' since it failed to recognise the 'contextual nature' of the cultural studies.[565] He believed that the media studies failed to contextualise the object of its study (limited to text/content and audience/user, production and reception, 'textuality and sociality') and relied on 'universal definitions,' methods and 'decontextualized set of concern.'[566] Secondly, media studies less concerned with the 'general problematic of mediation,' but emphasised the 'unity and specificity of diverse media of communication,' by having in mind the 'mass communication' and ignoring 'pre-electronic' and 'non-mass distributed forms of communication.'[567] Accordingly, the media played the role of means of communication and sensorium technological entity. Thirdly, media studies often assume 'the media' as stable and static concept, as if the content is the only change, rather than a dynamic and fluid notion.[568] This idea will support the negative concept of media proposed by Mersch. Furthermore, media theories and the categories of media remained

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[561] Grossberg, 2010: p. p. 514

[562] Ibid, p. 643. Grossberg stated that if 'in the eighteenth and nineteenth centuries, to be human was to be cultural (as in post-Kantian philosophy), or, in a different tradition, political – and in the postwar era, to be human was to be communicative – in the contemporary conjuncture, to be human is to be economic' (p. 522).

[563] Grossberg stated that if 'in the eighteenth and nineteenth centuries, to be human was to be cultural (as in post-Kantian philosophy), or, in a different tradition, political – and in the postwar era, to be human was to be communicative – in the contemporary conjuncture, to be human is to be economic' (p. 522). Grossberg (2010) believed that 'some economic apparatuses are functioning according to affective logics that enable them to be increasingly articulated to the popular, so that then the economic expands its ability to realize or articulate the virtual into the actual' (p. 644).

[564] See Grossberg, 2010: p. 589

[565] Ibid, p. 591

[566] See Ibid, p. 610

[567] Ibid, p. 591

[568] Grossberg (2010) criticised media researchers for taking for granted 'the obviousness of the organization of media and popular formations, as well as how they are inserted into and operate within larger formations and contexts, enabling them to assume the nature of the object.' In his view this resulted in considering 'as if the object – media – has both not changed and has changed completely, enabling them to focus on the perpetually new – participatory culture, embodiment, virtual reality – even while the questions remain the same' (p. 610).

largely unchanged, which cannot correspond to the contemporary practices.[569] Fourthly, the temporality and changes are marginally conceptualised and the 'either the old simply reproduce itself, or the new simply replace the old.'[570]

Grossberg, highlighted the fact that the notion of a medium is usually treated as 'technology (or specific configuration of technologies),' 'a commodity or a cultural industry,' 'a format protocol, or logic of coding,' 'a thematic of content,' 'a sensorium or sensory economy (most commonly, oral, print, and electronic, or more recently, the distribution into visual culture and sound culture)' or 'infrastructure (e.g. commoditized, wired, broadcast, cable and wireless)'.[571] He believed that the notion of media in each of these articulation is not fundamentally interrogated and conceptualised, and the frequent technological approaches raises the 'controversial claim of determination' and rejects the idea of 'mediation' and 'intermediate agency.'[572] He believed that the objects of media studies did not aim to study 'the media *qua* media,' rather 'whatever can be brought under the sign of media' ('particular instances, episodes, icons, events, programs, genres, sites, forms, codes, etc.').[573]

Grossberg believed that the concepts of media as technology or as content are 'modalities of articulation creating environs or organizations that define the allowable logics of discourse and mediation.'[574] He believed that the Canadian school of 'medium studies'(e.g. works of Innis and McLuhan) truly reflected a holistic view about 'the media' and located them within a 'broader cultural context, an environment within which life itself is organised.'[575] Grossberg believed that media 'set the shape, pace, rhythms, and topography of social life; they define space and time.'[576] He believed that in the contemporary context we cannot articulate (and have no meaning) to 'say that something is a medium.'[577]

Grossberg raised ontological question about the origin of media and their distinctive features which distinguish them as mediating and 'affective apparatuses.'[578] He concluded that

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[569] Grossberg (2010) highlighted that 'the media are themselves constituted by and within changing contexts' (p. 618). He believed that 'the salience of the category of media as a central tool form making sense of what is happening cannot be taken for granted' (ibid).

[570] Grossberg, 2010: p. 610

[571] Grossberg believed that '[r]arely are the possible or actual articulations among these different understandings of a medium interrogated, and even more rarely is that interrogation contextualized' (Grossberg, 2010: p. 596).

[572] Ibid, p. 595

[573] Ibid, p. 596

[574] Ibid

[575] Ibid, p. 632

[576] Ibid

[577] Ibid, p. 631

[578] For instance, Grossberg (2010) questioned 'how the "media" themselves are produced, in the contemporary conjuncture?' 'how is the specificity of a medium constituted?' and whether 'is its

we will have to stop thinking about *the* media or about media worlds, and to interrogate worlds that are mediated in ways that we have yet to conceptualize. […] we bring "the media" back to the cultural, and ultimately to the question of mediation itself.

(Grossberg, 2010: p. 637)

There are various terminologies which are used by Grossberg to represent the contextuality of media, e.g. 'field of media,' 'spaces' of media, contemporary 'media environment,' and 'media event.' In his view, defining media in terms of mediation is the best solution to the contemporary deficit of a comprehensive theoretical and conceptual framework in media studies. He proposed that the mediation is significant in understanding the culture.[579] Unlike the negative concept of media proposed by Mersch, Grossberg believed that the mediation affirms the 'positivity,' 'reality' and 'multiplicity of mediation itself.'[580] In his view the mediation cannot be simply reduced to the 'signification and representation,' since these are two 'modes' of discursive mediation.[581]

Grossberg defined mediation as 'non-linear causality' 'movement of events or bodies from one set of relations to another as they are constantly becoming something other than what they are. It is the spaces between the virtual and the actual, of becoming actual.'[582] In this sense, the mediation, is viewed as a positive dialectic of 'becoming.' He considered affect as the 'energy of mediation.'[583] Grossberg offered a theory of affect as 'a complex set of mediations/effects' that are 'a-signifying,' 'non-individual,' 'non-representational' and 'non-conscious,' although they can produce 'signification,' 'individualities' 'representational forms,' and 'forms of consciousness.'[584]

It appears that his definition of mediation in relation to the cultural and affect can benefit a holistic theorisation of media. At this juncture, a review of post-medium theories is recapped briefly in the following and it is argued that Mersch and Grossberg critical approaches and cultural articulations of media can benefit theorisation of the contemporary mediation sphere.

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distinctiveness technological, or as a system of representation, or as a system of consumption, or as a structure of experience?' (p. 636).

[579] Grossberg, 2010: p. 545

[580] Ibid

[581] Grossberg believed that the 'discourse can produce many different kinds of mediations or effects, and these effects can then be articulated to many different uses' (Grossberg, 2010: p. 551).

[582] Ibid, p. 550

[583] Ibid

[584] Ibid, p. 556

Critique of 'new' technological approaches (computer-based) in Post-Medium Theories

The post-medium theories, which are reviewed in the previous section, can be divided into three categories. In the first type of theories, technological evolution (with central reference to computer and digital information technology) is considered as a base for building media conceptions, highlighting the content and production aspects of mediation. In the second category, the reception of mediality is emphasised, and the relation between human body and senses, medium and textual representations are investigated. In the third category, media are contextualised according to temporal and cultural dynamics, advocating a holistic view about mediation.

The technological definitions of 'new media,' with respect to computer attributes (hardware and software), are dominant in the post-medium theories. The range of computer-oriented properties associated with media conceptions are quite vast. The deficit of terminologies in the field sanctioned the use of computer science alluring conceptions. Besides the notions of the 'new media,' and 'computer-based media,' the very immediate concept, which gained quite huge popularity to explain the contemporary mediation, is '*digital* media.' 'Interactive media' is another widely used conception among practitioners. Hypertextual and virtual media are also fairly used to define the contemporary media.

Besides these lines of terminology, some scholars, for instance Kittler, highlighted that the *processing* attribute of computers are more significant and central to the changes in new mode of mediality. Some scholars, for instance Manovich, have conceptualised this processing attribute in the context of *software*, which is sensitive to socio-economics dynamics. Conceivably, the notion of *memory* plays a more important role in the process of mediation than the digitality and software attributes. Similarly, the widely-used notion of *interfaces*, as a technical concept, brings a sense of secondary in betweenness forms of mediation.[585] Three significant myths associated with the contemporary concept of mediation are 'new,' 'digital,' and 'interactive.'

'Newness' is a recurrent conception in the course of modern history of media. Reviewing the literature in the early twentieth century reveals that every emerging medium is termed as 'new media.' For instance, Balázs called cinema as 'new media' back in the 1920s or television is widely termed as 'new media' during the 1960s. This new quality of media is quite different for academicians, journalists or other social institutions.[586] It would be insightful to investigate possible origins of the thought of

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[585] Debray (1996) interestingly addressed the discourse around prefix of inter- and believed that '[o]ur province is the intermediate or intercalative, because we are much given to the intervals, intercessors and interfaces of transmission. But with the prefix inter- designating as it does an order of realities invariably secondary in relation to the terms it fits together, we have preferred instead the Latin suffix –ion, -io betokening action or process, here of technology-culture interactions' (p. 12).

[586] See Lister & et al., 2003: p. 9

'newism.' The idea of 'newness' and the concept of 'new,' which here is associated with the new mode of mediality, more than any other time in history, is associated with modernism. Any media of modernity, accordingly, reinforced the myth of newness. Interestingly, the conditions of newness are closely associated with the evolution of technologies. As if a 'new' technological order can foster a 'new' sublime state, which is against the unpleasant 'old.' 'New' media is viewed more liberating, more democratic, and more social, inter alia, as the 'old' media. It is quite interesting to review the texts written about the socialising effects of 'new' medium of television back in the mid-twentieth century, until the rise of propaganda theories.

The disadvantage of using the concept of 'new media' in the field is that the results of any 'new media research' can be used, without questioning how 'new media' have been defined in the first place. The mushrooming of various types of media neologism is partially due to this 'newness' discourse in the field. Every discipline tried to conceptualise those aspects of mediality which appeared to be important to their studies, for instance, media-art historians are in favour of the notion of digital-media, social scientists are inclined towards interactive-media or social-media, computer scientists are preferring computer-based media terminology, big-data analysts support conceptions of media as software, etc.

Some theories of 'new media' are built on the hypothesis that 'the functions, significance, and effects of earlier media' are re-mediated.[587] In this respect, the conceptions such as 're-mediation,' 'multi-media,' 'meta-media' (or as Mersch believed 'dia-media' instead of meta-media[588]), gained currency calling the new condition as the amalgamation of all the existing mediality. The question may arise here is how mediation transforms and can we understand the complexities of mediation formation in terms of re-mediation? The observation of Meyrowitz, who defined media in terms of environment, is quite noticeable.

> When a new factor is added to an old environment, we do not get the old environment plus the new factor, we get a new environment. The extent of the "newness" depends, of course, on how much the new factor alters significant forces in the old system, but the new environment is always more than the sum of its parts.
>
> (Meyrowitz, 1985: p. 19)

The widely-used conception after 'new media' is 'digital media.' This notion is specially supported by those who are concerned primarily with the products and contents of media. There are various criticisms on the issue of calling an entire media system as digital. Manovich observed that the digital media is associated with three

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[587] Meyrowitz, 1985: p. 19
[588] See Mersch (2010b)

closely associated notions of 'digitization' (converting analogue to digital mode), 'common representational code,' and 'numerical representations.'[589] Manovich believed that digitisation is not as significant as numerical representations, in turning the 'media into computer data,' and consequently chose the 'numerical representation' as his first principle of new media rather than the digitisation.[590] Although, it seems that both numerical and code value are the result of the processes of digitisation, he has provided no further conceptual clarification on the issue.

The digital media is conceptually understood as an opposite condition to analogue media. The '*binarism*' or 'dualistic form of otherness' ('of distinction and differentiation') is central theme in euro-modernity.[591] Although the concept of digital is used more metaphorically in reference to media, it would be insightful to review the development of digital technologies. Initially, the condition of analogue and digital signals can be discussed in the context of *transmitting* systems in an electronic circuit. The analogue signal is a mathematical concept, referring to continuous signals or waves as a function[592]/variable of time, calculated based on other variables such as amplitude, frequencies (number of cycles) and phase of cycle. The analogue signal is boosted through amplification and modulation technique, in simple terms loaded with information, to be transmitted. The analogue to digital conversion is an electronic technique or process of defining or representing the analogue signal in terms of states, in which the simple state is binary (light on or off in the circuit). The digital signal is more accurate and time-efficient for the electronic circuit. The compatibility eased by digital representations, theoretically brings storage and display in close association with transmission technology in a single platform.

The concept of digital media is limited to the technological transmitting process or the nature of digital information or data versus the analogue, which in return influences the nature of storage and display. The concept of digital media, paradoxically, is used in the context of the content analysis. It may be claimed that digitality is embodied at all levels from production to creation. The focus, however, is on the articulations of the digital text. If we define digital, as binary measurable digits, there are various interpretations associated with digitality. The euro-modernity advocates the binary articulation of oppositions, e.g. day and night, 'interiority' and 'exteriority,' value and non-value, good and bad, zero and one and so forth. Grossberg believed that the 'poststructuralist efforts to escape the binarism, to exist in between as it were, are always

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[589] Manovich (2001a) in his discussion of 'what is not new media' has extensively criticised the issues of 'descrete representation', 'random access', 'multimedia', 'digital' and 'interactivity' of media (p. 49-59). His criticism of digital media is limited to issue of the difference of the loss of information as well as the difference of copy loss quality between the digital and analogue visual media. Among them the interactivity is discussed in more depth discussion which is discussed in the next section.

[590] Manovich, 2001a: p. 52

[591] See Grossberg, 2010: p. 579.

[592] Function is a mathematical concept here $(y = f(x))$

implicated in the very diagrams they try to escape.'[593] In his view, notions such as 'hybridity, syncretism, third space,' 'in between-ness' did not provide a 'solution to the binary organization.' [594]

Although the digitisation is introduced as a new technique to electronic systems, its logics can be traced long back in history, and the immediate evidence is the mechanical systems. Early printing technology used the technique of halftone for production, which was essentially binary in nature. The binary production, that is 'any given space on a printed page is either white or black' was introduced during the 1880s.[595] This dot technique was popular in art during the 1800s. In this technique, the space of photography is broken into discrete particles, translatable into the language of binary. These binary discrete particles are given percentage bases on their density in the photograph space calculated in centimetre or inch. A denser space reveals more details of a picture. This binary logic of halftone, essentially a digital technique of production, influenced the technological base for other media devices and systems from television to computer. Monaco argued that

> the concept that underlies the halftone process – the translation of a continuous range of values into a discrete system – was to become one of the most significant and widely effective intellectual devices of twentieth century: television, phototelegraphy, telemetry, and – most important – computer technology, all rest on this basic binary concept.

> (Monaco, 1981: p. 352)

The electronic media developed halftone system, using terms *spots* in laser (spot-per-inch SPI) and *pixels* in LED screens (pixel-per-inch PPI) instead of dots on papers (dots-per-inch DPI).[596] Perhaps the difference is in the represented image of dots and pixels, namely, the former is in form of a circle and the latter in form of a square. This may make the translation of each pixel from different screen dissimilar, i.e. from screen to print, etc. Although all these types of media technology have the digital logic, the question is why the contemporary media is termed as 'digital media'? How far it is fruitful to conceptualise the media of our era based on a notion, which is the essential technique transferring the information in any mode of media? Perhaps the contra argument is that, the technique of digitality has been extended from digital production to digital dissemination, digital text and digital (re-)usages.

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[593] Grossberg, 2010: p. 582

[594] Ibid

[595] This style is first introduced by New York Graphic in 1880, which used the halftone technique and gained wide acceptance among newspapers and magazines afterwards (Monaco, 1981: p. 352).

[596] Kalliopi Monoyios, an independent science illustrator, in her 2012 article entitled Dots, Spots, and Pixels: What's in a Name? addressed the tensions between these terminologies and draw concrete examples of SPI, DPI and PPI.

The hypothesis could be what makes the contemporary media, a digital phenomenon, is its *digital continuity* in all processes of mediation. The binary language is extended to storage and transmitting levels of medium, and this continuing extension of binary language made the contemporary media an embodiment of digitality. The so called digital media of our time, is digital at production, storage, transmission and processing level. To achieve digital platform, the technique and platform is maintained the same. In other words, instead of using chemicals or electronic signals to store or transmit signals, the binary code (numerical or algorithmic) system of computer is used as a base for all these processes. Although this embodiment is important, it would be conceptually too narrow to reduce the contemporary media to digital technological entity. It can provide a practical solution to the definition of media but not necessarily an accurate one.

The reason is the reduction of the mediation to technological process, which is in course of drastic transformations. Important embodiments and contexts such as cultural, affective, social, temporal dimension of mediation cannot be reflected in the concept. Furthermore, it is an ungrounded effort to define the contemporary mediation according to few agencies, techniques, and modalities. Acknowledging the need to define media beyond technological attributes (either hardware or software) appears to be out of our conceptual comfort zone, which is conditioned to positive formulation of media situations. For many media researcher, it is preferable to find media notions as easy as television (which is used during the early years of media studies) in explaining the contemporary media. In this way, they can feel secure in knowing what media are and can deal with other 'important' issues around mediality, rather the media themselves. The truth is the dynamic nature of media as mediation (continuous state of becoming) is ignored.[597]

The understanding of technology has been extended to the whole culture. The media is viewed as 'in between' medium.[598] The definition of media is heavily influenced by the contemporary technology and the discourse of a code-able culture, inter alia. Our perception and action are both mediatised, not because of media technology, but by the cultural technology. Some scholars see digitization beyond the characteristics of technological turn and view it as a change in the overall culture. For instance, some hold that the *virtual reality* brought up a new 'safe' space to 'taste' the unknown world. Some may argue that it is changed the style of the existence, both at the level of expanding the sensory cognition, an alternative version of perceiving the world. The metaphoric use of

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[597] See Grossberg in previous section for more discussion

[598] Mersch, 2006: p. 133. He put that 'Zusammen mit der »digitalen Kultur« wird so ein Territorium abgesteckt, das ein Neues, noch Unbestimmbares markiert und worin sich unter dem Signum Neuer Medien die Elemente von Digitalität, Netzstruktur, Nichtdiskursivität und Spiel zu einem neuen Symbol von »Freiheit« verbinden' (Mersch, 2006, p. 134). He called it media as 'nicht feststellbaren Mitte'.

the digital in relation to media, nevertheless, creates huge confusions, rather than solutions.

Besides the digitality, interactivity is the most dominant metaphor in conceptualisation of mediality in post-medium theories. Manovich has distinguished between physical and psychological modes of interactivity and believed that the interactivity of new media is physical/sensorial involvement.[599] Interactivity is not a unique attribute of contemporary media. The post-media theories, particularly, emphasised the involvement of senses and performative interactivity. There are various examples of interactivity within literary and theatrical realm. For instance, the Lehrstücke (learning/teaching-plays) introduced by Brecht, known today as the Theatre *of Discovery* (a term coined by Zé Celso, a Brazilian avant-garde director) is in fact an interactive theatre play, which diminish the boundaries between the actor and audience. The printed books and literature provided an intensive psychological interactivity and freedom, and with certain techniques of indexation, provided the minimal searchability within the text.

It can be summarised that, the technological revolution of the twenty-first century revolving around computerization of every aspect of life attracted post-media theoreticians. The criticism of technological orientation in conceptualising and theorising media is that they mostly claim a universal media theory. Besides that, the technological-deterministic approach, which sees a manifestation of media technology in our identity, and believes any change in technology, changes all aspects of life: from society, culture, economy[600] closes the doors to view other aspects of mediality. Besides that, the computer-based conception of mediality are usually based on the contemporary technologies, without considering the futures of technology, which may limit the post-medium theories. There are many theories of the nature of digital media in comparison to analogue media during 1990s or early 2000s which are not acceptable based on technology available in 2017, e.g. introduction of apps and app stores, improvement of displays and projections, high range of colour spectrum and high-quality retina displays.[601] As any technology obsolete, the limited conceptual association which it

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[599] Manovich, 2001a: p. 55-59

[600] In succinct definition of media according to Canadian school, Mersch (2006) put that 'Medien erweisen sich auf allen Gebieten der persönlichen, politischen, ökonomischen, moralischen und sozialen Identiät als durchgreifend, so dass Medienwechsel sämtliche Teile des gesellschaftlichen Körpers erfassen' (p. 93).

[601] There are studies which compare, for instance, digital photography versus photography based on the early digital media theories during last decades of the twentieth century. They claim that the digital photography is more discrete and pixeled, containing less information than the continuous analogue photography, which higher information that the colour pixel are not indistinguishable. Today's digital technology provided a much further indistinguishable, yet pixlated, photographs with ten times complicated colour combination and continuity. Another example is Manovich analysis of the so called 'analogue' old- and 'digital' new-photography, he explains that the printed analogue photography lack the numerical value and the print 'represent' or 'express' the a 'whole new physical object', that is while, the digital photography is consisted on 'array of pixel color values' and a whole set of numerical 'metadata', which 'end up with what is normally called to "digital

carried, vanishes and the whole structure of a media theory can be put under question. Mark Weiser,[602] who had a visionary outlook of the future notions of smart computers, ubiquitous computing and 'calm computing', believed that metaphors, which makes the computer technology visible, cannot explain the future generations of tools.[603] He argued that the technology of mediation should not infringe the process and should remain invisible.[604] He highlighted that the 'most profound technologies are those that disappear' and 'wave themselves into the fabric of everyday life until they are indistinguishable from it'.[605] By this process, there is a space for technological evolution, without being conditioned in certain historical time.

David Holmes,[606] believed that, the 'media environments' should not be challenged 'simply by technological innovations, but at an ecological level, consisting of substantial, qualitative changes rather than incremental developments to media environments.'[607] Manuel Castells,[608] argued for an epistemology of social process in relation to the context of new technological paradigms in networked society and an information age. He refers to network society as 'the social structure that results from the interaction between social organization, social change, and a technological paradigm constituted around digital information and communication technologies'.[609] In his works, he tried to argue for larger social processes and to establish a context for new technological paradigm rather than a rigid technological determinism. He believed that via observing practices of Internet, one can find an 'entry point to understand the diffusion of networking' in the information society, similar to a historical review of 'the diffusion and uses of the electrical engine and the electric grid' in order to understand the industrial society.[610]

[new] media" – a file containing numbers which mean something to us'. In this explanation, he has oversimplified the whole process of printing the so-called analogue photography, which is essentially based on digital numerical logics.

[602] Mark Weiser (1952-1999) was an American computer scientist and the father of iniquitous computing coined in 1988.

[603] Weiser (1993)

[604] Weiser (1993) believed that 'A good tool is an invisible tool. By invisible, I mean that the tool does not intrude on your consciousness; you focus on the task, not the tool' (p. 1).

[605] See Weiser (1991)

[606] David Holmes is an Australian media scholar, social theories, political analyst, and senior lecturer at Communication and Media Studies department at Monash University. He is the author of *Communication Theory: Media, Technology and Society* (2005), *Key Concepts in Media and Communication* (2011) (with Paul Jones) and many articles.

[607] Holmes, 2009: p. 684

[608] Manuel Castells is the Wallis Annenberg Chair Professor of Communication Technology and Society at the Annenberg School of Communication, University of Southern California, Los Angeles, Information Society at the Open University of Catalonia (UOC) in Barcelona, and Massachusetts Institute of Technology. He has a noticeable contribution in the study of information network society, from economic, politics and power, to cultural and communication aspects.

[609] Castells, 2004: p. xvii. He defined a network society as a society whose social structure is made of networks powered by microelectronics-based and communication technologies (p. 3).

[610] Ibid

Opposing the ethnocentrism and eurocentrism theory of network society, Castells proposed that there are some common features of a networked society. However, cultural context and institutional environment may shape it into very different forms.[611] These are informational economy, global economy versus world economy, network economic activities, transformation of work structure, polarity, culture of virtual reality, politics on media, and timeless time and space flows.

Castells viewed informational paradigms and diffusion of technology in the wider context of social processes, cross-cultural identity, historical landscape and communication structure of a network society. He believed that 'networks process flows' and they are 'defined by the program that assigns the network its goals and its rules of performance'.[612] He considered three major features of network: flexibility, scalability and survivability.[613] Castells reflected that, networks are not a new phenomenon; rather every aspect of life is constituted by networks.[614] The industrial revolution, by constituting grounded infrastructure, such as enhanced communication and transport systems, e.g. railways, air and oceans routs, telegraph and waves signals, provided a ground for 'quasi-global network with self-reconfiguring capacity'.[615] The overall goal of those systems, however, was to produce a hierarchy and vertical/mass productions. The Central technology of our time, communication technology, made the concept of network to exhibit itself fully. This sublime approach to network analysis, however, can be put under questions after scandals about misuses of users' information for political and social formation.

Beside the techno-centric conceptions of media discussed above, there are some post-medium theoreticians who tried to establish the concept of media based on the human body, nature of reception/sensorium (specially with reference to visuals), and the mediating, 'in between' entity. These lines of theories are inclined to pre-medium theories in understanding the mediality. For instance, Hans Belting advocated Platonic approach in defining media in his conceptualisation of body, medium and image. Mark Hansen, similar to Belting defined media in terms of the relationships of body, image, and artwork, with Aristotelian approach in viewing mediality. Kluitenberg defined

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[611] Castells argued 'many visions of network society' is often 'assimilate the rise of this society to the cultural and organizational unification of a globalized world, usually reproducing the social forms and values of the United States or Western Europe' (including England, France and Germany); and societies who have developed a new model of network society has been viewed as an alternative, 'variations' or 'exceptions' (Castells, 2004: p. xvii, see also Castells (2010)

[612] Castells, 2004: p. 3

[613] Flexibility of a network can 'reconfigure according to changing environments, keeping their goals while changing their components'. Scalability can 'expand or shrink in size with little disruption'. And Survivability can 'operates in a wide range of configurations' since there is no centre (Castells, 2004: p. 5).

[614] Ibid, p. 4

[615] Ibid

media in terms of imaginary attributes. Erich Straßner[616] defined media in the exploration of the relationship between visual, text, and communication. Jussi Parikka[617] examined the archaeology of media in relation to post-humanism and insect-technology outlook. Siegfried Zielinski[618] theorised media in an historical archaeology of vision.[619]

The insightful set of post-medium theories are those which acknowledged the holistic and contextual tendencies in conceptualisation of contemporary media. For instance, Mock illustrated the broad orientations of media conception, however, without any further suggestions and treatment towards conceptions of contemporary media. Mersch has captured the negative essence of mediality. He believed that the wide range of orientations demonstrate that the media as a concept cannot be defined positively and proposed his negative media theory. Nevertheless, Mersch negative media conception make any research-based studies problematic since it cannot offer a positive framework for media. His ontological insight remains central and it is further developed based on Debray's concept of media sphere and Grossberg's definition of mediation (considering the context of discussed pre-medium, medium, and post medium theories).

Grossberg sharply criticised the notion of media as 'technology,' 'sensorium or sensory economy' or 'infrastructure, inter alia.[620] He raised ontological question about the origin of media and their distinctive features which distinguish them as mediating and 'affective apparatuses'.[621] He believed that 'we will have to stop thinking about the media or about media worlds, and to interrogate worlds that are mediated in ways that we have yet to conceptualize'.[622] In simple terms, he defined media in terms of mediation as 'non-linear' 'movement of events' from 'one set of relations to another' 'the spaces between the virtual and the actual, of becoming actual'. [623] In this sense, the mediation, is viewed as a positive dialectic of 'becoming'. Unlike the negative concept posed by Mersch, Grossberg believed that the mediation affirms the 'positivity,' 'reality' and

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[616] Erich Straßner (1933-2012) was German linguist and media scholar. He was a leading pioneer in media studies at University of Tübingen. He is the author of Text-Bild-Kommunikation – Bild-Text-Kommunikaiton (Grundlagen der Medienkommunikation) (2002), and Journalistische Texte (2000) among others.

[617] Jussi Parikka is a Finnish media theorist and professor of Technological Culture and Aesthetics at Winchester School of Art and docent at Digital Culture Theory at the University of Turku, Finland. His major areas of interests are digital art and culture, cyber culture, cultural theory, media archaeology and media theory among others. He authored A Geology of Media (2015), What is Media Archaeology? (2012), and Insect Media: An Archaeology of Animals and Technology (2010) among many related articles.

[618] Siegfried Zielinski is German media theorist, and head of Karlsruhe University of Arts and Design. He is affiliated with Media Theory, Archaeology, and Variantology of Media at Berlin University of the Arts and Techno-Culture and Media Archaeology at the European Graduate School.

[619] Media variantology refers to an interdisciplinary and cross-cultural research into media and communication theories.

[620] Grossberg, 2010: p. 596

[621] Ibid, p. 636

[622] Ibid, p. 637

[623] Ibid, p. 550

'multiplicity of mediation itself'.[624] In his view the mediation cannot be simply reduced to the 'signification and representation,' since these are two 'modes' of discursive mediation.[625] His notion of mediation as in between space contradicts his poststructural criticism. Nevertheless, his notion of mediation in contextualised and further developed as mediation sphere.

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[624] Grossberg, 2010: p. 545

[625] Ibid, p. 551. Grossberg believed that the 'discourse can produce many different kinds of mediations or effects, and these effects can then be articulated to many different uses' (ibid).

5

Aesthetics

Trans-Media Compositionality

Representational Mediation Sphere

Presentational Mediation Sphere

Mediation

Intelligent Mediation Sphere

Spheres

Intelligent Mediation

Conceptual Continuum of Media

Sphere Theory

Media Evolution

Mediality

Electronic Mediation Sphere

Mechanical Mediation Sphere
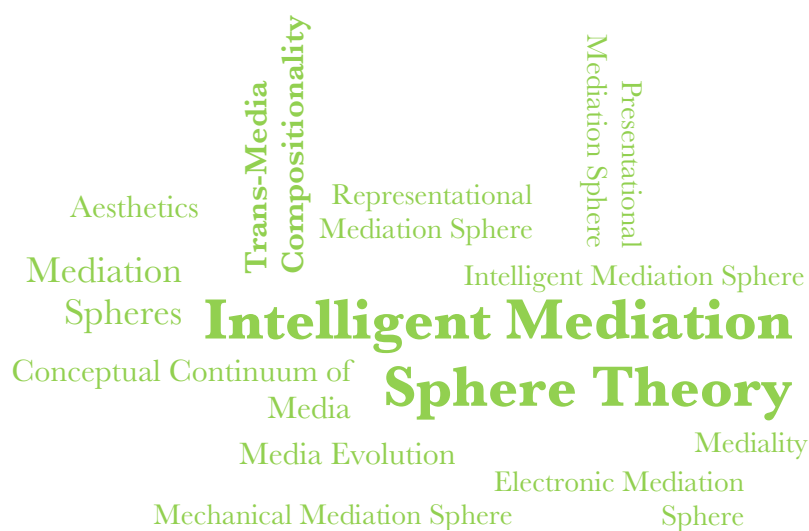
5   Towards a Theory of Intelligent Mediation Sphere

The philosophical assumptions, including ontological and epistemological approaches on mediality are quite complex. In the previous chapters, various ontological views in defining the nature of media have been discussed in detail with the respect to three eras of pre-medium, medium and post-medium theories. The aim was to rethink (new) media ontology, to map the differences in understanding media and to analyse discursively and critically the conceptualisation of media from ancient to our contemporary age. However, it was not intended to build one linear historical narrative about the concept of medium, rather the objective was to provide a wider map in order to theorise the contemporary media. As the historical overview demonstrates, despite the wide-range of lower-level media theories (plural), which address the various elements involved in the mediation process, the attempts towards theorisation of the higher-level aspect of medium (known as medium theories in singular form) are limited. The literature addressing the essence and ontology of mediality is considerably fewer than the amount of media content/effect/representational studies. In fact, the ontological perspectives are the most essential and often neglected aspects in building media theories.

To recap briefly, the pre-medium theories are oriented towards a philosophical approach, mainly defined the essence of media in respect to human existential conditions, firstly, in relation to the *divine*, secondly, to the ultimate *truth*, and thirdly, to the outer *world*. For instance, according to Zarathustra's available teaching, medium can ontologically exist as a positive condition to meditate the *external* relation of the limited human being with the unlimited divine. For Buddha, since this relation to the divine is *internal*, the medial condition is negative, in a form of de-mediation. In some world religions, such as Hinduism and Christianity, medium is associated with any form of divinity and/or mysticism. Some scholars believe that the idea of medium associated with souls, exorcism, or even ghost was dominant until the 1950s.[626]

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[626] Mersch, 2006: p. 18

In the second line of pre-medium theories, the media are ontologically defined in relation to the human being and truth. Plato believed that as the medium detach itself from the essential faculty of human beings, the distance to the ultimate truth is increasing. Consequently, he favoured dialogue over writing since the former reveals the truth. The truth for Aristotle was an empirical concern. He established a sensory-based conception of mediality and introduced for the first time the notion of medium as an entity in between the human sensory perception and the outer reality. He believed that 'In the middle of absence and presence, farness and nearness, being and soul, there exists no nothing any more, but a mediatic relation'.[627] In the third line of pre-medium theories, the relation between the media and the outer world is highlighted. In the East, the Sufi literature of Rumi and Hafiz, advocate the unity rather than discreteness of the world, they defined mediality in terms of hollow space in order to reach to the senseless inner unity with the divine and all creatures. Post-Aristotelian scholarship in the West particularly emphasised the sensory-based conception of media as Lessing and Herder attempted to identify mediality in association with temporal or spatial dynamics of senses.

Medium theories established themselves academically during the late nineteenth and the early twentieth centuries. The three lines of thoughts in medium theories are defining mediality based on expressive (or rarely aesthetic) mode of representation, the technological/mathematical (with respect to electrical transmission), and the social dynamics. The initial line of theories influenced mainly by a linguistic turn in philosophical discourses,[628] argued for new modes of temporal expression similar to language. These trends have further gained popularity with the advancement of semiotic analysis considering the product of media as the major determining factor in defining the mediality. Perhaps, the most moderate figure during the early 1920s is Balázs, who defined and articulated the mediality in terms of expressive modes as well as considering the industrial-based economic drives as important criteria in conceptualising media. Beckett is considered among the few faces who defined mediality purely based on the aesthetical relations created between elements (e.g. writers, directors, text, audience, time, space, etc.) involved in medial process.

The second line of medium theories are aligned with the expansion of technologies, which influence the dynamics of senses (especially vision and hearing). It can be argued that the media, ontologically, hold an 'in between' conceptual associations since Aristotle. Instead of physical entities, such as air, water, etc. that Aristotle called them medium of senses, the technological entities are considered to be the medium of sensations and cognitions. The degree of the usage of technological attribution as the concept varies among theoreticians. Besides that, the content and products of media are considered central to the definition of mediality. Shannon had mathematically defined

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[627] Mersch, 2006: p. 26
[628] See Mersch (2006)

the communication system with a dominant logic of message transmission, in which media are defined as channels in this process. This theory is reinforced, by the expansion of mass media during the 1960s.[629] Among the prominent figures, who academically established medium theories is McLuhan and Innis. McLuhan criticised the dominant content-centric conception of media and tried to revive early Aristotelian conceptions of media in relation to human senses. For instance, he argued that media are extension of senses. The third line of medium theories are inclined towards societal dynamics of mediality. After Innis, who theorised media in a larger context of civilizations, few scholars attempted to scale such wider contextualisation of mediation. Meyrowitz is among scholars who essentially defined media as a social environment. There are scholars who considered the communicative dynamics rather than social scale of mediality. For instance, Fiske established his basic ontology of media as the communicative relations.

The post-media theories are similarly influenced by three lines of thoughts in defining media; firstly, the 'new' technological attributes (computer-based technologies), secondly, the imaginary relations (virtual and cognitive), and thirdly, the contextual and complex sets of medial relations. The early post-media theorists defined ontologically the media based on the new technological possibility fostering programmability besides transmitting quality of media. Manovich defined 'new' media as software. Kittler defined media as a processing medium. The second line of post-medium theories revived a pre-medium condition in defining medium in relation to the human body and the reality. Belting, having a Platonic approach in defining media, contextualised medium in relation to body and image. Kluitenberg examined the dynamics of mediality in terms of their imaginary interactions. The third line of post-medium captured the essence of medium in temporal and cultural context. Mock mapped various ontological approaches in defining media, however, he avoided to argue for any 'new' set of concepts. Mersch being cognizant of ontological diversity, succinctly proposed that media cannot be defined positive, since media hide during the mediation process and proposed negative media theory. Grossberg defined media in terms of mediation as 'non-linear' 'movement of events' from 'one set of relations to another,' 'the spaces between the virtual and the actual, of becoming actual'. [630]

The final critical reflection is an 'overly simple and reductionistic' approaches of many medium and post-medium theories in defining media as static institutions or simple mechanisms for disseminating information.[631] A significant factor that make the

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[629] Chun and Keenan (2006) believed that: The term "media" (as opposed to mediums or medium) is linked to mass media: in the nineteenth century, electricity was a medium; in the late nineteenth and the twentieth centuries, media emerged as the term to describe inexpensive newspapers and magazines and, in an affront to English Latin, became a singular noun (p. 3).

[630] Grossberg, 2010: p. 550

[631] Littlejohn, 2002:308

medium theories inconsistent is due to the lack of unanimous theoretical paradigms and ambiguity in the state of the object of the study.

> The media have been studied by a variety of scholars from a range of academic disciplines such as sociology, psychology, social psychology, literary studies, anthropology, sociolinguistics, economics, political science, philosophy, history, law, rhetoric and speech communication, group and systems theory, and even mathematics. The distinctions between the different approaches are not always clear. Each discipline often draws on the work of the others.
>
> (Williams, 2003: p. 17)

Williams believed that the 'theoretical vacuum' and often 'contradictory literature' are the result of either the integration of a wide range of concepts and theories from other disciplines – which has led to a 'relative lack of original theory' in the field – or neglecting the conceptual and theoretical frameworks to guide research.[632]

Figure 5.1: Ontological evolutions of (pre-/post-)medium theories [633]

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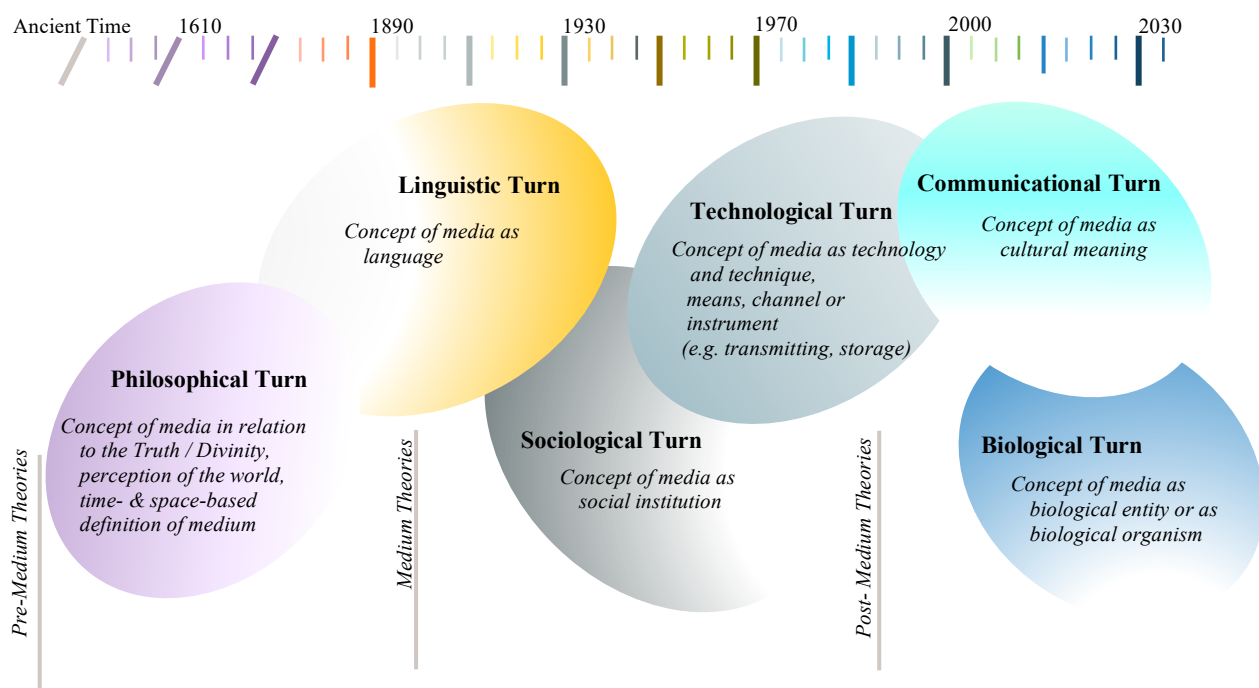
[632] Williams (2003) further elaborated that: This is accentuated by a growing debate in media studies between those who adhere to a strict interpretation of the scientific research and those adopting a more subjective approach to the study of the media and society. [...] Trying to apply scientific criteria to assess human behaviour is fraught with problems for social researchers; human behaviour is complex, difficult to measure and goal oriented, which confounds efforts to make assessments of cause and effect (p. 17).

[633] Developed by the researcher

As the history of pre-medium, medium, and post-medium theories depicted in this book, the ontological definition of medium shifted in orientations from philosophical (media in relation to the Truth), to a linguistic turn (media as language), a social turn (media as social institution), a technological turn (media as technology and technique), and communicational turn (media as cultural meaning), moving towards a biological turn (media as organism). [634] The extensive reliance on technological development, which is growing in substantial speed, and the lack of contextual and holistic theorisation of media, shortened the accuracy and usefulness of many medium and post-medium theories. There is a need to rethink media theories anew. The result of the current project demonstrated that the most effective way to conceptualise media is to contextualise mediation spheres and mediated formations in relation to communicational, socio-cultural, compositional, technological and temporal dynamics.

Philosophical assumptions: Media as Mediation Spheres

The idea of a theory is briefly addressed in chapter one. A theory, with a detailed analysis of its philosophical assumptions, can determine the prospect as well as the limitations of the orientations. Besides that, a theory organises the 'knowledge of a field,' and can provide 'a starting point' to build further frameworks, shaping and giving meaning to the discipline.[635] It is beyond the limits of the current book, to critically reflect on the very essence and structure of a theory and its limitations. Similarly, a meta-theory[636] cannot be fully addressed here, however, few points are crucial to discuss in respect to a theory. Some scholars believe that a theory is essentially a 'way' of thinking and a 'lens' to see the world.[637] Stephen W. Littlejohn,[638] similarly believed that a theory is fundamentally 'a unified, or coherent, body of propositions,' that is 'a system of thought' or 'a way of packaging reality, a way of understanding it,' which provide a consistent picture of the way the world is observed and experienced.[639] The philosophical

[634] For instance, Parikka's (2010) concept of insect media.

[635] See Littlejohn & Foss, 2008: p. 2 and Littlejohn, 2002: p. 335

[636] There are several bases to critically reflect on the nature of a theory, i.e. its reductionist aspect, the scientific origins, orientations toward Western thought, etc. (See Bolouri, 2011). The lines of meta-theories are quite diverse, addressing these critical reflections within specific fields. Meta-theories, in general critically reflect on the nature of dominant cluster of theories and reflect on the essential bases of their thoughts and orientations. For instance, in communication theoretical parlance the major meta-theories are orientalism, eurocentrism, academic dependency, intellectual imperialism, etc. (see Bolouri, 2011: p. 80).

[637] See Deetz cited in Littlejohn & Foss, 2008: p. 15

[638] Stephen W. Littlejohn is a professor of media and communication at Department of Communication and Journalism, University of New Mexico, US.

[639] Littlejohn & Foss (2009), p. 957. Littlejohn believed theory is focusing on 'certain things and ignore others' and referred to this feature as truism. For this particular feature, 'No single theory will ever reveal the whole of truth' (Littlejohn (2002), p.19). He further believed that 'If we […] compare theories to paintings in a gallery, we get a fuller and more complete appreciation and understanding of communication (p. 20). There are several similar views of the nature of theory. For instance, James A. Anderson, a professor of communication studies at the University of Utah, Communication Theory: Epistemological Foundations (1996), and co-author of Mediated

assumptions, to a greater extent, can reflect the ways in which a theory is looking at the phenomena and limits or widens the scope of it.[640] Another point to highlight is two primary qualities of theories: *abstractions* and *constructions*. The 'abstractions' refer to the fact that theories emphasise some aspects and may ignore the others. And 'constructions' indicate that the theories are packages of concepts, observed facts or experiences, which are essentially constructed by human perception.[641] Kevin Williams[642] distinguished two types of theories, descriptive and explanatory. A theory is either general-purpose theory, which *describes* the '*howness*' of complex events or phenomena, or it is a specific-purpose theory, which *explains*, comprehends and interprets phenomena and elaborates the propositions *why* phenomena occur.[643] In this chapter, the attempt is made to provide analytical-explanatory theory of intelligent mediation sphere.

Communication: A Social Action Perspective, believed that theory 'contains a set of instructions for reading the world and acting in it. … [It] speaks to the singular, overarching question of 'What do I believed to be true in living this scholar's life? No scholarship has greater importance than the authentic theory' (see Littlejohn, 2002: p. 20). Dan Laughey, the senior lecturer in media studies at Leeds Metropolitan University and the author of Key Themes in Media Theory (2007), defined in simple terms that theory is 'a way of thinking that is more systematic and sophisticated than 'thinking' in an everyday sense' (Ibid, p. 4). He criticised the theories of 1980s who chanted and practiced 'anti-empiricism'. highlighted the relationship between theory and practice and stated that 'Theory without practice is lonely abstraction' and 'appear disconnected or contrived'. Practice without theory, as he mentioned, is 'aimless'. Evidence is required to bridge practice and theory.

[640] In many humanities and social sciences, the theory making is not viewed as is not viewed as discovery of facts but as a new way to view and organize experiences, phenomena and events (Mehdi-Zade, 2012: p.14). Theories are usually generalized in order to 'reduce complex experience into a manageable set of concepts and propositions' (Littlejohn & Foss, 2009: p. 957). The fact that theory making happening in a community of scholarship, it is more important to open up this community for a multi-cultural discourse and expand the diversity of media theories to a large broad spectrum.

[641] According to Littlejohn 'Although natural scientists are clear about their quest for theories that reflect underlying structure, social scientists are divided on whether theories can reflect reality or whether theories actually constitute it (See Littlejohn & Foss: 2009: p. 957-8, Littlejohn, 2002: p. 19, and Mehdi-Zade, 2012: p.14).

[642] Kevin Williams is Professor of Media and Communication Studies at Swansea University. He is the author of Understanding Media Theory (2003).

[643] Williams, 2003, p.16 and three levels of theory – common-sense, practitioner and academic. He held the view that theory is a part of the attempt made by researchers in order to make events happening around them understandable (see also Mehdi-Zade, 2012: p.13-15). Williams (2003) believed that 'In trying to understand how the media work, their role in society and their impact on individuals we cannot survive by observation alone. Theorists simply make explicit this process, enhance our awareness and deepen and develop our understanding of the role of theory in explaining the media.' (p. 15-16). Littlejohn considered the 'parsimony' – 'the use of the simplest explanatory logic' – as the most important features of a good theory. Furthermore, he highlighted the fact that theory creation and development is a 'human social activity', that is 'theory making is done within communities of scholarship that share a way of knowing and a set of common practices' (p. 332). Littlejohn is among scholars who has more a critical approach in defining a theory. Littlejohn believed that a 'theory is never intended to reflect the complexity of all experience, but to distil this into a system of knowledge claims explained by a small number of properties'. He criticised the universal explanations, the practice of 'unifying concept that connects things that appear quite different on the surface', and 'the ultimate underlying explanation' in social sciences (see Littlejohn & Foss, 2009: p. 957)

The analysis in previous chapters depicted that the major types of discussions on the nature of the contemporary media are based on a set of models, concepts, principles,[644] without discussing the underling philosophical assumptions. This has led to narrowing the scope of the medial process to technological attributes of medial process, i.e. issues of digitality or interactivity. Based on the pre-medium, medium and post-medium theories discussed earlier, three ontological assumption are significant in defining media, namely Mersch's negative media theory, Debray's media sphere theory and Grossberg's mediation and affect theory. There are several criticisms to Mersch's negative concept of media which is discussed in the following. Mersch believed that the essence of the presence of media is in a form of 'an absence' and the idea of mediality can only be addressed negatively.[645] Despite this new embarking idea on the nature of medium as being a negative rather than positive concept, the theory and the method he proposed cannot be incorporated in research. This negative conceptual quality of medium may pose several uncertainties for academic researchers since there is no point of reference to capture the essence of mediality. The theoretical framework of any research invites the scholars to find some sort of positive concepts to be defined operationally or technically. Mersch essentially believed that the 'medium' by itself is not an appropriate 'object of enquiry' and instead researchers should focus on the issue of mediality.[646] The major reason he objected to the direct explanation of medium is the risk of making the invisible, visible.[647]

There are several reasons for his exclusiveness on the subject of medium. Firstly, it can be argued that, as he self-admitted, his negative conception of media is philosophically oriented towards Hegel's logic of 'disintegrating centre,' which advocate a negative process mediation.[648] The Hegelian idealism drew concrete existential limitations in approaching the subject of medium,[649] and Mersch's extreme liberating

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[644] For instance, Manovich addressed the 'principles of new media' without logical philosophical associations underpinning his theory.

[645] Mersch (2013) stated that 'Media forfeit their own appearance by making something appear. Their presence has the format of an absence' (p. 208).

[646] Mersch (2013) believed that 'Instead of "media" it would be better to speak of "mediality" in the sense of the structure of the medial – that structure that shows what "media" create, represent, transfer or mediate, so that "medium" itself is not an adequate object of enquiry. Instead one should look at the underlying materialities, dispositives and performances that accompany medial processes i.e. are integrated into them without disclosing themselves' (p. 208).

[647] Mersch (2013) put that 'Every effort of a negative theory of media is based on risking the impossible to somehow extract such exhibition of its own mediatization and becoming the visible medial in itself as medial' (p. 207)

[648] Mersch (2013) stated that negative media theory 'corresponds to that "centre" or mediality of the concept, as it appears in the middle of the second part of Hege's Wissenschaft der Logik where it is identified as the negativity of mediation, namely as the constantly "disintegrating centre" in the process of mediation, as Hegel puts it. This is the fundament for the concept of a "negative" media theory. Embedded in a series of concepts that are structurally related and have similar characteristics, it refers to the irreperable negativity of medial processes in general' (p. 209).

[649] Although it seems that Mersch is aware of the limitations of media idealism, he seems to be pessimistic in discovering the essence of medium. As he highlighted 'some have spoken from a media

vision of negativity, seems impossible.[650] Due to this proposition of the unlikelihood of drafting the essence of media, Mersch proposed a technique of 'looking' at the media 'from the side.'[651] Consequently, his method of medial investigation is based on a metaphoric technique of 'anamorphosis,' used during the early modern era in image production.[652] His method, using an image-base technique, in a metaphoric sense, limits negative media theory in two ways. One, it limits the investigation to the product of mediality, in which he is critical about, and two, it confines the extent of mediality to visual order. Beyond these two points, his emerging thoughts in using 'medial paradox' or 'distortion' as a technique of addressing mediality is noticeable.[653]

Besides that, Mersch has heavily relied on language as a model for his negative media theory. Even his 'anamorphosic' methodology, 'viewing from the side' is inspired

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philosophical point of view of a "media a priori," but this expression is unfortunate since it evokes a "media idealism" that in turn creates an antinomy that makes one see the defining and the defined according to the same schema, that is, to posit and at the same time to lose the medial as the undefined.' (p. 209-210).

[650] According to Mersch (2013) 'This is impossible in the field of mediality because it is a matter of external structures that shape perception, thinking and action and thereby remain antecedent to all reflection and determination. We are therefore dealing with the systematic problem or aporia that we have to analyse something that constantly causes the analysis to become volatile and foists itself on it like an unconscious cultural element without being observable because observation is only possible through a mediation that produces its own effects and practices, its structures and materiality on the process of observation and simultaneously denies them' (p. 209).

[651] Mersch (2013) believed that 'If "media," as the theory suggests, resist all analysis, if they themselves disappear in their appearance, if therefore their work consists of dissolving themselves in fulfilment of their function – and the whole dynamic of technical perfectio pertaining to the art of illusion and audiovisual immersivity can be derived from this – then a theory of "media" in the sense of a study of their specific "mediality" can at best only work indirectly, as it were, looking at it "from the side"' (p. 209). He further elaborated that 'admittedly this requires practice in ways of seeing that do not follow the functions in the foreground but focus instead on ruptures and dysfunctionalities that correspond to the "view from the side"' (p. 212). 'The picture has to be negated, it has to be dissolved in an incomprehensible tangle of lines, in order create a puzzle that the observer can experience, the solution to which he can only discover if he looks at it from the side, where one normally does not see anything. It suddenly leaps out like a fantasy and shows itself where it cannot be: in front of the picture like a mysterious apparition without a cause' (p. 214).

[652] Mersch (2013) explained anamorphosis as a procedure, 'originally dates from the time central perspective arose and operates just as mathematically but uses non-Euclidian geometry instead of Euclidian. Its radically consists of unmasking the latter by bringing another method of image production into play' that 'not only relativize the apparent naturalness of perspective' but also 'exposes the pictorial character of the picture as a mathematical construction' (p. 214). In this perspective, he related the art as a model of understanding mediality as he stated that 'artistic interventions can serve as a model'. (p. 212)

[653] Mersch (2013) believed that 'no mediation can mediate its own conditions or for that matter its materiality and structure – this is the culmination of the medial paradox' (p. 208). Besides that, 'mediality is presented by the fact that we see nothing at first other than a distortion, which is again incidentally also anamorphotic, we see a picture being erected and unfolded in an almost martial act of force, leaving us for a long while uncertain of what we are seeing and calling from the onset into question if we see what we think we see, but which captures us to the extent that it becomes clear, only for it to disappear in a new distortion (p. 220).

by Ronald Barthes's textual strategy.[654] He relied on several prominent language philosophers. For instance, Wittgenstein's philosophy of image and language, that 'no medium can communicate its own mediality.'[655] Or Heidegger's theory of language, who emphasised that philosophy of language by itself cannot discover language in a direct way. Mersch inferred similarly that the 'philosophy of media cannot discover media themselves.'[656] In addition, he used Derrida's deconstruction theory as an approach in bringing to notice the unknown layers of media as a 'procedure.'[657] This language- and linguistic-oriented[658] approach in media ontology set a 'positive' border for Mersch's 'negative' media conceptions. One final criticism on Mersch's arguments on negative media theory is his dilemma about the prospects of negative medium conception. He believed that the concept of medium is destined not to be a topic of study

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[654] Roland Barthes introduced 'the metaphor of anamorphosis as an operational principle for textual strategies in a similar way and identified them with what he called "diversifying critique" but rather a reading of the dispersions and repetitions that reveal the mechanism of its organisation (one could say its mediality)', that is it is 'a reading that breaks with the usual dimensions of reading and opens the text to that which works beneath the text but cannot be read with it because it constitutes the specific textuality of a text and expresses itself in surprising rhetorical tricks, ruptures in argument or figuration that disturb or recast images, which are already in circulation. (Mersch, 2013: p. 215). 'This gives negative media theory its contours. Its models are interventions, disturbances, obstacles, the reversal of structures, the extreme slowing or acceleration of time, the doubling up of or iteration of signs, amplification exploited to obscenity and much more: They all induce strategies of difference which cannot be listed individually, only discovered anew. Mediality as a non-ascertainable concept to be understood from within, and with a similarly insecure and open process of prismatic breaks that constantly exposes other facets and unknown dimensions' (p. 216).

[655] Mersch (2013) argued that 'Wittgenstein tried to demonstrate in his Tractacus logico- philosophicus with regards to the logical form of images and language: "The picture, however, cannot represent its form of representation; it shows it forth." An analogous formulation might be: no medium can communicate its own mediality because the form of the message cannot itself be the content of the message. The resulting basis for a negative media theory is that the structure of the medial cannot be that which is mediated – it shows itself. All attempts of formulating a negative media theory are grounded in daring the impossible and teasing this showing itself out of mediation and making the medial within the medial visible' (p. 210).

[656] Mersch, 2013: p. 210

[657] Mersch (2013) stated that 'an indirect procedure of this kind owes something to Heidegger and Derrida. They deal entirely with language but can serve as a methodological model for the development of a negative media theory Der Weg der Sprache. Here he shows that it is impossible to discuss language in any other way than through language since all other forms in which reflection is meant to take place are themselves a language. All discourse shows itself to be so pervaded by the medium of language that when it' (p. 210). He further explained that 'the "Zeige" or "pointing out" is that which can only show in the process of speech, that is, the performativity of talking, and what is shown that cannot be said. The consequence similarly corresponds to Derrida"s deconstruction, which works with the multiplication of over-writings of a text in order to reveal its unconscious aspect and its implicit intentions and to describe its "procedure"' (p. 212).

[658] In some cases, Mersch revealed his linguistic and language as model idea for the media and discussed the 'condition of the possibility of media and linguistic reflection' (Mersch, 2013: p. 211). He argued that 'evidently we are dealing with the same difficulty as in media theory, which Heidegger solves by striving to illuminate language from the differences that reflection on language leaves within itself' (p. 211)

and one needs to return to lower-level media theories, which put an emphasis on content and media products among others.[659]

To keep a visionary outlook, and to keep a distance from Mersch's ideal denial of any attempt to theorise medium, in this book the endeavour is made to take the negative medium conception one step further. It would be insightful, initially, to look at the dynamics of the positive and the negative media conceptions. The *positive* concepts are affirmative reference *to* something (media as means, or channel, instruments, which can be digital or analogue), inclining more towards the descriptions, indicators or associations. The *negative* concepts are not affirmative references, rather they are articulations *from* a set of associations or network of relationships. Negative concepts are more abstract and conceptually more dynamic in comparison to positive concepts. To use a spatial metaphor, positive concepts are like solid objects and negative concepts are the space around them. Not all concepts can be defined positively or negatively, since it depends on the degree of the complexity or abstractness of the concepts, i.e. negative or positive freedom, liberty, etc.[660] It can be argued that the complexity of mediality in today's discourse can no more rely on a positive definition of medium, and it demands a complex set of relations in conceptualization. Since an ideal negative universal ontology of mediality cannot be addressed, this negativity can be delimited based on certain recurrent criteria on the issue of mediality. In other words, the delimited model of negative medium conception can give us the flexibility to reflect on the negative quality of medium as a concept as well as to establish the operational conceptual frameworks.

Unlike the negative concept posed by Mersch, Grossberg believed that the mediation affirms the 'positivity,' 'reality' and 'multiplicity of mediation itself'.[661] In his view the mediation cannot be simply reduced to the 'signification and representation,' since these are two 'modes' of discursive mediation.[662] In his view, defining media in terms of mediation is the best solution to the contemporary deficit of comprehensive theoretical and conceptual paradigms exist in media studies. He defined mediation as

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[659] Mersch (2013) considered any attempt to define medium a vain and believed that 'whether it be the materiality or structurality of signs, the moment of their positing, the corpus of their embodiment and its limits, the form of the symbolic order, their points of origin or the performance that they deliver as such – they can all only be described negatively, that is with a series of negations that constantly state what these are not' (p. 209). 'Although the medial partly constitutes the mediated, it in no way forms its constituens' and 'obviously, any positive definition of mediality must fail. Correspondingly, the medial, which obscures as much as it makes possible, can only be deciphered from its results, which again brings us back to the unavoidable indirectness of media theory. The consequence of this is that the mediality of the medium refuses determination (p. 210). He put that 'even the word "media" refers to something that holds the centre and is therefore neither one thing nor the other, neither something given or something mediated, transferred or transformed because it itself is lost in the process of mediation' (p. 208).

[660] See Bolouri (1997)

[661] Grossberg, 2010: p. 545

[662] Ibid, p. 551. Grossberg believed that the 'discourse can produce many different kinds of mediations or effects, and these effects can then be articulated to many different uses' (ibid).

'non-linear causality' 'movement of events or bodies from one set of relations to another as they are constantly becoming something other than what they are. It is the spaces between the virtual and the actual, of becoming actual'. [663] In this sense, the mediation, is viewed as a positive dialectic of 'becoming' and considered affect as the 'energy of mediation'.[664] Grossberg offered a theory of affect as 'a complex set of mediations/effects' that are 'a-signifying,' 'non-individual,' 'non-representational' and 'non-conscious,' although they can produce 'signification,' 'individualities' 'representational forms,' and 'forms of consciousness').[665] It appears that his definition of mediation in relation to the cultural and affect can benefit a holistic view about the media.

In order to articulate a model of mediation, it is significant to identifies the nodes in this complex network of relations of mediality. The recurrent conceptual themes, required for delimiting the negative concept of medium – as the investigations into three phases of pre-medium, medium and post medium theories depict – can be broadly categorised into four zones, including, communicational, socio-cultural, compositional and technological orientations. In this light, media cannot be reduced to certain modalities or technological characteristics, rather they 'set the shape, pace, rhythms, and typography' of cognitive, cultural, social, biopolitical life in temporal and spatial living environment.[666] Media are defined as mediation processes, sets of non-linear mediated formations in transformations (a dynamic-organic state of 'becoming' cultural events,[667] media situations,[668] mediated environments). In other words, mediation[669] refers to sets of dynamic medial events and situations within certain spheres, which (re)creates and/or (re)construct new forms of being and becoming, (collective) consciousness and/or meanings, moving between the world of virtual (intelligible) and the actual (sensible). Theorising contemporary media in the context of mediation sphere is in many ways beneficial.

Conceptual and theoretical explanations of intelligent mediation sphere

Theories which remain at the conceptual levels are quasi-theories since they do not provide explanation of phenomena.[670] Therefore, it is important to provide theoretical

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[663] Grossberg, 2010: p. 550

[664] Ibid

[665] Ibid, p. 556

[666] See Ibid, p. 632

[667] Grossberg (2010) considered mediation as 'between' state of consciousness and reality or in between the spaces of the virtual and the actual.

[668] Meyrowitz (1985)

[669] Grossberg (2010), defined mediation as 'the movement of events or bodies from one set of relations to another as they are constantly becoming something other than what they are. It is the space between the virtual and the actual, of becoming actual' (p. 258).

[670] Littlejohn and Foss, 2008: p. 19

explanations of the contemporary media, which are statements about how the conceptual taxonomies connect and relate to one another, explaining the 'logical forces' and patterns of relationships.[671] However, these connections are hardly an absolute or universal one and they only draw *associated* lines or *probable* relationships.[672] The *principles*, as the final dimension of a theory, makes the interpretation of phenomenon, event or situation possible and includes identification of the situation, set existing norms or values and assertion of 'a connection between a range of actions and possible consequences.'[673] The significance of the *principle* lies on the fact that it permits for reflection on the quality of the situation and provides guidelines for practices.[674]

Concepts are important part of a theory, in which subjects are clustered into 'conceptual categories.'[675] The philosophical assumptions underlying the ontology of media, which are discussed in the previous section, defined media as the mediated formations and in terms of *relationships* created among important indicators involved in the mediation processes. In the course of time, some of these relationships are conventionalized and subsequently formed dominant types of mediality in a certain era. There are several significant concepts and cluster-concepts in theorising the contemporary mediation sphere including, intelligent, information society, information economy, networked communication, systemisation of communication process, algorithmic mediated culture, big data market ('Siren Servers'[676]), app-i-fication of culture, crowd-sourcing, documenting lifestyle, globalisation and glocalisation, inter alia. Besides that there are several recurrent notions, which are widely used in other post-media literature including (post-)media aesthetics, algorithmic design, sharing revenues, cross-mediality, programification, digital political activism, (re)minimalisation of lifestyle, virtual and augmented realities, organic design, artificial intelligence, internet of the things, ubiquity and invisibility, trans-culturalism, data visualisation, deep-

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[671] Littlejohn and Foss, 2008: p. 19

[672] Littlejohn and Foss (2008) put emphasise on two common types of explanation among others, viz. 'casual' and 'practical' (See p. 19). In the former one, 'events are connected as casual relationships, with one variable seen as an outcome or result of the other' that is event is determined by some antecedent event' while the former one emphasise 'actions as goal related, with the action designed to achieve a future state' that is 'outcomes are made to happen by actions that are chosen' (Littlejohn & Foss, 2008: 19).

[673] Ibid, p. 20

[674] According to Littlejohn and Foss (2008), 'Some theorists are content to simply offer concepts and explanations without making recommendations on the basis of their theorising. For other theorist, generating principles that can be used as the basis of action in the world is the whole purpose for engaging the theoretical enterprise' (p. 20).

[675] Littlejohn and Foss (2008) argued that 'Concepts – terms and definitions – tell us what the theories is looking at and what is considered important' and for determining the concepts (p. 19). The ideal goal of theory is 'to formulate and articulate a set of labelled concepts' and then these set of conceptual terms would become 'an integral part of the theory' (p. 19).

[676] 'Siren Servers' is coined by Jaron Lanier (2013/2014) and refers to cloud owners or an 'elite' super power computer who collect information and analyse the network for their benefit.

learning, artificial intelligence, semantic-/intelligent web, and counter-memories, -realities and -beings, among others.

Let us begin with the central concept of *intelligent*. The term *intelligent* is believed to be in use since the Renaissance from Latin, meaning 'understanding' (inter 'between' and legere 'choose').[677] The notion of intelligent (or intelligence) is used in various context from social, educational (e.g. linguistic intelligence, bodily-kinaesthetic intelligence, intra-personal intelligence, spatial intelligence, musical intelligence, logical-mathematical intelligence, existential intelligence, etc.), psychological (e.g. emotional intelligence and creative intelligence) to technological lexicon (e.g. intelligent system, artificial intelligence). The contemporary definition of the intelligent is majorly associated with the system theory and information theory.[678] In the current book, intelligent does not simply refer to a machine or technological system. It encompasses the essence of intelligence in human beings, nature and the socio-cultural systems built around them. It should be highlighted that the notions of intelligent to describe the contemporary media situation is value free. Since the medial spheres are representing the temporality of the spirit of a certain era, it seems that operationalising the contemporary mediation phenomenon as intelligent mediation sphere is productive in many ways. This era is marked by various usage of the notion of intelligent, literally, ironically or operationally.

At this juncture, it is significant to discuss two central notions of system and information theory in relation to intelligence. The system is defined as 'a set of things that affect one another within an environment,' which form a larger pattern that is different from any of the parts' and consisted of *objects* (physical or abstract elements), *attributes* (the qualities and properties of system and its objects), *internal relationships* (internal communication and relationship within system and among objects), and *environment* (context and environment).[679] There are two major types of system: closed

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[677] *Oxford living dictionaries* (2017)

[678] The origin of system theory and thoughts in the Western tradition is said to be rooted in Hegel's dialectics, nevertheless, the system thinking can be traced as well in the Eastern philosophy. It is believed that system theory is based on Hegelian dialectics, thesis, antithesis, and synthetic, an innovative way to explain the historical development in a 'dynamic process', viewing 'the world as being in process and controlled by a tension between opposites' (Littlejohn, 2002: p. 36). System thinking, however, long existed in the Eastern philosophy, in which patterns and holistic vision is emphasised and 'simple linear causal reasoning' is avoided; instead the focus is on 'the ways in which many events affect one another', which all centre pieces of system theory (Ibid, p. 37). Hegel's approach soon applied and developed further by thinkers in various field. Karl Marx, as a student of Hegel, adopted this theory for 'the distribution of power in society'. He believed that dialectical pyramid of his teacher, which stands at the edge of 'idea' should be reversed. Marx believed that, viewing 'idea' as the origin of things, make the dialectical system unpredictable and the origin should be considered as 'matter'. Charles Darwin used the system theory for the 'adaptations and accommodations' to pressure outside in his evolution theory.

[679] Ludwig von Bertalanffy is developed General System Theory (GST) in the field of biology. The General system theory is 'a broad, multidisciplinary approach to knowledge' and 'uses system principles to show how things in many different fields are similar to one another' (i.e. the process of

system and open system. The notion of intelligence is usually associated with the open systems. The closed systems have no interrelation with the environment, and therefore it leads to 'internal chaos, disintegration, and death', while, the latter, communicates with its environment and it is oriented 'toward life and growth'.[680] Any system, broadly speaking, poses certain qualities and features including, wholeness and interdependence (unique pattern of relationships), hierarchy (embeddedness of various sub-system),[681] self-regulation and control (the goal-oriented and self-regulation), interchange with the environment, balance or homeostasis (self-maintenance), change and adaptability (dynamic environments), and equifinality (goal achievement or task accomplishment).

System theory is closely associated with information theory.[682]. With the rise of the theory of information society the concept of 'intelligence' attracted a wider usage in various fields. From technical point of view, the central notion in information theory is the concept of 'entropy' or 'randomness' which denote 'lack of organization in a situation' which make the situation 'unpredictable'.[683] Information, consequently, is 'a measure of the uncertainty, or entropy, in a situation', that means there are two situation: on the one hand, the 'greater the uncertainty, the more the information', and on the other hand, less uncertainty and complete predictability, no information or 'negentropy'.[684] Paradoxically, in common sense usage, the information is associated with certainty and act of knowing,[685] and in this context intelligence as the capability of processing and accessing information. Lanier defined information as 'the raw material of feedback, and therefore of innovation'.[686]

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development is various field from economic growth, biological development to social movement) (Littlejohn, 2002: p. 37).

[680] Ibid

[681]Arthur Koestler is best known for his argument for hierarchy of system, 'from simple sub-assemblies to more complex ones'. He viewed system as 'a series of levels of increasing complexity', from subsystems to suprasystemArthur Koestler in his The Ghost in the Machine (1967) narrated a story of two Swiss watchmakers named Bios and Mekhos, the former successful and the latter bankrupted. Through this story he finely elaborated and argued for the hierarchy in system and how it is important. In his story, these two watchmakers made a same watch out of thousands of pieces, however the differences lied in the way they made the watch; Mekhos applied a linear approach and build a watch one piece after another, any failure in the process made him start all again from beginning, while Bios defined ten sub-system where he builds initially these sub-systems and joined these together at later stage (cited in Littlejohn, 2002: 39).

[682]The information theory is mostly applied in electronic sciences and deals with 'efficient handling of information,' it has been applied as well in behavioural and social sciences of late (Littlejohn, 2002: p. 41).

[683] Littlejohn, 2002: p. 41

[684] Ibid, p. 42

[685] Information can be viewed as well as 'the number of choices, or alternatives, available to a person in predicting an outcome', in other words, in 'a complex situation with many possible outcomes, more information is available than in a simple situation with few outcomes. Information is considered 'a function of the number of alternatives, it reflects the degree of freedom in making choices within a situation. The more information in a situation, the more choices you can make within that situation' (Littlejohn, 2002:42).

[686] Lanier, 2014: p. xii

Another important concept in information theory is *redundancy,* which refers to partial predictability of pattern or situation.[687] For example, language has an average / moderate redundancy, since it is a chain system which allow certain predictability in a same pattern and ease 'decoding with freedom of encoding'.[688] Language information is described as Markov process theory, in which 'a series of events, one happening after another in time, such that the occurrence of one element in the chain establishes a probability that another particular element will follow'.[689] The redundancy allow 'the receiver to correct or fill in missing or distorted data' or the *noise*.[690] The intelligence here is closely associated with the redundancy and predictability of pattern or situation.

Closely associated notion with the intelligence is the interactivity and feedback. Cybernetics, which concerns 'feedback' or 'regulation and control', is important with regard to system theory.[691] The feedback in advance system is rather complex. The basic thought in cybernetic is 'circular reasoning' which challenges the linear causality.[692] This theory further highlights the cybernetically engaged observer when observing any system. This line of themes led to second-order of cybernetics, known as 'cybernetics of knowing' or 'cybernetics of the observing system', coined by Heinz von Foerster, which argue that the observer *affect* and *affected* by the system.[693]

The system theory seems to be challenged and criticised on several bases. The main criticisms are generality of the system theory, openness and flexibility, and lack of clarity. Nevertheless, theoreticians – e.g. Castells, Toffler, Lanier – explained the contemporary social formations on the basis of concepts of information society and information economy.[694] There are several discourses and myths around the information society, in context of which intelligent mediation formations are taking place.

The significant discourse revolves around the role of 'digital' media in shaping the information society. It is, however, not truthful to consider one single apparatus, in a linear (cause and effect) manner, called 'digital media' as the embodiment of the

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[687] Littlejohn, 2002: p. 42

[688] Ibid

[689] Ibid

[690] Ibid, p. 43

[691] Cybernetics deals with 'output-feedback-adjustment' is the fundamental principle of cybernetics (Ibid, p. 44).

[692] Cybernetics applied mostly in electronics, engineering and other sciences dealing with systems. However, the second-order cybernetics and some of it leading ideas is benefited in social and human sciences as well (Littlejohn, 2002: p. 47).

[693] Second-order cybernetics suggests that 'objective observation and knowledge are not possible' and 'the observed system both affects and is affected by the observer', this is while traditional system theory and cybernetics believe that 'systems are objectively observable' (Littlejohn, 2002: p. 49). Furthermore, the structural coupling concept suggest that one can 'affected by the structure and history of that system' that is they can 'coordinate their actions, and they can evolve together' (ibid). Finally, it is believed that the 'Observation and engagement of any system […] is a social process' (ibid).

[694] For instance, Toffler (1990) divided the human civilization into three waves, traditional, industrial and information age.)

information society. It can be argued that the platform of computer algorithms and electronic infrastructure provided a ground for the realisation of an information-based society. It has been widely discussed that the computer-mediated communication provided a platform for 'de-massification' and bringing back the individual and community identity. The power of networked believed to bring new modes of democracy and social justice. According to 'digital idealism' the new modes of communication could set individuals free from oppressors These beliefs are wiedly questioned by the expansion of big data companies and cloud owner moguls, which is addressed later in the section.

The other central discourse is the notion of evolution of the society into advanced 'network.' Castells questioned a dominant view on evolution of societies and believed that there are evidences that ancient civilization have reached to levels of social networked pattern. Ancient Asian civilizations based deeply on knowledge and information.[695] It can be argued that most civilizations are based on 'information and knowledge as the source of power, wealth, and meaning'.[696] Although the information and knowledge are 'key factors for power and wealth in *all* societies', contemporary societies are 'characterized by the power embedded in information technology', a new paradigm called 'informationalism'.[697]

Grossberg reflected on the conditions of information society in the context of the post-World War. He highlighted two important issues, expansion of the field of the culture and media.[698] Grossberg considered two hypotheses for the urgency of the 'culture' during the Cold War. Firstly, the changes in the way power exercised, a 'transition from juridico-discursive to governmental power' in euro-modernity – a 'move from force to ideology (representation)' to 'discipline and control,' which viewed culture as 'a set of resources' to 'control and define 'others''.[699] According to this hypothesis the culture functioned as the 'technology of power,' and could manage society and everyday life via the 'practices of surveillance, discipline, and the production' of 'well-tempered citizens'. Accordingly, culture is defined as

> a set of resources, techniques, tools, specific knowledges, programs,
> technologies, aimed at managing populations, aimed at changing the habits

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[695] For instance, Iranian civilization initiated a way of network communication system, known as Chapar (چاپار), which is considered among early model of systematized communication network.

[696] Castells, 2004: p. 7

[697] Ibid

[698] Grossberg (2010) argued that 'postwar decades saw the extraordinary growth and reconception of education, of the "media," and of the public investment in culture across the board. This was the moment when communication and culture (as human processes and sites of contestation) moved to the center of both intellectual and public lide, the moment of the so-called linguistic turn' (p. 504-5).

[699] Grossberg, 2010: p. 492. He put that 'rather than making power the object of the people's knowledge, it seeks to make populations the object of its own knowledge, and to change the behavior of the population in specific ways through specific and multiple "technologies"' (Grossberg, 2010: p. 494).

of conduct, feeling, expression, and thought of a population. In short, culture is a means of acting on or managing the social, accomplished by using cultural practices to shape and direct people's conduct in order to refashion individuals' behavior and to produce new forms of individuality.

(Grossberg, 2010: p. 495)

Grossberg believed that the interpretation of culture in terms of power will underestimate the importance of 'ideology and civil society'.[700] He argued that culture 'as material practice' is displaced into 'culture as meaning, aesthetics, and textuality' that produces 'the ideology of ideology'.[701] The second hypothesis explain culture based on the social relations and traditions.[702] Grossberg questioned the idea of emergence of cultural studies during the transformations of society. Rather he proposed his assumption about 'conjuncture' as the reason of 'privileging culture' and 'emergence of cultural studies'.[703] He explained that

the new visibility and role of culture were no doubt the result, in complex ways, of the particularities of the post war settlement – nationally and globally – in political and economic term […], as well as developments in the material from of economic and political power, along with changing social relations.

(Grossberg, 2010: p. 505-6)

Another issue is the expansion of 'Artificial intelligence,' high-tech brain-reading and the discourse about the power of intelligent agents, 'invisible computers,' and 'internet of the things' distributed in all aspects of our life. Lanier believed that there is a tremendous effort in anonymising people who create massive information every day, which make the 'algorithms that are called 'artificial intelligence' seem to function on their own'.[704] This idea is closely associated with his conception of 'Siren Server' and the enormous expansion of usages of big data in societies. He believed that both 'big data

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[700] Grossberg (2010) believed that not only power need to 'hide itself in its own cultural procedures, but also that culture needed to hide from itself' (p. 497).

[701] Ibid

[702] Grossberg (2010) criticised the social-based notion of culture proposed by Hall and Clarke, in which they defined culture as 'the peculiar or distinctive "way of life" of the group or class, the meanings, values, and ideas embodied in institutions, in social relations, in systems of belief, in mores and costumes, in the uses of objects and material life'. They believed that culture is 'the distinctive shape in which this material and social organization of life expresses itself' and essentially culture is 'the way the social relations of a group are structured and shaped; but it is also the way those shapes are experienced, understood and interpreted'. Grossberg believed that this may not clarify the emergence of cultural studies and pose an ambiguous state for the concept of culture.

[703] Ibid, p. 502

[704] Lanier, 2014: p. xii

and artificial intelligence are economic and political constructions that disenfranchise most people.'[705] Lanier defined big data as

> the ubiquitous term used to describe the massive amounts of information being gathered in every possible way about everyone and everything in order to make the algorithms that are called 'artificial intelligence' seem to function on their own. The fact that big data is needed is proof that these algorithms are actually only a repackaging of human effort in such a way that it is anonymized and people aren't acknowledge or paid.

> (Lanier, 2014: p. xii)

Collecting and analysing the information of the civilians were implemented with the expansion of electronic cards.[706] The usage of these data, however, never leaked and legitimated. The Siren Servers, a termed coined by Lanier in his book *Who Owns the Future?*, created a huge 'information asymmetry,' and centralisation of power and wealth.[707] He believed Siren Servers are 'powerful computational recourses' or better to say 'elite computer' that 'coordinated collection of computers, on a network'.[708] The intelligent mediation sphere is complex forms of mediation formations encompassing all levels of life, society, politics and culture.

Once the realm of 'creative industry' was the source for many discursive formations. The big data companies are influencing the mainstream creative productions. Many ebook readings apps are selling the information of reading patterns and keywords search/highlight to the authors. The realm of game design perhaps is the vast area influenced by the big data feedbacks. Cloud servers are aiming at modelling the users and forming new ways of cultural and social engineering. The mediation formation in this age is reluctantly based on producing any sort of information from those who are (and are not) using the media. This is the ground logic for expansion of apps which could grantee generation and access to the information of the users.

Analysing big data in the field of cultural studies and visual/media culture are initiated by some media scholars. Similar to other scientific field, using big data in research, as Lanier put it, is 'magic, but *difficult* magic'.[709] In the area of film studies there are several big data projects, for instance Yuri Tsivian's cinematrics database project, and Mark Williams's Media Ecology Project (MEP), Lev Manovich's Cultural Analytics and Software Lab.[710] In comparison to the usage of big data in business, the accuracy,

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[705] Lanier, 2014: p. xii
[706] See Toffler (1990)
[707] See Lanier (2014)
[708] Lanier, 2014: p. 49. Lanier believed that Siren Server is 'characterized by narcissism, hyperamplified risk aversion, and extreme information asymmetry. It is the winner of an all-or-nothing contest, and it inflicts smaller all-or-nothing contests on those who interact with it' (ibid).
[709] Lanier, 2014: p. 101
[710] See for instance: http://www.cinemetrics.lv, http://onomy.org, http://lab.culturalanalytics.info

verification and meaningfulness of the statistical results, digital humanities methodologies and meta-data are significant issues in science.

Intertextuality and inter-mediality are other features of the current cultural formations, where 'singular text or event' are morphed into programs available across media and embedded into other programs.[711] It is significant to be cognizant of the fact that any formulation of intelligent mediation sphere theory around singular apparatus may fail to see the larger picture which is unfolding before us. Grossberg believed that 'if some singular homogeneous and identifiable object called "television" ever did exist, it doesn't exist anymore.'[712] Television, perhaps, in terms of presentation, physical apparatus and localities, may provide an identifiable media experience, however, it has never been a singular homogeneous object as Grossberg called it. There is no doubt that the intelligent media practices are expanded throughout the spectrum of daily life, and the media practices is no more a separable and distinguishable element or event in everyday life and the classical boundaries between 'the media' and the everyday life is not clear.

There are several significant transformations in the contemporary mediation sphere which are distinguishable. The complex relationship between the domains of media worlds, the economic (corporate capitalism) and political (global and nation-state resource-management) worlds – transforming the large-scale human activities, behaviours, decision-making, biological routines into data and economic assets (e.g. big data companies, Cambridge Analytica, Bitwalking/Sweatcoin apps that generate currency by human movement). Enormous integration of media into various levels of everyday life and the vulnerability caused by them (*intimacy*, e.g. digital personal assistance such as Siri and Alexa, *privacy*, *addiction*, e.g. game-addiction, *self-image*, e.g. selfies-self-representations, *depression and humiliation*, e.g. fan-paging and idealising celebrity lifestyle, *information overload*, e.g. notification push-ups and 'new feeds', *identity-building*, e.g. influencers, *cynicism/scepticism* (disaffected consent), e.g. Cambridge Analytica, *suicides*, e.g. Blue Whale game, *terrorism/fundamentalism*, e.g. IS recruiting in SNS and documenting terror in YouTube, *cyber war*, e.g. Stuxnet, *bio-data violation*, e.g. figure print misuses, *cognitive and (multi-)sensorial immersion* e.g. VR and AR extraordinary expansions). These are few discursive instances of the critical-political transformations in the contemporary mediation scenario.

The intelligent mediation sphere theory invites for critically reflecting on the paradoxes and the discourses around the commonly used concepts such as 'information society,' 'networked society,' 'digital media,' 'interactivity,' 'artificial intelligence,' 'data-mining,' and 'algorithms' inter alia (which are mostly taken for granted) in any form of new media studies. Intelligent mediation sphere theory invites new discourses in analysing the dynamics of data labourism, big data market in creative industry, cloud

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[711] Grossberg, 2010: p. 624
[712] Ibid

services and 'intelligent' mediated formation of individual, cultural, political, scientific and social life. It should be taken into account that there is no 'central intelligent machine' and the intelligence lies on the people and the value they create[713] (information people create to the giant networked, the time they invest to document their lifestyle, the budget they invest to buy smart devices and internet connections).

The intelligent mediation sphere theory invites interdisciplinary investigation into the topic of media. For instance, media studies alongside cultural studies can map 'the conjunctures,' in Grossberg's terminology, not based on 'a single event', a 'text, genre, or media', rather 'by configuring one or more such assemblages' to 'open up into the context', e.g. affective cultural assemblages.[714] The cultural is 'comprised of the multiple assemblages or formations' with 'its own regimes and configurations, operating as discursive mediations producing the real as a conjuncture'.[715] There is a need to find out ways in which 'media process and everyday life,' 'institutional contexts' and 'technologies of power' are 'interwoven and intereffective'.[716] It is significant to reflect on 'the euro-modern logic of mediation' to find 'the modalities, practices and agencies of mediation'.[717]

The modern media is conventionally categorised based on their technology. There are two draw backs of techno-centric approach. One it is a vibrant ever-expanding realm with tangible dynamics, both in terms of hardware and software. And two, there is a tendency to reduce other aspect of mediality to technology. This book suggests that, it is significantly effective in categorising the media based on temporal mediation spheres.[718] The theory of intelligent mediation sphere explains the contemporary media situation in the context of the temporal and cultural situations of today's life.

The major school of thought, which informs intelligent media sphere conceptualisation is critical paradigm. This paradigm by positioning the human as a knower and the centre of discourse at the ontological level, can give the flexibility to expand the conception beyond technology and position the human being as a meaning maker in the course of history. In most social, cultural, communication or media studies human beings and media as technological machines[719] are placed in two different boxes. The changes in the contemporary media situation cannot be reduced to the structural visible changes in the system. This argument highlights the incomprehensive discourses around the concept of 'digital media'. Although the so called digital revolution is quite

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[713] See Lanier (2014)

[714] Grossberg, 2010: p. 641

[715] Ibid, p. 636

[716] Ibid, p. 633-4

[717] Ibid, p. 544

[718] Debray (1996)

[719] A research conducted by Zimmerman 1992, entitled 'The interactional organization of calls for emergency services' is among works who consider computer-based answering machine as part of human interaction not apart from it (Silverman, 2009: 347).

important conceptual phenomenon, there are many grounds for transformations which is not limited to the mere act of digitisation.

The concept of *intelligent mediation sphere* explains, as discussed in the previous section, complex communicative relationships, social, global and local decision- and meaning-making processes, sophisticated technological networks and media techniques. There is, however, a gap in theorising the intelligent mediation sphere on the base of internal logics of specific cultures. Analysing the dynamics of each medial sphere on the life of the people at a global scale requires more in-depth investigation. The global medial formations can cause social injustice at many levels. For instance, the citizens of the oral traditional cultures in Africa, e.g. Uganda, who did not normalised the mediated formations of writing and documentation systems, have lost their coffee farms and lands due the lack of 'written' archive of ownership.[720] The representational media sphere normalised and legalised the existence of property documents in West rather than the oral presentational dialogues. The business colonisation of the African coca farms biased towards the euro-modern standards of mediated formations. The crisis in the coffee farms in Africa, of course, is complicated, which require a closer political, economic and social investigations. However, it is a significant question to ask how far the intelligent mediation sphere is encompassing all cultures around the globe. The current promises (or myths) of the intelligent mediation sphere is fostering the 'global democracy,' empowering social minorities groups, connecting ideas and enlivening the lifestyle by providing 'application solutions'. The application, however, turned into an 'spying' apparatus[721] and software-mediated culture forged a possible age of post-digital-colonization and 'intelligent slavery' scenario.

The biological revolution, a futuristic vision, in years to come may transform mediated formations of our societies. In this prospect, the biological mediation sphere is transcending all forms of mediality. The media technology of our time is very sensitive to any evolution in science. The future of media technology is based on the bio-organism. Mitchell retraced the evolving logic of communication technology as a 'process of expansion and augmentation of the human body and the human mind'.[722]

> With the advent of nanotechnology and the convergence between microelectronics and biological processes and materials, the boundaries between human life and machine life are blurred, so that networks extend their interaction from our inner self to the whole realm of human activity, transcending barriers of time and space.
>
> (Castells, 2004: p. 6)

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[720] See 'The Mubende coffee plantation and the bitter taste of eviction' (2017), Deutsche Welle
[721] See Lanier (2014)
[722] See Mitchell (2003)

The social structure of media is moving from quantities to qualities. The biological media sphere brings a sense of tribal genetic identity, amalgamating the globalisation into the tribalisation and probably introduces an organic media (re)production and reception.[723] The early sprout of biological revolution can be seen in innovative filed of DNA computing and DNA-chips, brain reading, cloning and high-tech bio-technologies. Perhaps it is too soon to speculate the characteristics of the biological mediation sphere.

A significant dispute in the philosophical assumptions is over positive (what are media) or negative (what are not media) definitions. In the positive approach, media are defined as material-technological means, having an in between characteristics. The negative approach advocates the idea that any positive definition of media fails.[724]In the current book, a midway philosophical resolution in defining media in terms of mediation spheres is proposed. In other words, instead of categorising or identifying contemporary media as singular activity, the attempt is made to theorise media in terms of mediation processes in the larger context of communicational, temporal, cultural, social, economic, political, technological, aesthetical conditions and the spirit of the age. Media cannot be reduced to certain modalities or technological characteristics, rather they 'set the shape, pace, rhythms, and typography' of cognitive, cultural, social, biopolitical life in temporal and spatial living environment.[725]

Media as mediation processes, are sets of non-linear mediated formations in transformations (a dynamic-organic state of 'becoming' cultural events, media situations,[726] mediated environments). In other words, mediation[727] refers to sets of dynamic medial events and situations within certain spheres, which (re)creates and/or (re)construct new forms of being and becoming, (collective) consciousness and/or meanings, moving between the world of virtual (intelligible) and the actual (sensible). Mediation sphere can be conceptually identified in a spherical continuum, comprising the three abovementioned dimensions.[728]

To turn this definition of media to an analytical tool, a conceptual sphere comprising three continua of temporal (spirit of the time and conditions of environment), compositional (meaning/discursive formations and technological forces) and socio-cultural-communicational (affective and relational forces) can be formulated.

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[723] See chapter 4 for the emerging compositional trends.

[724] See Mersch (2006)

[725] See Grossberg, 2010: p. 632

[726] Meyrowitz (1985)

[727] Grossberg (2010), defined mediation as 'the movement of events or bodies from one set of relations to another as they are constantly becoming something other than what they are. It is the space between the virtual and the actual, of becoming actual' (p. 258)

[728] See Grossberg (2010)

Figure 5.2.: Conceptual continuum of mediation [729]
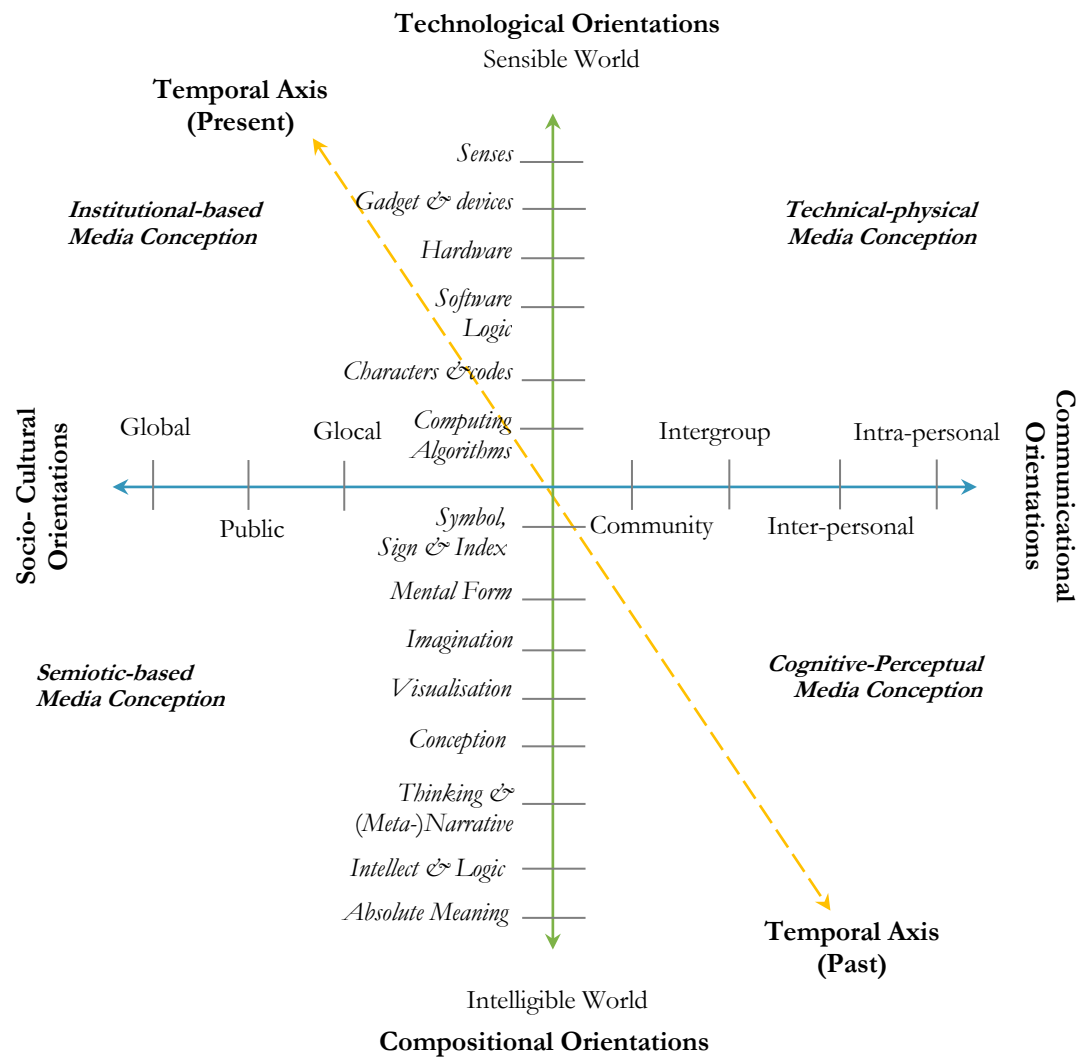
At a *micro-level*, the compositional axis, the conceptual continuum spans from media thinking, aesthetics and design (the world of intelligible) to media technology (the world of sensible[730]). At a *macro-level*,[731] the communicational-cultural axis spans from communicative mediation (relation of human being to the cosmos) to socio-cultural mediation[732] (an inter-subjective and affective world) facets. And at a *meta-level*, there is

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[729] Developed by the researcher

[730] See Dinani (2015)

[731] In this particular research, the decision to consider the compositional axis as a micro-level and communicational axis as the macro-level is operationalised in terms of the immediacy and relatedness to the temporal axis, as the meta-level. For instance, it appears that the compositional practices and technologies are the immediate levels of manifestations of medial transformations, while the communicational, cultural and social forces are more complex and require a secondary level of analyses. However, this argument is not universal and can change in different context and based on different research questions.

[732] Grossberg believed that cultural studies are 'trying to interpret how a society is changing in ways that are not amenable to immediate political languages' and 'could be called on to act as the leading edge of measuring new ways of both understanding and implementing social and historical change' (Grossberg, 2010: p. 21).

a temporal axis, which spans from past to the present[733] demonstrating the historical depth of mediality across various epochs of civilizations. The *concept* of intelligent mediation sphere is introduced based on this model. Dinani believed human as the knower encompass six levels from *sensible* world to *intelligible* world of meaning, including sense perception and unity of sensation, visualisation, imagination, conception, thinking (ideation), and intellect.[734]

The embarking idea is to consider all dimensions of mediality, micro-level, macro-level and meta-level. In order to explain the intelligent mediation sphere, it is significant to be cognizant of three dimensions, first, the temporality of mediation (meta-level), which is a reflection about the dynamics of the contemporary global and local characteristics, second, the socio-cultural specific forces (macro-level) and third, media practices (micro-level). Nevertheless, within the scope of the current research, it is challenging to discuss all dimensions, and the explanations and principles are discussed with reference to micro-level aspect. In the following section, the contemporary media practices are discussed.

The media, in the current book, are conceptualised in a larger context of mediation spheres[735]. In other words, instead of categorising or identifying contemporary media as singular activity, the attempt is made to theorise media in terms of mediation processes in the larger context of communicational, temporal, cultural, social, economic, political, technological, aesthetical conditions and the spirit of the age. Media cannot be reduced to certain modalities or technological characteristics, rather they 'set the shape, pace, rhythms, and typography' of cognitive, cultural, social, biopolitical life in temporal and spatial living environment.[736] Media as mediation processes, are sets of non-linear mediated formations in transformations (a dynamic-organic state of 'becoming' cultural events,[737] media situations,[738] mediated environments). In other words, mediation[739] refers to sets of dynamic medial events and situations within certain spheres, which (re)creates and/or (re)construct new forms of being and becoming, (collective) consciousness and/or meanings, moving between the world of virtual (intelligible) and the actual (sensible). Theorising contemporary media in the context of mediation sphere is in many ways beneficial. Each mediation sphere can provide a holistic picture of media

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[733] In discussion with Prof. Dr. Grossberg the temporal axis is conceptually formed.

[734] Dinani (2013), and (2015)

[735] Debray (1996) introduced the concept of 'mediology' and 'mediasphere'. In this research the notion of medial sphere is considered in a wider sense, encompassing the cultural, communicational and temporal dimensions of mediation.

[736] See Grossberg, 2010: p. 632

[737] Grossberg (2010) considered mediation as 'between' state of consciousness and reality or in between the spaces of the virtual and the actual. The idea of 'in betweenness' is mediation is put into question and instead a dynamic-organic state of becoming is used.

[738] Meyrowitz (1985)

[739] Grossberg (2010), defined mediation as 'the movement of events or bodies from one set of relations to another as they are constantly becoming something other than what they are. It is the space between the virtual and the actual, of becoming actual' (p. 258)

cultural-communicational functions, modes, practices, aesthetics, technologies, social forces, and temporalities.[740] It can be argued that there exist various distinguishable historical media formations based on the dynamics of the abovementioned forces. These are known as mediation spheres, which can be categorise into six eras including *presentational, representational, mechanical, electronic, intelligent* and *biological* mediation spheres.[741] There could be several criticisms to this model of classification. These categories seem very general, based on the modern societies, that cannot reflect the complexities of the ancient civilizations, including Chinese, Persian, Egyptian, etc. medial worlds. In fact, there is a need for mediation archaeology or as Debray put it mediology analysis into these spheres, which cannot be covered in the current book. The aim here is to articulate the dynamism of contemporary mediation sphere. In the following the dynamics presentational to electronic mediation spheres are elaborated briefly.

From presentational to electronic mediation sphere

There are various viewpoints on conceptualising medium spheres in the wider historical perspective. The disputes over taxonomies are usually rooted in categorizing civilization in the first place. An important classification of history based on the economic and social systems is discussed by Alvin Toffler. He introduced three waves of civilizations, namely, agricultural age, industrial age, and information age.[742] Toffler believed that during each wave, there existed some general pattern of communication. In the first wave, during the agricultural era, the oral traditions are considered dominant. The second wave, the industrial age, is marked by the usage of electricity to various spheres of life from economy and society to media and artistic practices. This phenomenon is commonly referred to as 'electrification.' In the third wave, the information age, although the electricity remains significant, it does not reflect the spirit of the age. The phenomena of algorithms, 'programification' and processing of information are the core concepts in the information era, and they inform most aspects of life.

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[740] This will ease the cross-medial analyses of cultural practices. For instance, books, films, etc. as cultural practices can be located and analysed differently based on their particular mediation sphere under investigation.

[741] This categorization is open for further development in future studies. It may appear that this taxonomy follows the Western media approaches in defining epochs of media. There is a need for cultural and historical investigation to excavate alternative histories of media transformations. Since the focus in this study is on the intelligent media sphere, the attempt to develop the taxonomy is envisioned for future studies.

[742] See Toffler (1990). It seems that his classification remains compatible to the European and United State context. In the most Eastern civilization, there exist certain ages between agricultural and industrial age which is quite noticeable and unfortunately is not considered in this theory. The scope to challenge Toffler's classification requires a deeper analysis and arguments, which cannot be addressed in this book. Since the industrial and information age is most relevant to understanding of media in contemporary project, Toffler's theory of human civilization is used to elaborate the medial perspective.

In medium theories, similarly, scholars such as Harold Innis, who categorised media based on information flow and monopolies, introduced time-based and space-based media and tried to 'rewrite' the 'history of civilization' from the 'impact of media on cultural forms.'[743] Marshall McLuhan distinguished between various ages of mediality, including the oral-tribal age, the literacy age (Gutenberg's galaxy), and the electronic age (Global village).[744] Donald Ellis[745] has considered three broad categories of oral, written and electronic media.[746] Sager distinguished four types of medium, organizations medium, performance/distributions medium, presentations medium, and signification medium. Mock divided media types conceptually into physical medium, semiotic medium, technical medium, and communication medium.[747]

Régis Debray,[748] who established the theory of mediology (La Mediologie), has identified three mediaspheres, including *logosphere* (writing era), *graphosphere* (printing sphere) and *videosphere*.[749] Joshua Meyrowitz divided media into cultural phases, including the traditional oral cultures, the transitional scribal phase, modern print culture, and postmodern global electronic culture.[750] Mehdi Mohsenian-Rad,[751] influenced greatly by McLuhan,[752] believed that the media in ancient civilizations, i.e. Persian empires, can be divided into four galaxies namely, *oral* galaxy, *Darmani* galaxy,

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[743] See Meyrowitz, 2010: p. 54. Innis tried to map the information flow based on two ontological criteria of time and space.

[744] See McLuhan (1964) & (1962). There is another less favourable classification of media into hot and cool types. It is argued that McLuhan primarily inspired by style of music cool jazz and hot jazz. The cool or hot expression is also common vernacular words used in everyday language, as cool expressions are those which are more complex and hot expressions are easier to grasp (see Mohsenian-Rad, 2014: p. 48-9).

[745] Donald G. Ellis is a communication and media professor at University of Hartford. His major area of interests are communication and media theory, language, intercultural and political communication among others. He is the author of Crafting Society: Ethnicity, Class, and Communication Theory (1999).

[746] See Littlejohn (2002)

[747] See Mock (2006)

[748] Régis Debray (b.1940-) is a French philosopher and media scholar, who is widely known for his initiation of field mediology, focusing on the critical theory of macro-level cultural and social transition in respect to dominant medium of each era.

[749] See Debray (1996)

[750] See Meyrowitz (2010)

[751] Mehdi Mohsenian-Rad is an Iranian media and communication scholars who works on modes of Iranian communication and media evolution. He is the author of Iran in Four Communication Galaxies (2014).

[752] The concern in theorising media in America and Canada increased with the rise of mass communication. The relation between technology and civilization has a long tradition since antiquity. Nevertheless, with the invention of telephony during late nineteenth century, a turning point in understanding of human communication has occurred and technology became a *medial index*. A communication pattern was understood around a technological phenomenon.

Gutenberg galaxy, and *Marconi* galaxy.[753] John Fiske believed that media can be divided into three categories of presentational, representational and mechanical.[754]

Figure 5.3.: Taxonomies of Media in Conceptual continuum of Medium
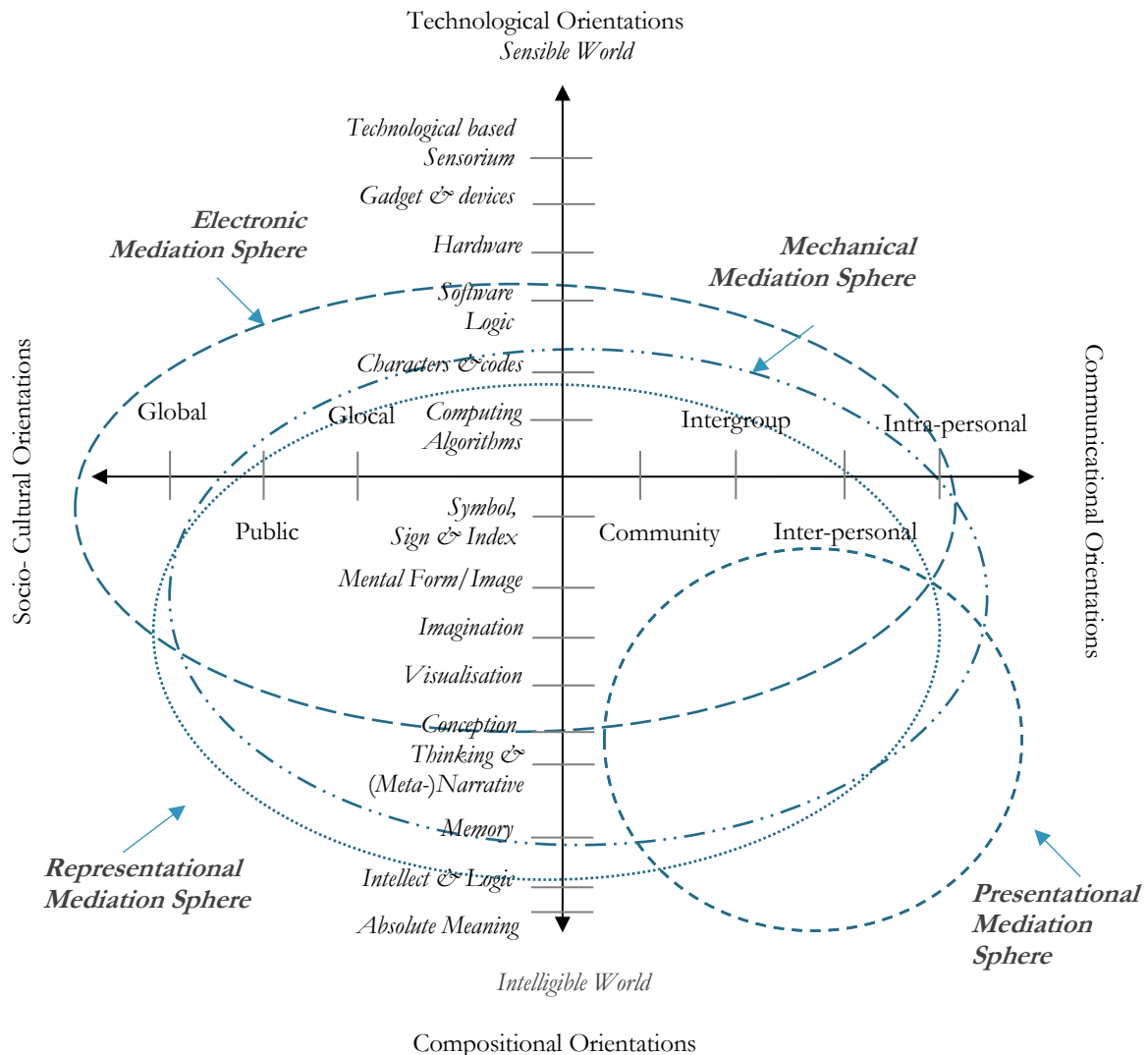
The presentational mediation encompasses both the oral as well as the visual and the body mode of mediality during the early phase of media history. In most of classifications, there is a huge gap between the oral era as the first phase and print era as the second phase. There are only few exceptions, i.e. Meyrowitz's *transitional scribal phase* and Mohsenian-Rad's *Darmani galaxy*, which bridge this gap. Fiske's representational mediation can overcome partially the historical gap between oral and print era. The classifications of Fiske, nevertheless, do not go beyond the mechanical age. The above illustrated model offers a holistic view on the concepts of mediation. In

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[753] See Mohsenian-Rad (2014). Darmani galaxy refers to the great Darius era and his unique communication system in Ancient Persia. He introduced the Chapar system, which was the fastest way of distributing messages in his era.

[754] See Fiske (1990)

the following, the attempt is made to explain each medial sphere in relation to its social, cultural, technological and medial context. The continuum-based concept of negative media is based on a three-axis of recurrent themes of micro-, macro-, and meta-level issues. The immediate issue is related to the tension between the world of *intelligible* and world of *sensible*. The micro-level axis of compositional-technological orientations is further divided into various sub-themes. The compositional aspect of medium, nevertheless is not limited to the study of sign, symbol, syntax, inter- or intra-structure of medial. The compositionality is a continuum, which starts from the abstract world of meaning (intelligible) to the concrete (sensible) world. Subsequently, the continuum is delineated into fourteen sub-concepts ranging from absolute meaning, intellect, thinking and metanarrative, conception, visualisation, imagination, mental form, symbol-sign-index, algorithms, character-code, software logic, hardware, gadget and devices, and senses.[755] The macro-level axis of the communicational and socio-cultural orientation respectively ranges from intra-personal, inter-personal, group, community, glocal,[756] public to global scale.

A productive way to discuss various mediation sphere is the conceptual model introduced. This conceptual model of mediation is based on the set of *relationships* in spherical dynamism of three continua of the compositional-technological axis, socio-cultural communicational axis, and temporal axis. The forces in this model are the dynamics in the worlds of *meaning/intelligible* and the worlds of *sensible*. The dichotomy depicted should not be interpreted as dualistic concepts, rather they are complementary.[757] The pre-medium theories specifically consider a philosophical

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[755] Human as the knower encompass six levels from sensible world to world of meaning, including sense perception and unity of sensation, visualisation, imagination, conception, thinking (ideation), and intellect (Dinani (2013) (2015)). Dinani further elucidated that each stage is in a way a reconstruction of the stage earlier, for example from a reconstruction of senses we visualise, and from a reconstruction of visualisation we imagine, etc.

[756] Glocality is a condition between global and local communities.

[757] Human, a conceptual being, essentially have the tendency to understand the world in discrete. Based on his judgment faculty, which is unique among other animals, human can judge and differentiate between two distinct qualities of a same phenomenon. Some scholars relate this tendency to human body orientation, left vs. right orientations. In Western philosophy, since Aristotle, the two major taxonomies of substance and accidents are almost unanimously agreed among philosophers until today. The major differences, to my understanding, in oriental and occidental understanding lies on the tension between substance and accident, the way they are conceptualised and prioritized. The substance – which is known as 'johar' in Persian, can be understood by intellect, while accident – known as 'àraz'in Persian, is a sensorial understanding. The substance is broadly divided into five aspects: body (jesm), form ('sourat), self ('naf), intellect ('aghl), spirit (hayoula). Accident is associated with nine aspects: quality, quantity, relation, where (space), when (time), position, having, action, passion (See Dinani (2013) & Cohn (2004)). In Western philosophy, substance is viewed as still and accident in motion. Aristotle believed that substance can be speak of in three ways 'one is form, another matter, and the third the product of the two; and of these matters are potentiality and form actuality' (Aristotle, De Anima. Trans by Hamlyn, 1993 – BII-Ch2,414a14). Aristotle's ontology, similar to Plato, aims at universal, however, he finds it in particular things. Form (eîdos) and matter (húle) is the primary two-fold sense of the being and other aspects are secondary (Kittler: 2009, p. 24) To be precise, 'from Aristotle onwards ontology [in Western discourse] has dealt with the matter

ground for the concept of media, positioning the human as a connection to the ultimate truth. The post-medium theories mainly emphasise the technology as the ultimate conception of mediality. The tensions between material and sensorial-oriented means and arbitrary abstract constructed meanings are manifested in the continuum, spanning from the state of compositional (the world of intelligible) to the technological (the world of sensible).[758] In the following, each sphere is explained as a network of medial relations based on the abovementioned model.

Presentational mediation sphere

The presentational mediation, in many literatures, is considered as the primary porotype for other categories of medial spheres. The presentational mediation refers to the network of medial relationship created mostly around the communicational (including intra-personal to community) and compositional (including world of meaning to mental form and presentation). The presentational mediation is mainly shaped by a process where communicator has a direct presence (that is all sensational and intellectual faculty and cultural environment are unified) in the act of communication and meaning-making. To connect immediate world of meaning in case of intra-, and inter-personal to community communication, the human faculty and body is presented in the process of mediation.

This brings the condition of socio-cultural 'here-ness' (space) and 'now-ness' (time), and produce the *acts* of communication, in which the means of expression are usually languages of spoken words, body expressions, gestures, voice, face, mimics, etc.[759] The presentational mediation is close, but not limited to conception of mediality in pre-medium theories, i.e. Plato' medium of dialogue or Beltings' triangular conception of image-medium-body. Belting's conception of living medium, as body, which produces,

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and form of things rather than relations between things in time and space' (p. 23). In other words, the substance, form and matter, privileged over the accident, addressing time and space, in ontological discussion. Oriental philosophers prioritize the substance over accident. There is, however, various perspectives on substance. Iranian-Islamic philosopher, Mula Sadra, proposed the idea of 'Substantial Motion', negating the stillness of substance dominated in Western philosophy. He believed that the holistic aspect of substance is only represented in human being. This idea is represented in Rumi's spiritual, philosophical Sufis poet: 'human is the only substance (Johar) and the rest is accident (Áraz)'. Sri Ravi Shankar, Indian spiritual leader, believes in seven layers of human as substance: body, breath, mind, intellect, memory, ego, and spirit. He stated that breath is a connecting element between matter (accident) and mind (substance). The contemporary Iranian-Islamic philosopher and intellectual, Dinani, believed that ontology cannot deal with the very essence of phenomena or things, but can only reflect set of adjectives and features describing the substance.

[758] The concept of intelligible and sensible is used based on ideas of the thoughts of contemporary Iranian philosopher and scholar, Gholamhossein Ebrahimi Dinani. He is best known for his researches on Iranian school of Illuminationism, which was founded by Suhrawardi and influenced by Avicenna. His major works including entitled From Sensible to Intelligible (2015) and The Wisdom of Dialogue (2014), as well as his series of philosophical talks, known as Marefat.

[759] Fiske, 1990: p. 18-9

perceive, remember images is a kind of presentational medium. Plato admit the wise human being, the philosopher, is a medium to connect the worlds.

> Insofar as we admit that it is the philosopher who is the one whose endeavour it is to explicate and to grasp the nature of the fifth, this passage also situates the philosopher as a kind of in-between being.

> (Pettersson, 2010, p.47)

The presentational mediation sphere is usually referred to as oral tradition, e.g. Innis' notion of space-based medium (stone documentation of information) in ancient civilization, McLuhan's notion of oral-tribal galaxy, Ellis' notion of oral media[760], and Meyrowitz's notion of traditional oral cultures. Although these explanations are insightful, the presentational media sphere cannot be limited to the oral *act* of communication. A major criticism is that the idea of oral media is associated with 'primitiveness' on the one hand, and 'pureness' on the other hand. Ellis argued that 'the predominant media at any given time will shape behaviour and thought' and 'as media change, so do the ways in which we think, manage information, and relate to one another'.[761] He placed 'media qua media' at the centre of 'social structure and change'.[762] Ellis believed that writing and advent of printing provided a platform for manipulation, editing and 'acting on' the knowledge and information in a way which was not 'evident in the oral tradition'.[763] This could be a reference to Plato's critique of writing over dialogue, which he believed writing can create a platform for manipulation. The oral tradition, nevertheless, has its own way of manipulation and editing. Acting on knowledge and information is manifested in rhetorical traditions and narrative strategies.

Speech as a complex arbitrary technique in presentational medium has been facilitated communication for millennia. Littlejohn believed that speech itself is a medium, since 'it is produced one sound at a time, encourages people to organize their experiences chronologically'.[764] He believed that in this system

> […] individuals and groups must keep information in their minds and pass it on through speech. Because everyday experience cannot really be separated from the oral medium of transmission, life and knowledge cannot be separated. The telling and retelling of stories over time privilege

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[760] Ellis has considered three broad categories of media: oral, written and electronic media.

[761] Littlejohn, 2002: p. 306

[762] Ibid, p. 307

[763] See ibid, p. 306

[764] Littlejohn, 2002: p. 305. To my understanding he refers to the production and reception of speech which is 'one sound at a time'. Otherwise the human levels of meaning-making and experience is non-linear and not chronological at intrapersonal level. However, in order to communicate it, one may use chronology as a type of expression.

narratives as a form of communication and require group memory as the "holder" of society's knowledge. This can lead to a collective consciousness in which little distinction is made between self and group. Group identification and cohesiveness are high when oral media predominate.

(Littlejohn, 2002: p. 306)

He further emphasised that speech 'requires knowledge and tradition and therefore supports community and relationship'.[765] Another point to highlight is the sense ratio, which is *hearing-oriented*. In Donald Ellis view, the oral communication is 'malleable and organic' and oral messages are 'immediate and ephemeral'.[766]

Therefore, the presentational elements used in (art) practices are associated with immediate facial, oral, bodily, intuitional, atmospheric expressive and eventful interactions. Four main communicational elements include oral dynamics (prosodic code, i.e. pitch, stress, etc., paralinguistic code, i.e. accent, tone, volume, speed, errors, etc.), body dynamics (bodily contacts, proximities, spatial orientations, identical/symbolic/iconic gestures, kinetics, postures, appearance, design, etc.) facial dynamics (movements, expressions, positioning, mimicry and managements of face organs, etc.), identity dynamics (personality, gender, social class, character, emotional state, worldview, values, ethics and moralities, etc.) and context dynamics.[767] The facial and bodily interactions in presentational mediality are more deciphered, rather than being composed (or they are composed marginally). The central essence of composition is dynamics of *emotion* and *conation*.[768] These presentational elements are widely used in other forms of mediations. For instance, the facial expression is significant from visual art, dance,[769] theatre, photography, cinema, animation, and high-tech face recognition in app design.

Representational mediation sphere

The representational mediation sphere encompasses a network of relations between communicational (including the range of interpersonal to public), and compositional (including world of meaning to symbol, sign, and index). The representational mediation is viewed to create some sort of 'text,' based on the presentational mediation and that can exist independently of the communicator. The representational mediation generates *works* of communication, i.e. manuscripts, paintings, photographs, writing, architecture,

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[765] Littlejohn, 2002: p. 305

[766] Ibid, p. 306

[767] Developed after Fiske, 1990: p. 68-70

[768] Fiske (1990) pointed out that the 'Presentational codes are most efficient in the conative and emotive functions' (p. 67).

[769] These elements are based on cultural situation, gender, ethics, values, inter alia. For instance, in traditional Ghajari Iranian dance, the eye movement is an element which compose various layers of meaning. Similarly, the Indian dance is composed of various sets of eye movements.

interior decorating, gardening, and creative works, inter alia. The representational mediation sphere introduced the of use coding system, 'cultural and aesthetic conventions' to create 'text'.[770] In this medial sphere, the cognition rather than emotion is emphasised.

Representational mediation sphere refers to an era where the medium extended beyond the 'presence' of the communicator. This era emphasises a strong relation between the communicator and the text. The concept of audience is formed in this mediation sphere, since a third element is required to receive the relationship that has been created. From technological perspective Kittler believed that the emphasis in this mediation process is on the 'storage' and memory, which 'records' the presentational mediations and media situations. This particular view on 'storing' quality, represent the society where the act of *storing* was dominant and necessary for survival in agricultural age. The representation could overcome the shortcomings of memory, which was socially effective during feudal systems.

The media tools were natural phenomenon, instruments and techniques developed in order to complete the nature.[771] Innis and McLuhan did not distinguish this particular galaxy. They believed that after the oral galaxy, there is the Gutenberg's galaxy. Perhaps Innis and McLuhan referred to this period indirectly. They have developed two concepts of time-binding and space-binding media. In their view, 'heavy media such as parchment, clay, or stone' were *time-binding* medium while the *space-binding* medium were light and transportable such as light[772], paper, etc.[773]

The most important system that has developed during this period is writing system. In Ellis's view, writing has separated the knowledge and information from the moment and provided a broader platform for manipulation, editing and recasting information. He referred to this as 'acting on' information and knowledge, which led to separation of 'knowledge (what is known) from the knower (who knows it)'.[774] This separation and 'storing' of the knowledge led to *literacy-divide* in the society.

> Written language is the prototype for all media. For seven thousand years, it has provided a workable and flexible method for getting information from one person to another.

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[770] Fiske, 1990: p. 18-9

[771] Aristotle held the view that human activities are divided into thoughts, actions, and productions. Production or in his term, teckne or poíesis, are further divided into technique and art. The technique is extension and complementary to nature and art is imitation from it.

[772] Light as a medium was introduced during Darius I, the king of Persian Achaemenid Empire. He built towers of fire in order to transfer messages from far from every corner to the heart of Persian empire.

[773] Innis and McLuhan believed that time-binding media, which 'facilitate communication from one generation to another', are biased towards the tradition and space-binding media, which 'facilitate communication from one location to another', are fostered 'empire building, large bureaucracy and the military' (cited in Littlejohn, 2002:305).

[774] Littlejohn, 2002: p. 306

The writing language is considered the most advanced form of storing meaning in medial forms, a complicated coding system that human being is invented. The language systems remain as a base for transformation of media systems even to the invention of computers. The structural foundation of the technical media as we know it today, however, is usually associated with the idea of transmission and 'content reach'. That is the main reason why the modern concept of medium is usually associated with expansion of Gutenberg's mechanical machine for reproduction of message and dissemination of information to a large number of people called audience.

The visual communication is similarly a sophisticated representational practice. They engage and perform at the level of cognition and perception. Narration, composition of thoughts and language are closely interlinked. It would be insightful to discuss briefly various views on the theory of language. The human being is considered as a meaning-making and conceptual creature. There exist various interpretations of expressive quality of human being. In the Western thought, this expression is defined *positive* and can be represented in any *productive* ways, which are observable by senses. Verbal and bodily expression are the most immediate *presentation* of human thought, which are produced by non-sensory organs, nevertheless are grasped by immediate receptive senses. This inseparable combination of *expression* and *sensation* is rooted in social, and cultural aspect of the human life.

In the Eastern thought, the expression is defined *negative*. Senses are one way of perceiving human's expressions. Language is viewed, in this light, as an ancient social and communicative system to express intellectual thoughts, meanings, and concepts. Some believe that 'language is not a structure, not a system of meanings, nor a tool for communication'.[775] They considered language as a broad human capability which is a prototype for any form of human expression. In Western discourse, it is believed that any expression is made in form of language. Monaco believed that 'Written language is the prototype for all media'.[776] Heidegger and Wittgenstein used the term 'die Zeige', translated as 'mannered expression' or 'pointing out' [in Persian Bayan], to address the language.[777]

Mersch, inspired by Heidegger and Derrida's thesis of language, stated that 'all forms in which reflection is meant to take place are themselves a language. All discourse shows itself to be so pervaded by the medium of language'.[778] The 'Zeige' according to Mersch, 'can only show in the process of speech, that is, the *performativity* of talking, and what is shown that cannot be said [italic added]'.[779] He believed that Derrida's

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[775] Mersch, 2013: p. 212
[776] Monaco, 1981: p. 351
[777] Ibid
[778] Ibid, p. 210
[779] Ibid, p. 212

deconstruction, an attempt to reveal the unconscious aspect and implicit intentions, is a manoeuvre in order to make 'apparent something invisible or unrepresentable,' the 'structurality of a structure and its occurrence,' via 'changes and displacements' which are happening through 'implementation' and 'performativity'.[780] The written language, nevertheless, brought up sensation about the systematic nature of alphabetic language.[781] There exist various opinions on components or aspects of language as a system. There are various approach to view media (sensorial) compositions in terms of linguistics or semiotics. The definition of sign, index and symbol surrounded the discourse on media language.[782]

One of the major concerns in written language besides the individual signs is the *organization* of signs. Saussure believed that there are two ways in which signs are organized into codes; one is *paradigms*, and two is syntagms.[783] Paradigms, in his view, are a category or set of signs enjoying certain similarity and commonality that is distinguished from other paradigms, out of which a sign is chosen, e.g. alphabets, numbers, English vocabulary, etc; while syntagms are *combination* of units of paradigms, which are usually based on conventions and arbitrary compositional rules, e.g. a 'sentence is a syntagm of words'.[784] Syntagms in written language are known as *grammar.*[785] In other forms of expression, respectively, syntagms is conceptualised differently, which will be addressed later. The philosopher Charles W. Morris[786] proposed three types of symbolic relations, namely, semantics, syntactics, and pragmatics. Each of these branches defines a systematic relationship among some related elements concerning signs, that are meaning and objects (things).

The pragmatic and syntactic emphasise the organized systematic use of signs in everyday life and they refer to it as pragmatic codes and syntactic codes.[787] *Syntactic code*

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[780] Mersch, 2013: p. 212. Mersch has used this idea as a base for his negative media theory (see chapter two).

[781] It should be highlighted that there exist various types of written language system. For example, the ever-growing language like Chinese and Egyptian hieroglyphs, do not have a closed alphabets system, while Latin origin languages have the alphabet systems, which are closed numbers for any scripts (Kittler in Gane & Sale. 2007: p.326).

[782] Pierce, furthermore, identified three types of signs: iconic, indexical, and symbolic, addressing the type of reference between sign and meaning: Icon – When the sign 'resembles its object', that is 'derived their meaning by resembling what they meant' (Cohn, 2013: p. 18) e.g. map. Index – When there is 'direct link between a sign and its object' (Fiske, 1990, p. 46), that is drive 'their meaning from by causing or indicating meaning in something else,' (Cohn, 2013: p. 18) e.g. smoke as index of fire. Symbol – when the sign is not connected or resembles the object, (Fiske, 1990: p. 46) that is derived from 'conventional relationship between a stimulus and its meaning' rather resemblance or indication (Cohn, 2013: p. 18) e.g. a written word.

[783] See Fiske, 1990: p. 56-58.

[784] See Fiske, 1990: p. 57-58

[785] Ibid

[786] Charles William Morris (1901-1979) was an American philosopher and semiotician. His approach in semiotics are said to be psychological interpretation of Pierce's model. His philosophy is considered to be influenced by logical positivism, pragmatism and behavioral empiricism.

[787] Littlejohn, 2002: p. 58

refers to communication in a wide range of platforms without essentially negotiating shared or common meanings; in other words, understanding the rules of grammar makes this communication possible.[788] This notion is in contrast to *pragmatic codes,* where the communication is based on shared meaning and common understanding and knowledge; here the grammar is essentially not playing important role. According to system theory, where a system influenced and is influences by other systems, both pragmatic and syntactic as separate sub-system, in a larger system of meaning making process, can influence one another.[789]

In semantic, Susanne Langer believed that 'the real significance of language […] is not in individual words but in *discourse',* that is by 'tying words together into sentences, people create *propositions,* which are complex symbols that present a picture of something'.[790] It is believed that language possesses 'rich potential for combination and organization,' which made the language as a platform to communicate, think and feel.[791] In classical syntactic, language is viewed as a 'structured system representing reality' where language forms, i.e. speech sounds, words, grammar are considered most important.[792] Saussure believed that '[a]lthough language structure is arbitrary, language *use* is not at all arbitrary, because it requires established conventions'.[793] Language, in structural sense, is considered 'a system of formal relations without substance', where the structures of the system is understood in terms of *differences*, in other words, 'only in contrast with other linguistic units does a particular structure acquire meaning'.*[794]* Viewing this system in terms of only differences can be to some extent Western in approach. Looking into Asian and Latin American approach, finding similarities and commonalities can be proposed.

Baudrillard divided the evolution of sign in society into four eras: symbolic order, counterfeits, production, and simulation.[795] In *symbolic order*, during feudal society, the sign had 'a clear connection with the signified'; in *counterfeits* era, from renaissance to industrial revolution, signs had 'less direct relationships' with signified; in *production* era, during industrial revolution, the invention of machine made the 'object independent of any human use of signifier'; in *simulation* era, 'signs no longer represent − but create − our reality'.[796] He proposed the idea that media exacerbated the separation of signs from the real object, the situation where media bombard us with simulation to create our world, values and behaviours 'are highly constrained by the "reality" simulated in the

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[788] See Littlejohn, 2002: p. 58
[789] See Ibid, p. 58
[790] Ibid, p. 62
[791] Ibid
[792] Ibid, p.63-4
[793] Ibid, p. 64
[794] Ibid
[795] See Ibid, p. 307-8
[796] Ibid, p. 307

media'.[797] Since the 'objects are separated from their original natural state,' they may have 'bizarre meanings'; therefore 'Possession is more important than use'.[798] Baudrillard believed that the result of the process of simulation is making less 'distinctions,' which in returns lead to *hypertelia*, a state in which meanings 'collapse, or implode, into a huge mass'.

What have been discussed so far were major approaches of theories of language. When it comes to literary production, as a form of art, the compositional systems are far more complex. Roland Barthes brought to notice the complexity of *signification*. He believed that there are two orders of significations.[799] The fist-order of signification is denotative meaning of codes. The second-order signification, in Barthes's view, encompasses three types of connotation, myth and symbol.[800] The connotation is *howness* in comparison to *whatness* of denotation at signifier level, while myth, 'culture's way of thinking about something, a way of conceptualising or understanding it,' which is at the signified level.[801]

In literary composition is widely designated to imaginative writings, which are especially 'distinguished in form, expression, and emotional power'.[802] To reflect these emotional and imaginative expressions, literary compositions, move beyond the first and second order of signification, deconstruct forms, signs, organization and style. The organization of signs in representational mediation specially brings about the logics of narration. Figurative compositional techniques are quite common in literary practices. Nevertheless, neither narration nor figurative techniques are not limited to written language and from a cognition perspective, they are attributed as human compositional strategies. The rhetorical traditions, in fact, influenced many compositional traits and figurative technique across media directly or indirectly. Rhetoric is broadly divided into five major cannons of *invention*, *arrangement*, *style*, *memory* and *delivery*.[803]

The figurative compositional traits in language, brings the special *effects* and imaginative layers of meaning. They are broadly divided into two types of *figures of thought* (schemata dianoias), known as tropes, and *figures of speech* (schemata lexeos), known as

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[797] Baudrillard believed that 'the media dominate our lives with information that forms what we perceive to be genuine experience, but it is far removed from the natural order of things. This leads us to obscenely exaggerated form of life. We feel that these are real experience within the simulations created by the media. Our commodity culture is one aspect of the simulation in which we live' (in Littlejohn, 2002: p. 308).

[798] Littlejohn, 2002: p. 308

[799] Fiske, 1990: p. 85

[800] Ibid, p. 86-91

[801] Ibid, p. 88

[802] Abrams, 2005: p.152-3. It is believed that the word literature in English, is derived from the Latin word literature meaning writings, used in a sense to French concept of belles letters meaning fine letters, designated to fictional and imaginative writings (p. 152). However, literature in general sense may refer to written document in particular field, i.e. philosophy, science, etc. In Persian literature is known as 'adabiat' literally means knowledge related to 'adab' literally meaning manner of culture, knowledge, art, and decorum.

[803] Burton (2015), see 'the cannons of rhetoric' entry.

schemes.[804] The figures of thought are closely associated with topic of invention, i.e. metaphor as the most distinguished tropes is a comparison, an issue of invention.[805] The major differences between figures and invention, nevertheless, could be whether to view is as *'expression* of an idea (an issue of style) or the *composition* or *discovery* of an idea or argument (an issue of invention)'.[806] *Trope*, is related to *ideas* and it is an 'artful deviation from the ordinary or principal signification' of a sign system, while *scheme* is related to *expression* and it is an 'artful deviation from the ordinary arrangement of words'.[807]

In oratory tradition, memory is initially closely attached to the concept of 'mnemonics (memory aids),' which assist the orator in representation of his composed speech.[808] Nevertheless, some placed memory as 'treasury of things invented' and considered it in close proximity with first cannon of rhetoric, invention.[809] Interestingly, memory is not viewed as act of memorization, but, as becoming 'peritus dicendi, well-versed in speaking,' which is feasible if one has 'a vast deal of information on hand to be brought forth appropriately and effectively'.[810] In modern discourse, this meaning of memory is equated a data base concept, that is storage and processing together. In a deeper sense, memory in rhetoric canons, suggest a psychological preparation of communicative performance.[811] It deals with both the memory of orator along delivery, memory of audience to retain, and collective memory of the community. Figures of speech, in fact, are aiding memory to enhance.[812] Both memory and delivery are part of rhetorical practices. They are not viewed as separate mediality distinct from invention, arrangement or style.

Mechanical mediation sphere

The mechanical mediation refers to the network of medial relation spanning from inter-personal to public communication and the compositional dimension is technologically supported by mechanical forces. Since the mechanical media technologically can transmit and storage presentational and representational media, other aspect of mediation is usually underestimated. This mediation system, to be sure, has no meaning conceptually without the existence of the two previous categories. The mechanical mediation sphere mobilised the public dynamics. McLuhan termed this era as Gutenberg galaxy, which is associated with the expansion of literacy and printing technology. It is believed that 'linear, logical, and categorical kind of perception' is

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[804] Abrams, 2005: p. 101 and Burton (2015).

[805] Burton, 2015

[806] Burton (2015) believed that drawing a distinct line between the matter of inventions and figures of thought or even speech is not an easy one. Scholars developed a third category of figures of amplification to accommodate topics which stays in between.

[807] Burton, 2015

[808] Burton, 2015

[809] Ibid

[810] Ibid, entry 'memory'

[811] Burton, 2015

[812] Ibid

associated with the mediation effect of this era.[813] The Gutenberg printing technology in a way 'created an explosion in society, separating and segmenting individual from individual'.[814]

The 'multiple reproducibility' of Gutenberg's machine, which forged the initial ground for 'mass' production, is considered a 'prime factor' in the structure of technical media we understand today.[815] The foundation of the mechanical media technologically is based on translation of waveforms into physical forms.[816] Edison's phonograph turned this theory into reality.[817] This rule continued and advanced in electronic mediation. The reproduction of books, according to Kittler, added a new technical dimension of transmission to representational mediation. Books are considered to be among the first generation of industrialised and systemised media tools as we know today, in continuation to its previous medium of representation. During 1500 until 1800, the book industry marked its presence and became the dominant industry of this age. The full potential of this medium, however, is recognized by the rise of literate middle class during the nineteenth century.[818]

Reduction forms of books emerged during this era, i.e. newspapers and magazines, opened a second generation of mechanical transmitted form of communication. Magazines and Newspapers introduced diversity to the medium of book where it was limited to particular subject and was a singular 'events'.[819] The open and flexible characteristic of newspapers and magazines offered the visual language system of photography besides the written language.[820] Soon the newspapers and magazines integrated the photographs[821] and provided a platform for materiality of information and entertainment. Later they have found their business logic based on *space* for advertising.

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[813] Burton, 2015

[814] Ibid

[815] Monaco, 1981: p. 351

[816] Ibid, p. 363

[817] The Edison's phonograph 'did not depend on any advanced developments in technology: it was a simple mechanical system involving no chemistry or electronics, or even any particularly difficult engineering', the governing technique is 'translating one wave form into another', e.g. translating sound waves, 'whose medium is air', into physical waves, 'whose medium is the wax cylinder or disc' (Monaco, 1981: 363).

[818] Monaco, 1981: p. 351-2

[819] Ibid, p. 351

[820] For some years, the advancement of newspaper reproduction remained at the level of increasing the quantity of production, namely the increase of speed and flexible process. Later the quality of production became the agenda and the integration of photographs with various high-quality print was advanced. The New York Graphic in 1880 printed the 'first halftone photographs', which was accepted by other printing house a decade later. (see Monaco, 1981: 352).

[821] 'The basic problem with reproducing photographs in print [back in late 1880s) was that the photographic process produces a continual and infinitely variable range of tones from white through grey to black, while the printing process is essentially "binary" – any given space on a printed page is either white or black

Some believed that the central compositional essence is the mechanical mediation (art) practices is *kinetic*, movement and perspective, which is controllable and dynamic. The compositional policy of print added new rules of creation, arrangement, style and delivery and usage. The logic of kinetics in this era can be manifested in mosaic and montage arrangement.[822] The mechanical mediated formations, engaged the readers into a cognitive activity of comprehension. The expansion of printing technology not only brought the written language to a new dimension but also re-introduced the visual worlds.

Some believes that written and spoken language is a prototype for visual compositions. Others remain sceptic using the notion of 'language' for other human expression in general and visual media in particular on the base of the linguistic-determinism. Nevertheless, some clarification in this topic is required. The two closely associated terminology with reference to relation sign and object is *motivation* and *constraint*. A 'highly motivated sign is a very iconic one', in other words, the 'more motivated the sign is, the more its signifier is constrained by the signified'.[823] The degree of motivation and constraint can be influential in genres and the degree of reality representation among others. The visual composition can particularly influence the establishment of motivation of signs, in comparison to written language. In photography, frame, focus, lighting, camera angle etc., affects the final holistic image. The compositional lines are conventional in nature, and therefore determined by socio-cultural traditions. The following scale shows the degree of convention in relation to motivation.[824]

The visual communication enjoys all forms of references from iconic, indexical to symbolic representation. Traits or properties of stimuli are *systematic* (conventionalized), and *unsystematic* (novel in appearance). Each type of reference can be either systematic or unsystematic except symbol since the meaning is derived conventionally.[825]

There are two major critique on the existence of visual language of media, firstly, the visual sequences are not equal to written or spoken languages, since they are not built on 'a set of arbitrary signs' or visual vocabulary. [826] Secondly, due to wide range of visual forms, one cannot identify 'lexicon' or 'visual language dictionary', since there is

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[822] 'The mosaic arrangement of these print media allows the reader the efficient luxury of what in computer terminology is called "real-time access". For instance, a newspaper reader can choose precisely which item he wants to read and can decide as well how long he wants to stay with each one, […] information in print is coded more strictly than media information, print is still the most efficient medium for communicating abstract information. Partly because the reader has such considerable control over the experience, far more information can be presented, and the structure of the print media makes it available in a more efficient manner: you can't thumb through a record, or skim a film' (Monaco, 1981: p. 361).

[823] Fiske, 1990: p. 52

[824] Source: Fiske, 1990: p. 56

[825] See Cohn, 2013: 18-20

[826] Cohn, 2013: p. 17

no 'conventionalized units of meaning' such as words to form a sentence. [827] Viewing language in terms of a phenomenon or system made up of arbitrary signs gained wide acceptance since the early twentieth century, informed mainly by works of Saussure, who distinguished between *langue* (formal language) and *parole* (the actual use of language in communication). The langue (language) is considered to be 'formal system' which can be 'analysed apart from its use in everyday life' while parole (speech) is considered as the 'actual use of language to accomplish purposes' and cannot be analysed without considering its users.[828] This aspect is of high importance, since the actual use of the visual system is meaningful in relation to its users. The mechanical mediation sphere systematised the visual communication in way, which required the act of comprehending and reading of images. The graphical novels are the responsive example in this category.

Cohn distinguished between 'the sociocultural' visual sequences ('comics') and the structural/cognitive system ('visual language').[829] In the latter, 'the units of investigation are the representations and principles in the human mind that motivate comprehension, from understanding form and meaning to usage in social settings'.[830] In terms of creating

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[827] Cohn (2013) addresses quick responses to these two scepticisms. He believed that viewing language as an arbitrary set of signs, which are influenced by Saussure and dominated mainly in linguistics, is one way to theorise visual language. Furthermore, understanding visual language should not be limited to a comparison to spoken language system of particular community. Cohn raised the issue that the second contra argument of existence of visual language based on lack of words can be rooted in *analytic type* languages, such as English and Japanese, which are dominated by words forms with a grammatical role in language system. This in contrast to *synthetic* types of languages, such as Turkish and West Greenlandic, which are based on smaller meaningful combinatory pieces that create novel grammatical units and cannot operate a grammatical role in isolation (Cohn, 2013: p. 21). Another example is the ever-growing language like Chinese and Egyptian hieroglyphs, which has not closed alphabets system, in contrast to the alphabet systems, which are closed numbers for any scripts (Kittler in Gane & Sale., 2007: p.326). Moreover, he raised the issue that the language is beyond words, such as examples of idioms in a language.

[828] In linguistics, the aim is to study language and not the parole. Saussure put that 'Taken as a whole, speech [parole] is many-sided and heterogeneous; straddling several areas simultaneously … we cannot put it into any category of human facts, for we cannot discover its unity. Language [langue], on the contrary, is a self-contained whole and a principle of classification (Cited in Littlejohn, 2002: 64). The major differences between langue and parole, which he called it *stability,* is that langue enjoy minor change over time – a characteristic called *synchrony* – while parole change mainly and constantly over time and in different situation, a characteristic called *diachrony* (Littlejohn, 2002: p. 64). Some believe that the dichotomy in speech or parole made it not desirable for 'scientific study,' that is while linguistic is more langue-oriented due to its synchronic nature.

[829] Cohn, 2013: p. xvi. He argued that 'Comics are not a language, but they are written in a visual language of sequential images' (Cohn, 2003: p. 2).

[830] Cohn, 2013: p. 3. The major criticisms on Cohn argument on visual language is lack of theoretical justification for his discussion. Besides that, there is discontinuity in use of concepts; for instance, he used 'system of communication' referring to visual language and distinguish it from comics as 'sociocultural context'. In this instance, it is not clear that what is the definition of communication, and how it is distinguished it from socio-culture context. Furthermore, considering the cognitive science and linguistic as an apt tradition to study visual language, may increase the pragmatic and positivist tendency in study of visual language. In his definition of visual language, Cohn, referred indirectly to a philosophical issue of human as conceptual being and ways s/he expresses these concepts.

meanings, Cohn viewed that 'visual language most often occurs in conjunction with written language. He believed that there are more ways to understand these concepts; however, these are the primary ways to '*produce* concepts.'[831]

The issue raised here is very fundamental, nevertheless, there are various philosophical assumptions on human as conceptual being and ways these conceptual meaning are communicated. In orient, the ways of expressions are not limited to 'creating sounds,' 'moving bodies' or 'creating graphic representation'. The very formulation of three types of expression defined by Cohn, are based on perception senses, and it is limited to understanding language in sensation of hearing (in 'creating sound'), and visual (in 'moving bodies' and 'crating graphic representation'). The question is whether *silence* and *meditative mode* are ways of expressing, and whether they fall within any of these types, and whether can be considered in category of language. It is important to notice that language, as a system is primarily time-based. Through the systemisation of mechanical reproduction, the visual communication as spatial-comprehension oriented towards the time-based cognition.

Perceptual and cognitive complexity in producing and interpreting compositions brought two dual distinctions between *production* and *reception*. In Electronic mediation, these two distinct practices of reception and production even gains more currency.

Electronic mediation sphere

The electronic mediation transforms the network of relations to global communication. Technologically this medial sphere is associated with broadcast electronic technology, transmitting and storing the former generations of media. Using the notion of 'electronic' for a particular mediation sphere may raise the criticism of techno-deterministic approaches. Nevertheless, naming an era as electronic sphere ironically is compatible with the spirit of the modern age and the importance of light and electronic technology.

Electronic mediation sphere refers to the age of the expansion of 'electronic' media. The electronic age, in contrast to the mechanical age, has created 'an implosion, bringing the world back together in a "global village"'.[832] Ellis believed that electronic media restored the orality tradition in immediate and ephemeral way without bounding it to a particular place.[833] Furthermore, they have extended our perception beyond now and here. However, evolutions of media are an ongoing process and a direct revival of oral traditions are a generalised narrative about mediation transformations. Ellis claimed that orality creates a culture of community, literacy a culture of class and electronic communication a culture of cell. [834] Similar to mechanical mediation, electronic mediation technologically can store information in greater capacity, which provided the

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[831] Cohn, 2013: p. 14
[832] Littlejohn, 2002: p. 306
[833] See ibid, p. 306
[834] Littlejohn, 2002: p. 307

base of the information-based society.[835] In this period, information is sold as commodity, provided various versions of truth and changed conception of knowledge.[836]

Electronic mediation created a 'new kind of public not bound to place,' bring about 'the paradox of separation through differences and the importance of participatory democracy.'[837] The advancement of electronic mediation sphere technologically reached its peak by the initial years of twentieth century.[838] The broadcasting technology which made feasible via 'electromagnetic radiation' transformed the communication process to a great extent. The major example is the expansion of radio via electromagnetic waves. The broadcasting and film industry promised a gigantic business plan, left the publishing houses less attractive. Technological changes, the introduction of microelectronic during the early 1940s and 1950s, introduced a new technological paradigm built on electronic revolution, started during 1960s and 1970s in the West and rapidly diffused around the globe. A new dimension of electrical technology enhanced the mechanical logic, which is based on translation of waves into physical forms, and the translation of sound waves into electrical waves and vice a versa.[839] The shift from physical mechanical to electrical transmission was a huge structural and technological transformations.

The Bell's telephone, and microphone-speaker system, contacting switching equipment and amplifying devices, grounded the base of the next generation of networked media systems. Monaco explained the role of telephone in shaping media technology today as following:

> The concept of amplification that allowed the telephone signal to travel greater distances led directly to a host of twentieth-century electronic devices. The theory that developed out of the telephone switching system, which allowed any one phone in the system to be connected with any other, directly foreshadowed computer technology and modern systems theory.

> (Monaco, 1981: p. 365)

The electromagnetic theory,[840] transformed the structural media development to a great extent. It required no more 'pre-existing physical medium' and 'transmitters and

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[835] Littlejohn, 2002: p. 306-7

[836] Ibid, p.307

[837] Ellis believed that 'The politics of interest prevails, and democracy, assumes importance as a way to manage differences. Yet, ironically the competition and commodity-based economy that accompanies electronic media fight against the very values most needed in this environment – civility and collegiality' (in Littlejohn, 2002: 307).

[838] Monaco, 1981: p. 363

[839] Ibid, p. 364

[840] The revision of electromagnetic theory of James Clerk Maxwell (in his 1873 publication A Treaties on Electricity and Magnetism) by Heinrich Hertz, who had discovered 'a way to produce electromagnetic radiation at will', is considered significant in radio technological transmission. The spectrum of electromagnetic waves 'runs in frequency from 0 cycles per second as high as 10^{23} cycle

receivers could be "tuned"' to certain wave frequencies.[841] The radio waves had the advantage over the telegraphic/telephonic systems, which required wired networking and switching systems. Guglielmo Marconi advanced the radio by his radiotelegraphy system, which demonstrated a wireless telegraph in England.[842]

Telephone translated the sound waves into electrical waves via a wire network. The Canadian inventor, Reginald Fessenden, advanced the Marconi's wireless system based on 'on-off' code and introduced a complex system for carrying sound signals in 'continuous wave' using 'modulation'.[843] Fessenden theory is implemented technologically via Lee De Forest's invention of the 'audion tube' in 1906. It gave birth to 'electronics' and eased applying a simple method to frequency modulation and amplification.[844] The American electrical engineer and inventor, Edwin H. Armstrong, introduced a revolutionary 'Regenerative Circuit' (1912) and 'Superheterodyne Circuit' (1918). The idea of 'circuitry' becomes the most significant concept of the twentieth century, which led to concept of 'Integrated Circuit' and chips we know today in computer technology.[845]

During 1948, the transistors invented by John Bardeen, W. H. Brattain, and William Schockley, which was an advanced model of De Forest's 'audion vacuum tube', produced cheaper and as a source energy introduced new possibilities for circuits.[846] In 1959, the introduction of Integrated Circuit, which was produced chemically rather than mechanically, reduced considerably the size of chips, 'smaller than thumbnail', capable of electronic functions as previous generations.[847] The chips plays central role in today's computer technology and the size of the chips and circuits are reducing immensely by introduction of new technology. The future of chips lays on the DNA bio-technology, which reduces the size to microscopic sights.

The early electronic media technology adopted the printing techniques of breaking a continuous image into 'a number of discrete particles' using mechanical and later electronic technology.[848] The electronic free the physicality associated with printed space

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per second' and includes a wide range radiation from visible light, heat, X rays, infrared, ultraviolet, to radio waves (see Monaco, 1981: 365).

[841] Monaco, 1981: p. 365

[842] Ibid, p. 366

[843] Modulation is the most 'basic concept' in radio and television technology. Any wave has three dimensions: 1) amplitude (strength of the wave), 2) wavelength (the distance between two points in a cycle of a wave), 3) frequencies (wavelength per second measured in Hertz). Based on these dimensions, there are two modulation types: Amplitude Modulation (AM) and Frequency Modulation (FM) (See Monaco, 1981: 366-368).

[844] Monaco, 1981: p. 366

[845] Ibid, p. 367

[846] Ibid

[847] Ibid

[848] Ibid, p. 367-9. Vladimir K. Zworykin, a Russian immigrant to US, introduced electronic technology to the visual system. He developed two significant devices: 1) Iconoscope, 'a device for receiving an image and translating it into an electronic signal, from which most contemporary television cameras descend,' and 2) Kinescope, known also as Cathode Ray Tube, 'a device for translating the

and highlight the phenomenon of 'persistence of vision' and 'Phi effect'. The 'long-playing record (1948) and stereophonic reproduction (1958)' were developed based on the radio technology and 'high-fidelity circuitry', nevertheless there was a draw back in disc records since they could not be edited.[849] The introduction of linear magnetic tape – translating the electrical sound signal into magnetic representation rather than physical mechanical waves – made the editing and mixing possible.[850] The art of video, with the introduction of videotapes, an electromagnetic system capable of carrying and storing complex video signal, was significant during 1960s.[851]

The introduction of laser (hybrid) technology, using light waves with higher frequencies rather than radio waves, enabled the accommodation of more information. This concept is significant to the medium in the information society. The market heavily concentrated on the storing devices, increasing their efficiencies and technology, from discs, tapes to video laser tapes. Once the broadcasting technology, including radio and television is considered to a powerful 'socializing function of mediating the world', which connected formerly 'isolated individuals and communities' and made 'general cultural patterns.'[852] Such 'unidirectional' common cultural pattern, 'thoroughly affective' was controlled rather than to be free.[853]

In electronic mediation formations, the compositional traits revolve around the logic of infinite motions. The grand practices of this sphere are radio, film and cinema productions. In cinematic language, elements are almost blurred in the whole frame, and the meaning is derived by the transition and combination of frames together, assembling pieces of the puzzles. The motions have internal consistency and hybrid character. Any visual system is a series of complex structure, 'proceeds hierarchically, from simple sub-assemblies to more complex ones'.[854] Stefan Sharff believed Cinema has two levels of syntax (language), in contrast to verbal language, which have no primitive form, one simple and the other complex one.[855] The cinematic medium of film build 'dialectic between filmmaker and subject', displaying a close relationship between the producer/communicator and the meaning created, yet they can stay separate from each other. This characteristic is enhanced due to the 'transmitting' quality of the electronic medium.

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electronic signal back into an image'. An image is broken into 100,000 to 200,000 bits called 'picture elements' and it is based on printing photograph halftone technique. (Monaco, 1981: 369). The discrete image is perceived complete according to Gestalt theory.

[849] Monaco, 1981: p. 372
[850] The magnetic tapes not only introduced the editing, due to its linear representation, and techniques of mixing, due to 'the possibility of recording a performance on a number of separate tracks at the same time', but also an individual easy tool to 'record tape as to play it back' (Monaco, 1981:372).
[851] Monaco, 1981: p. 372
[852] Ibid, p. 374
[853] Ibid
[854] Littlejohn, 2002: 39
[855] See Sharff (1982), chapter 11

In television, the involvement of the communicated/audience is more recognized. They are no more sitting in the dark side of the communication action but viewed as existing participant in which the meaning is consciously tailored for them. The cinema is targeting the visual senses while radio the audio sense. TV stands somewhere between these two senses, an audio-visual medium. The TV is more similar to radio, and it has more emphasis on 'sound component than on the image' in contrast to film.[856] The audio quality of TV makes it more intimate rather than the cinema, which creates a balance between cognitive distance and psychological intimacy via various visual techniques, i.e. close up shots, etc. In radio, the audio sense is dominant and visual sense are metaphorically incorporated. Radio is designed in a form of continuous flow. It is the architecture of creating mood rather than conveying meaning.

> The essential purpose of radio is not only to tell stories and convey information, but also to create a pervasive aural environment. The ultimate product of this is Muzak, a continues stream of carefully designed and programmed music constructed to create a specific mood: sound as architecture rather than meaning. […] Dead space is to be abhorred; what is important, as any disc jockey knows, is the continuous flow. Psychologically, radio serves a "stroking" function: it is artificial but very much needed company.
>
> (Monaco, 1981: 375)

Television is, similarly, designed to 'accompany the flow of the day', the visual information is considered rather insignificant, from news and talk shows to dramas which are 'generally comprehensible without visual input'.[857] In electronic media, as it functions as storing and transmitting medium at technological level, the idea of personality and celebrity is dominant. This effect is more noticeable in radio, since the types of programs free celebrity from their 'fictional' and 'artificial roles'.[858] Radio has 'a peculiar ability to compress narrative time and space' since there is 'no visual reality to distract from story line', furthermore, due to 'undetectable' flow the 'cinematic

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[856] 'There is not all that much difference structurally between radio and television. The esthetic and formal history of television since 1948 in the U.S. is consistent with the history of radio between 1922 and 1948 (although, since the advent of network television, radio has been forced to specialize esthetically)' (Monaco, 1981: 374-5).

[857] Monaco, 1981: p. 376

[858] Ibid, 376 It is noticeable to highlight, 'radio and telephony are founded in electrical theory, but there is a significant conceptual difference between them: the telephone transmits its message through a limited channel – the wire – whereas radio performs essentially the same function by using the medium of electromagnetic radiation. […] The wires of telephony, although difficult and expensive to install compared with radio's easily generated electromagnetic waves, nevertheless offer the prospect of two-way interactive communication, which is more difficult with radio (Monaco, 1981: p. 363).

montage' is not applicable in radio. The 'lead-in' technique, introducing or leading the audience, is an essential device for continuity in radio, which is extended in television.[859]

Radio developed two types of dramas, serious plays and serials. The later one allowed the development of fictional character/personalities through series of plot and situations. The serial and series in television are more specific, the former is continuing personality in continuing story and the later same personality in a single plot at each time. The commercial growth of television among other factor led to specialization of each radio station on a single type of program instead of offering a variety and mix programs. Newton Minow called TV back in 1961 'a vast wasteland'. The genre grew in sophisticated forms in television,[860] although it may be rooted in radio and film but individually and generically identifiable.[861] For instance, the rise of serials and the 'never ending stories' is marked by the expansion of television.[862] Different historical age enjoyed various types of genre and evolution of compositional systems in certain media practices.

The vision about the future of TV back in 1995 was to trailer this media practice on the bases of the individual need and interests. The intelligent media sphere, by providing a personalised platform created a huge data base of user's profiles, patterns of likes and dislikes, and preferences. Perhaps, the consequences of existence of such data bases, which can be beneficial to any commercial and political interests were not envisioned.

> Future interactive television applications are the up-coming front-end to interactive radio, television, video rental, home shopping, multimedia communication, and information retrieval. The challenge of an interactive television system is not that the medium is digital, nor the ability of browsing media resources, nor reception of multiple kinds of media. Users do not need more information than today. The challenge is to provide information which corresponds to users' interests and needs.
>
> (Wittig & Girwodz: 1995)

In TV compositions, there is no concept of holistic program, and there are bits and techniques, which are also based on the individual elements in each program, i.e. spinoff and imitation technique (use of same successful elements in a show, rearranging them and duplicating) mixing. In radio and TV personality is the key, i.e. sitcoms (situation comedy, but not situation-oriented but rather character-oriented shows), and the

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[859] Monaco, 1981: p. 363
[860] Ibid, p. 384
[861] Ibid
[862] Ibid, p. 385

'significance of character as opposed to plot, situation, or event is clear even in the actions shows, which are ostensibly devoted to event'. [863]

It is not about what these character *do* but what they *are* which attract audience.[864] Since the TV is character-oriented, the basic unit of TV is series, rather than shows, which is the best for character building in a narrative medium (except novel saga).[865] TV, for this reason, is not a medium of 'stories as of moods and atmosphere', but a way to 'find out what is happening (for generally the same things are always happening)', and to 'spend time with the characters'.[866] This stands in sharp contrast to cinema, which is a mood maker medium, mainly in Hollywood traditions. In Bollywood, interestingly, the personality, similar to TV logics, plays an important role. The film revolves around a 'hero' rather than a story.[867] This trend of *celebritiesm* in electronic media sphere is transformed into new form of *influencerism* (e.g. youtubers) in intelligent media sphere.

TV is considered as a narrative medium, but more successful in developing character rather than other basic dramatic elements, since it is 'less intense than cinema,' it is less 'intimate' rather than theatre and cannot reflect the 'high drama of ideas and emotions'. [868] The never-ending series, in TV can lead to 'frozen' character, 'never developing, never changing' one.[869] The audience do not watch programs but they watch television.[870] Impromptu immediacy offered by the electronic media practices, e.g. TV in US during 70s, made the media usage as a popular 'pastime', entertainment social organ.[871] The intelligent media sphere, similarly is a mixture of 'pastime' applications and infotainment virtual hangout places. Some believed that television is 'the contemporary equivalent of folk literature; its most durable plots, situations, and characters are the stuff of developing myths'.[872] In some countries like India, this characteristic is quite noticeable. TV is criticised for bringing minority opinion on majority, in some case reflecting the shared cultural values.[873] The nature of electronic media production fosters such dominance, while the network system in intelligent media brings the minorities stories more attractive.

The TV functioned as the re-mediation platform for the existing practices of electronic media sphere. Film encompassed a huge airtime of TV. Docudrama introduced as genre in response to the lack of publicity of film made for TV. The genre

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[863] Monaco, 1981: p. 392
[864] Ibid. 'Such extraordinary quirky characters would be out of place on the stage or in films, but they provide the quintessential television experience. We tune in week after week to be with them because we know what to expect' (p. 392).
[865] See Ibid
[866] Ibid
[867] See Irrfan Khan (2015)
[868] Monaco, 1981: p. 392
[869] Ibid, p. 393
[870] Ibid, p. 394
[871] Ibid, p. 396
[872] Ibid
[873] Ibid

practices of TV, compositionally, are emphasising continuity, development and organization. There some relationship between the evolving genre of any 'new' medium with their previous media practices, i.e. TV mini-series (close-ended series as evolution of novel saga of the nineteenth century for new medium). The major themes in TV revolved around the modern family as important element in many dramas, i.e. drawing room dramas depends more on dialogue rather than the visual imagery, which resemble the continuation of the everyday conflicts and resolutions desired. Since the television is based on the continues, instead of one at a time experience, has 'an extraordinary ability to mediate between the viewer and reality'.[874] Similarly, the intelligent media is interweaving deeply into our life, it goes beyond our daily life practices and becomes a psychiatrist, know when we are depressed or look for something, to whom we are in regular contact and when and how we sleep, e.g. sleeping apps, where we go, e.g. google map, location pinpointing and etc. This resemble the theme of the film *Her* (2013), where the media relationship can fall into very deep personal affairs.

The practices of electronic media sphere made a drama a part of modern life. Raymond Williams believed that 'one of the unique characteristics of advanced industrial societies' is drama as an intrinsic experience and an essential part of everyday life.[875] The expansion of video practices as subcategory of TV, opened up a 'section of the medium to artists outside the network system'.[876] The video is characterised by portability which is required for a network distribution. Video art practices, during late 1980s and 1990s marked the medial transformations in a new level. The YouTube, Vimeo, and other networking video application platform in intelligent mediation sphere are, in a way, a response to the explosion of video-making culture by individual artist and users responding the dominated broadcasting systems. Video founded its way to the global network. In contrast to the nationalism reinforced by electronic media practices, the intelligent media forged global-local focusses.

An insightful cross-medial dramatic practice is works of Samuel Beckett, who brought drama into stage from presentational to electronic media. He tried to

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[874]Television 'happens in our space, and in our time. It becomes part of our reality. As a consequence, it mediates not only between the viewer and reality but also between reality and fiction. Because it is both an entertainment and an information medium, it sometimes becomes hard to distinguish between the essentially fictional nature of the first and the essentially nonfictional nature of the second' (Monaco, 1981: p. 407)

[875] Raymond Williams cited in Monaco, 1981: p. 407. Drama is 'as late as the heyday of the movies was a separable experience, now for the first time in history occupies centre stage' (Ibid).

[876] Ibid, p. 409. Because it is electronic, video has an extraordinary ability to manipulate images, a fact that has been exploited to full advantage by such conceptual artists as Nam June Paik, a pioneer experimenter in video (Monaco, 1981: 409). 'If videodisc systems succeed, and access to distribution is not too tightly controlled, video may multiply its effect thousand-fold in the next five years or so, as individuals and medium-sized organizations begin to wrest control of at least a section of the media spectrum from the entertainment and network conglomerates (Monaco, 1981: 410).

> […] set up a dramatic tension, not between characters but between elements of the structure of the various arts [in certain medium]: for the stage, audience choice versus the flow of dialogue; for film, the director's control and the subject's integrity; for television, the intense nature of audio versus the psychological intimacy of the image; and for radio, more simply, words and music, information and background.
>
> (in Monaco, 1981: 351)

Beckett's series of intermedia play highlighted the differences between various media. His approach is among the pure aesthetical-compositional approaches in media practices.[877]

The significant difference between intelligent media and its previous media spheres is mainly based on the span they enrol in the compositional continuum. The compositional traits are diverse across various media spheres, from presentational, to intelligent media (art) practices. The differences can theoretically be explained based on the ranges they cover in the conceptual continuum of medium. The compositional traits in presentational media are located centrally in the area of interpersonal communication, and spans from the world of meaning to sign, symbol and index. In representational media sphere, the compositionality is theoretically located in community/inter-group communication, span from thinking/meta-narrative to character, signs, code, alphabet and numbers. The compositionality in mechanical media sphere, is located in community/glocal level of communication, span from imagination to character and codes. In electronic media, it is located at a public level, spanning from conception to character and code. The compositionality in intelligent media, located centrally in area of intra-personal communication and global, spans from thinking/ideation to programing and computing. These explanations are at a theoretical level. The media (art) practices are far more complex and there are no universal traits for their compositional systems. This point should be considered that media may partly constitutes the mediated, however, it does not 'form its constituent'.[878] This idea implies the separation of media from mediated *forms*. By analysing forms of media, one cannot fully comprehend the medial.

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[877] He is often criticised for being 'esthetic determinants' and not considering 'political, social, and technological factors in the media' (Monaco, 1981: p. 351). Monaco believed that technological and social aspect of medium is the dominant and the esthetical argument, similar to Beckett, cannot be fruitful enough in understanding medium. Monaco criticised Beckett that 'The connotation of the word "media" in fact, suggest that we regard the phenomenon as having a latitude much more extensive then the limits of esthetics would suggest (Monaco, 1981: p. 351).

[878] Mersch, 2010: p. 210

Intelligent Mediation Sphere: Contemporary Media Practices

The aesthetical and compositional-cultural aspect of contemporary mediation sphere is marginally addressed and much of the discourse revolves around the social, economic, technological, political aspect of the emerging mediation. As discussed in the previous section, the electronic media demanded a continuous flow of communication, irrespective of engagement of individuals or society. For instance, the radio from production to reception is built on the rhythm of continues *flow*.[879] Similarly, television, which is largely influenced by the logic of radio,[880] established itself as a never-ending apparatus for generating content.[881] Remarkably, the intelligent mediated formations attempt to disrupt the continuity logic or a sense of flow. There is an endless desire to introduce alternative 'time' pattern, which stands against the modernism concept of time manifested in early electronic media practices. The emerging practices crave for discrete and fragmented design.[882] The major tendency is to *navigate* through the fragments. The emergence of apps, various social software, and social networking platforms demonstrate such a fragmentation.

The intelligent media practices are expanded throughout the spectrum of daily life, and the media practices are no more a separable and distinguishable element or singular event in everyday life. There are several significant transformations in the practices of contemporary mediation sphere which are distinguishable. The complex relationship between the domains of media worlds, the economic (corporate capitalism) and political (global and nation-state resource-management) worlds – transforming the large-scale human activities, behaviours, decision-making, biological routines into data and economic assets (e.g. big data companies, Cambridge Analytica, Bitwalking/Sweatcoin apps that generate currency by human movement). Enormous integration of media into various levels of everyday life and the vulnerability caused by them (*intimacy*, e.g. digital personal assistance such as Siri and Alexa, *privacy*, *addiction*, e.g. game-addiction, *self-image*, e.g. selfies-self-representations, *depression and humiliation*, e.g. fan-paging and idealising celebrity lifestyle, *information overload*, e.g. notification push-ups and 'new feeds', *identity-building*, e.g. influencers, *cynicism/scepticism* (disaffected consent), e.g. Cambridge Analytica, *suicides*, e.g. Blue Whale game, *terrorism/fundamentalism*, e.g. IS recruiting in SNS and documenting terror in YouTube, *cyber war*, e.g. Stuxnet, *bio-data violation*, e.g. figure print misuses, *cognitive and (multi-)sensorial immersion* e.g. VR and AR extraordinary expansions). These are few discursive instances of the critical-political transformations in the contemporary mediation scenario.

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[879] 'The segue and lead-in of radio are also of prime significance in the grammar of the television: dead space and dead time are to be avoided at all costs: the flow must continue' (Monaco, 1981, p. 380-81).

[880] Monaco, 1981: p. 380

[881] Marschall (2014)

[882] See Marschall (2016)

The complexity about the contemporary mediation sphere is the existence of various mixture of medial production and artistic practices. On the one hand, the new techniques enhance the production capability of the former media generations. And on the other hand, the new mediality generate its own new aesthetical trends and practices. In representational art, it is necessary to follow the rules of creation. Similarly, the order of production matters in mechanical and electronic media production. For instance, the film production, as the millstone of the electronic media practices, consists of series of complex production processes aiming to create singular 'cultural product'. In intelligent mediation sphere the generating process is the central practices. The mediation process offers various platform, from visible software to invisible applications in social and personal environments. The works of culture are the activities shaped around these technological and social opportunities.

The compositionality in the intelligent mediation sphere cannot be tackled by few logics of a unified system, as it was possible for television, cinema or other practices in electronic mediation sphere. The range of media design, media art and media culture (user-generated) media practices are enormously diverse. Media practices are consciously (re)designed at various levels for/by/with 'users.' For instance, the software and application design are targeting professionals, while web design and game design considering the media market and media culture. Both media design and media art are part of a larger media culture in particular time and space. The examples of contemporary media design practices include software design, application design, information design, web design, game design, sound design, computer graphic design, interface design, interaction design, augmented reality design, virtual reality design, digital advertising design, multimedia design, sound-effect design, vision design, and video design/production, to name a few.

A shift from electronic to intelligent media sphere is marked by a transformation from institutional mainstream media *content* to social and cultural *algorithms* packaged as software. The contemporary media practices, besides the existing one can be of two kinds, including media vibe practices and media art practices. Media vibe practices are based on the situations, networks and software technologies aligned with mainstream content-based media practices. With a shift in medial relations and emergence of social and cultural software, a huge wave of media vibe practices, from Bloggers, Youtubers, to Instagramers is created. Media art practices are based on artistic or critical reflections based on the contemporary medial techniques or platforms. The avant-garde media artists in every media sphere introduce new compositional traits and developed the aesthetics of the medium into a new front. These traits may be integrated in the mainstream media practices.

The media art practices are a new juncture for various long separated fields, including, art, technology, science and humanities. There are several arguments on the historic division between art and technology since Aristotle's philosophical distinction between the human activities. He divided these activities into theoría (thought), praxis

(action) and poíesis or techne (production). The production activity is further divided into *art* as an imitation of nature and *technology* as an extension of nature. Edward Shanken in his article 'Art in the Information Age: Technology and conceptual art' highlighted the fact that in the tradition of art history there is a 'sharp distinctions' between 'conceptual art and art-and-technology'.[883] He re-examined 'the interrelationship of these tendencies' and believed that this segregation are sharpened during 1960s.[884] Shanken interpreted this tendency as 'reflections and constituents of broad cultural transformation of the information age'.[885] His concluding argument showed that both conceptual art and art-and-technology, shared important similarities. The media art practices are similarly the nexus of not only art and technology as human production activity, but also human thought and actions.

The media as a reality is mostly associated with technology rather than with art. This conceptual divorce between art and technology, widely affirmed since Aristotle's philosophy, is challenged in today's discourse, with a new conceptualisation of what is art and technology.[886] For instance, Edward A. Shanken in his article 'Art in the Information Age: Technology and conceptual art' (2002) highlighted that in the tradition of art history generally a 'sharp distinction' has been made between 'conceptual art and art-and-technology' and tried to re-examine 'the interrelationship of these tendencies as they developed in the 1960s'. [887] Shanken considered these distinct categories as a response to a huge cultural transformation in the information age.[888]

There are various taxonomies of media art practices informed mainly by techniques of productions. Among 'new media' artists and theorists, who categorised media art practices with a historical perspective is Rama Hoetzlein (2009). He

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[883] Shanken (2002)

[884] Ibid

[885] Ibid

[886] As discussed in previous section, the socio-cultural orientation played significant role in drawing attention to technological turn in society. They viewed technology 'as material culture' which is 'a fundamental dimension of social structure and social change' (Castells, 2004: p. 8). For example, Castells defined technology as 'the use of scientific knowledge to set procedures for performance in a reproducible manner. It evolves in interaction with other dimensions of society, but it has its own dynamics, linked to the conditions of scientific discovery, technological innovation, and application and diffusion in society at large. Technological systems evolve incrementally, but this evolution is punctuated by major discontinuities' (Ibid). Foucault's 1995 Discipline and Punish: The Birth of the Prison, defined technology as a whole set of 'instruments, techniques, procedures, levels of application, targets; it is a 'physics' or an 'anatomy' of power' which can be used as a 'modality for power's exercise' (cited in Cormier, 2014: p. 55).

[887] Shanken (2002)

[888] In another article entitled 'Historicizing Art and Technology: Forging a Method and Firing a Canon' (2007), Shanken historically studied the 'nexus of art, science, and technology' in an attempt to find out the 'effects that science and technology were having on contemporary art' (Shanken, 2007: p. 1). He examined how ideas, methods, and scientific tools are used by artist to create aesthetical models. Other scholars, similarly, admitted and envisioned a future where art and technology created a complex of relations, which cannot be easily separated from each other (See Bolouri, 2014: p. 232).

acknowledged the fact that many artistic practices are termed based on their techniques rather than their meanings.[889] One justification he provided is using technique may specify artistic practices more sharply while meaning can provide many complexities in the classification. In his model, Hoetzlein (2009) incorporated a historical timeline and divided respectively art practices into three eras of fine arts, modern arts and new media arts. Based on the discussion provided in chapter two and three, the timeline of media (art) practices can be developed further and it is divided into six spheres of presentational, representational, mechanical, electronical, intelligent and biological medial practices (see appendix).

It is significant to investigate 'the modalities, practices and agencies'[890]of mediation spheres. The practices of intelligent mediation sphere are investigated. The contemporary media practices can be divided into two broad areas of media-design and media-art. The advancement of the intelligent mediation sphere, in fact, is an ever-expanding realm, both in terms of hardware and application software. The media design and media art practices largely influenced by software and hardware technologies, however, are not necessarily determined by them. *Media-design* practices encompass wide range of mainstream practices including software design, application design, information design, web design, game design, sound design, computer graphic design, interface design, interaction design, augmented reality design, virtual reality design, digital advertising design, multimedia design, sound-effect design, vision design, and video design/production, to name a few.

Media-art practices are encompassing a wide-range from exploring artistic aesthetics, to (re)construction of media practices, criticisms of mainstream media, media experiment, media avant-garde movements, expanding the perceptions and consciousness, which bring media culture and media literacy into new fronts. Both media design and media art are part of a larger media culture in particular time and space. Media art practices are usually controversial field. Many art historians pose contra-arguments for the concept of media arts. Media are usually viewed as instruments of artistic expressions and they consider contemporary media art in the broader category of contemporary art. From the media studies perspective, there is, however, a scope to argue for the concept of media art. Two prominent examples of media art during electronic mediation sphere are video art and film art, which introduced many avant-garde styles of cinematography and graphic-motions. Intelligent media art practice (usually termed as post-media art) include computer art, digital art, internet art, interactive art, network art, robotic art, sound art, web art, video installations, video

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[889] Hoetzlein (2009) raised the question that why we cannot have major categories of art as, art of the body, art of emotions, art of sub-consciousness etc. and instead focuses on technique of art creation. He compared this to physics which has many branches, such as quantum, kinetics, thermodynamics etc. and yet not depends on it very tool such as telescope, spectrometers etc. There are various reasons for such differences between science subjects and art. Nonetheless, his point is valid and is significant.

[890] Grossberg, 2010: p. 544

mapping, video sculpting, generative art/algorithm art, interface art, game art, software art, app art, code art, and data art, inter alia. The biological mediation sphere may have forms of neuro-art, bio-tech art, bio art, and DNA-art, etc.

Figure 5.4.: Media Art Practices
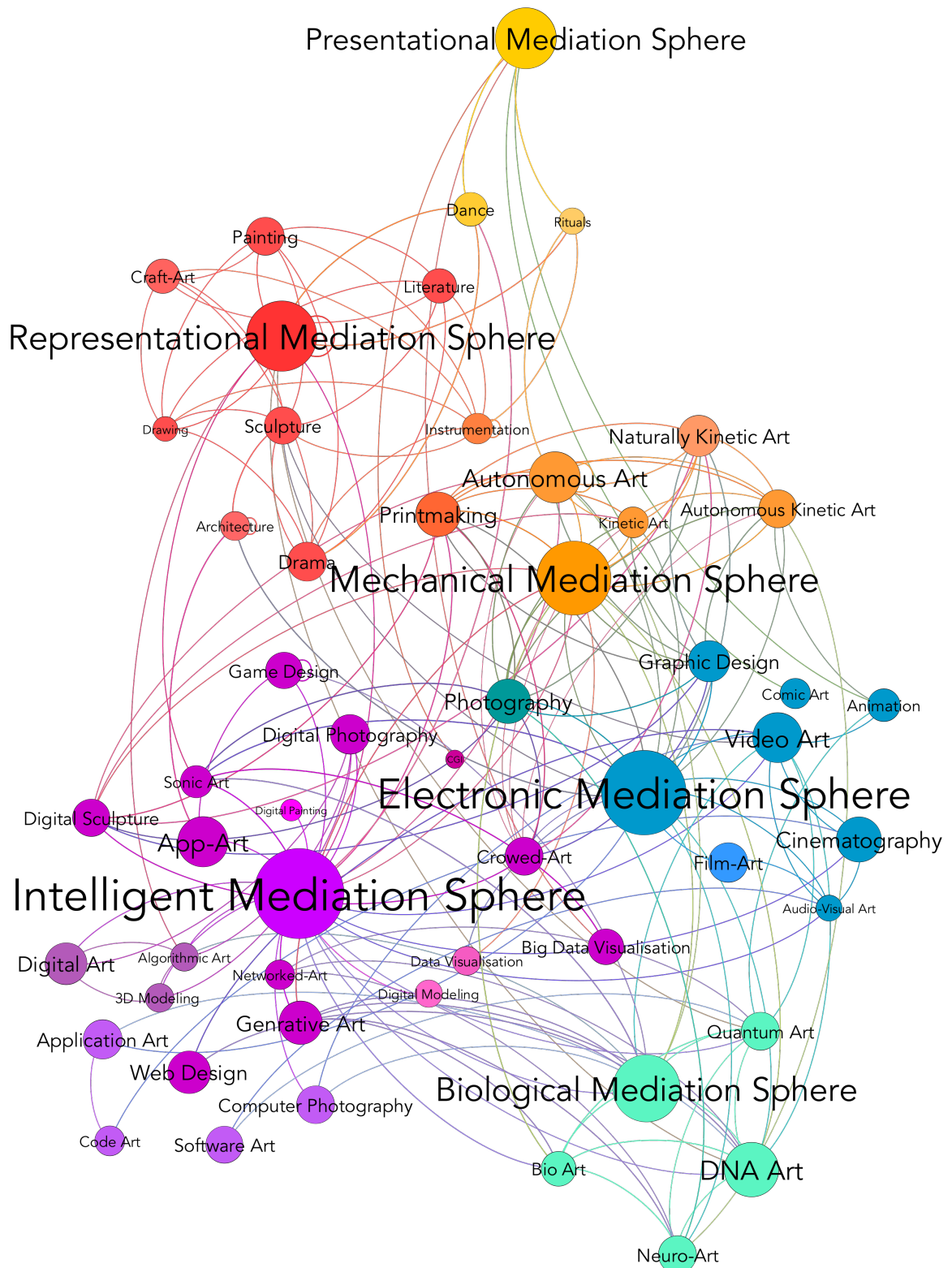
App-arts are special contemporary practices since they feed the trends of apps-design, their development and usage in the global media culture and market. Apps create re-mediation hybrid platform for many other practices, such as games, augmented reality, sound and vision synthesis, and data visualisation, among others. Besides that, app artists, can sell their artistic work on app stores directly, in contrast to other media-art practices which require museum curation. The question may arise here is that why the analysis is focused on app-art as media art rather than app media design?

It is envisioned that analysing media art practices, can reflect the features and characteristics of mediality which are invisible. For instance, Mersch believed that media hides during the process of mediation and make the process 'close and indeterminable. Therefore, the medial reflection can best be seen through the artistic media practices.[891] Winkler similarly considered invisibility (Unsichtbarkeit) as essential characteristics of media.[892] During the process of mainstream media design the aim is to make the medium invisible. That is while, the media arts try to highlight this invisibility as a critical reflection. For this reason, the features of mediality can be analysed relatively better through the analysis of media-art practices. The media-art can offer 'medial paradoxes' and show the indeterminable and closed aspect of media, 'where there is no reflexivity.'[893] Media art, in other words, can be considered a manifestation of 'media reflexivity' that is capable of 'paradoxical manoeuvres' to show the mediality of the medium, which make 'a position of distance possible without a locatable other.'[894] These 'paradoxical interventions' brings 'media conditions and structure into play, as much as

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[891] Mersch (2013) introduced the 'anamorphosis method' and believed that since medium, as a 'negative' concept, Anamorphosis is essentially an artistic method of 'seeing from the side,' and it is used where there is no reflexivity (see figure of theory of perspective, appendix B). This method metaphorically can be used to analyse media art practices, in order to demonstrate the medial paradoxes and reflexivity, showing 'the mediality of medium' Mediality in this context can be sketched from 'transversing performances and their interruptions, coming from the side and intervening in the structure involved, inventing leaps and contradictions' bringing out 'the paradox of the medial' in 'its disappearance at the moment of appearance' (Mersch, 2013: p. 212). According to Mersch (2013), 'art has more to show media theory than media theory has to say to art. By means of paradoxical interventions it brings medial conditions and structures into play, as much as it uses and turns them around against themselves in a negative way and in so doing brings them to light' (p. 218).

[892] Winkler (2004a) introduced six aspects of media: communication, symbolic character, technik and technology, form and content, time and space and invisibility (p. 9-10).

[893] Mersch, 2013: p. 218. Mersch elaborated that what 'Heidegger called the "breakdown" happens, with all its connotations of the ephemeral and the provisional as well as the open, which suddenly makes something visible that is normally hidden from view' (p. 219).

[894] Mersch (2013) explained that constantly 'kindling the processes anew, making them restless in order to tease out another, still unknown side – this is not art for art's sake, not l'art pour l'art, but a way of aesthetic perception that cannot be discovered any other way […]' (p. 219). The 'medial conditions of depiction itself' confront 'us with the massive optical intervention of its technical production, with the power of immersitivity that is strengthened with the penetrating dramatic tone. In other words, there is a medial depiction that as non-presence can lay open the presence of the medial by referring to the mediality of the medium. Such a referring is a showing' (p. 221).

it uses and turns them around against themselves in a negative way and in so doing brings them to light.'[895]

It can be argued that app-art as media art practice kindle 'the processes anew' and brings the layers of app aesthetics, which cannot be discovered any other way.[896] However, these medial paradoxes cannot be generalized as universal principles without context. As Mersch claimed the results of this medial reflexivity cannot be generalized and does not 'adhere to a strict procedure or to objectifiable criteria of its construction.'[897] Similarly, the analyses of app-art practices are to demonstrate the medial reflexivity in the context of contemporary avant-garde media art practice and cannot be generalized in the intelligent media spheres or any other forms or time in history.

Two categories of contemporary mediation practices from production perspective can be contextualised: media design and media art. In contrast to electronic mediation sphere, in which 'production' and 'reception' of media products in context of motion writing (cinematography and audiotography) were significant concepts, the contemporary practices, besides these two concepts, highlight the notions of navigation design[898]. Media practices are consciously (re)designed at various levels for/by/with 'users.' For instance, the software and application design are targeting professionals, while web design and game design considering the media market and media culture. Design of digital advertising (both commercial or political) across social media are similarly sensitive to the information generated about the users.

Both media design and media art are part of a larger media culture in particular time and space. The examples of contemporary media design practices include software design, application design, information design, web design, game design, sound design, computer graphic design, interface design, interaction design, augmented reality design, virtual reality design, digital advertising design, multimedia design, sound-effect design,

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[895] Mersch, 2013: p. 218

[896] Mersch (2013) highlighted that 'I am engaging with art in an attempt to make it productive for a negative media theory and it is my view that reflections on media need the kind of artistic strategies […]. Where these are lacking the mediality of the medium remains chronically obscured. This, incidentally, is also a profound reason for the abrupt division between an aesthetics of illusion and the work of the arts. The latter breaks the medium open, uses it against itself, ensnares it in contradictions to uncover the medial dispositive, the structures of exposure, narrative operations and so on, while the former just uses and continues them. In this sense, the artist is less a maître de plaisir, an arranger of effects, than a maître de paradoxe, a master of contradiction and reciprocal interventions. Using the mediality of the medium against the grain and making its indiscernability discernable – that is the function of such contradictions and interventions and where negative media theory finds its actual profile and method, a method which, incidentally, cannot be made systematic because to a great extent it exists due to these singular creative adventures and their "leaps"' (p. 217).

[897] Mersch, 2013: p. 218. He further believed that there is 'no discursive rationale,' but 'it is content in the directives of an endless artistic experiment' (Ibid). His idea in this case is idealistic and rather extreme, and only a moderate version of it is acceptable in the current research.

[898] See Hammer (2008)

vision design, and video design/production, to name a few. The following figure demonstrates the three areas of media culture, media design and media art.

Figure 5.5: Ranges of media practices

Media Culture
Collective Aesthetics
Media Literacy
Media Usage/Exposure
Visual/Audio Culture

Media Art
Artistic Aesthetics
Media (re)construction
Media Experiment
Medial Art Culture

01

03

02

Media Design
Media Product Design
Usage/Interface Design
Media Marketing Design
Information Design
Media Social Communication
Media Social Culture
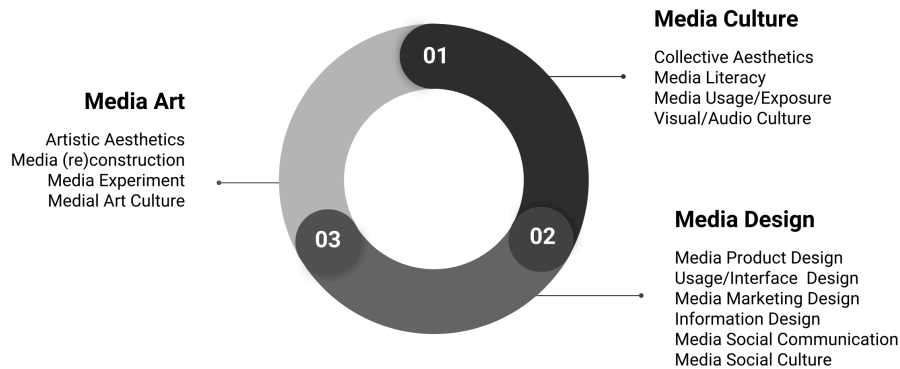
Media art practices are usually a controversial field. Many art historians pose contra-arguments for the concept of media arts. Media are usually viewed as instruments of artistic expressions and they consider contemporary media art in the broader category of contemporary art. From the media studies perspective, there is, however, a scope to argue for the concept of media art. Media art are encompassing a wide-range of practices from exploring artistic aesthetics, to (re)construction of media practices, criticisms of mainstream media, media experiment, media avant-garde movements, expanding the perceptions and consciousness, which bring media culture and media literacy into new fronts.

Two prominent examples of media art during electronic mediation sphere are video art and film art, which introduced many avant-garde styles of cinematography and graphic-motions. Intelligent media art practice (usually termed as post-media art) include computer art, digital art, internet art, interactive art, network art, robotic art, sound art, web art, video installations, video mapping, video sculpting, generative art/algorithm art, interface art, game art, software art, app art, code art, and data art, inter alia. The biological mediation sphere may have forms of neuro-art, bio-tech art, bio art, and DNA-art, etc. (see appendix, the timeline of media art).

From a bottom-up approach, few examples can be briefly examined in order to shed light on the trends of compositionality and cultural discursive formations in the contemporary intelligent mediation sphere. The focus here is media art practices. Interactive art is considered among the vast field of practices. By definition, interactivity can refer to psychological, physiological, physical, mechanical, electronic or software system of exchanges and interactions in an environment. The interactive is not a new practice, in contrast to the existing discourses about the contemporary media. There are many ways to express the interactivity. The theatrical field witnessed a gigantic adaptation of new medial formations at various levels.

In a theatre performance, the choregrapher Fabien Prioville design his dance alongside an app. He invited the viewers to participate during the performance, download the app and navigate through the smart QR codes in order to find out the narratives of the story. 'The Smartphone Project' aimed to create a critical statement about the omnipresence of the smartphones in the contemporary time. The project was a joint effort of Bonn Fraunhofer-Institute for Applied Information Technology (for programming the app), Fabien Prioville, Pascal Merighi (former Pina Bausch dancer), and Florence Minder (actress).[899]

During the performance the random music was played by the smartphones of the viewers. To interactivity and participation in such performances may seems aesthetically ambivalent. Experimenting the fusion of theatrical improvising with viewers' devices created a vain interactive platform. The silent thinking viewers are turned into active agents in search of information, which could hardly help them to map the broad picture. To my understanding, the performance critically reflected on the 'lost' generation of smartphones in search of stories. Those who could not download the app during the play are demonstrated as 'non-digital' participants.

Picture 5.1: 'The Smartphone Project' Performance[900]

The Smartphone Project
Fabien Prioville Dance Company
ZKM, 16.11.2014

In other performances, the integration of animation, video-mapping, and performances are integrating the overall compositions of theoretical practices across the globe. Other forms of media art are responsive to the high-tech and mind-reading technologies. The upcoming trend aims at using neurological brain signals as an interactive element in the artwork. These types of media art practices are usually

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[899] See ZKM Archive for 'The Smartphone Project' Nov. 2014.
[900] 'The Smartphone Project,' ZKM, Nov. 2014. Photos by Maryam Bolouri.

categorised under neuro-art. For instance, 'The Impulses' is designed to turn the brain signals into music.

Picture 5.2: The Implulses[901]

"THE IMPULSES.
The New Sound days"
RISEBA, Liepaja
University's Art Research
Lab (Mplab), Riga
30. Sep. 2016

There are similar media practices using the (semi-)brain-readings technology. As Lanier succinctly put it, we are at the edge of 'the age of high-tech brain reading,' which is based on the computation of mind patterns.[902] The realm of virtual reality and augmented reality art practices are similarly an expanding realm. [903] In traditional sense, drawings in general and comics in particular are 'produced because of bodily action' represented in hands, since they influence the context of visual language in them.[904] Today, hands are not the only way to draw; one can draw by heads, or even think about drawing and see the representation of it.[905] The example depicted above is a virtual reality sculpture installation, in which the viewer re-sculpturing the forms by head movement. In a way, the key to see the sculpture is to paint it by head movement to locate the gaze to the spatial sculpture, which demonstrate a narrative scene rather than hyperbolizing singular elements. In intelligent media art practices, the imaginative reconstruction of the world is reaching a new horizon. The colour mixture, source of light and shading are not necessarily a conceptual reality. Scientist believe that perspective cannot be cognitively stored easily in memory.[906]

There are other levels of interaction in the contemporary practices. The considerable expansion of the system of interaction from one single artwork to the network and environment is quite distinguishable. The idea of interaction with the environment introduced in many interactive installations, performances and exhibition

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[901] 'The Impulses' RISEBA, 30.Sep. 2016. Photos by Maryam Bolouri.

[902] See Lanier (2014)

[903] 'VR Sculpture', in Generate: Festival für Elektronische Künste, Tübingen, October 2015.

[904] Cohn, 2013: p. 32. Cohn acknowledge that the separation between production and reception and influence of the former in the visual language is not applicable in all form of it.

[905] The installation at Generate: Festival für Elektronische Künste, Tübingen 2015.

[906] Cohn, 2013: p. 33

is analogous with the expansion of the 'internet of the things' and smart home (media) design. Generative art (also known as algorithmic art) is a vast area of contemporary practices. The For instance, the software artist, Fernando Sica, generates an organic and generative painting during any performative events, without aiming a final product. Even the outcome of what he has created will be deleted from the server. The generative painting starts with some basic elements and later the complex atmosphere is organically created based on the setting.

Picture 5.3.: The Generative Visual Software[907]

Fernando Sica's generative painting, ZKM, 2017. The picture demonstrates the early stage of the painting in the ocean setting. The Choice of colour as red for the ocean is quite noticeable from the media artist from Mexico

Fernando Sica's appearance at the performance, ZKM, 2017

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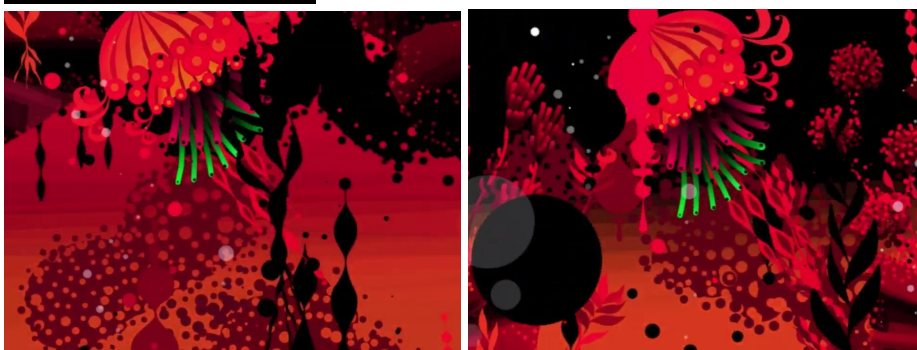
[907] The performance by Fernando Sica, media artist from Mexiko at ZKM, App-Art-Award, 2017. Photos by Maryam Bolouri.

Later stage of the generative painting, ZKM, 2017

Take another example in the domain of digital paintings. At one level the creation rule is not restricted in the traditional sense, where the discrete parts and layers can be designed separately, can be added by effect options and build up later in the program. The flexibility and organic opportunity, which the intelligent media offer, make the articulation of compositions based on production script, an unsuccessful attempt.

It is significant to highlight that the compositional practices of intelligent mediation encompass all spheres of life, from art, technology, entertainment, to socio-cultural and political spaces. The contemporary order of the networked society is similarly substantial in transformation of the medial condition. Roy Ascott, during 1984, promoted the idea of 'the interactive "electronic space"' as evolutionary significant matter and the very same year William Gibson introduced the notion of 'cyberspace'.[908] Ascott believed that[909]

> The true consequence of the combination of art and electronic information technology will not properly be seen until there is universal availability at very low cost of the means of transmission of digital information within a planetary interactive network embracing the audio, visual, and data/text modes. Even at this stage of development we can sense the emergence of a planetary consciousness which I call 'network consciousness'.

> (Cited in Mirzoeff, 2006: p. 335)

Besides the algorithmic developmental pattern of the contemporary media, which enables the interactivity, inter alia, the connected networks and the active participation is considerably determinative. The compositionality of the intelligent media is *command* design. The new aesthetical trends evolve rapidly on the basis of imaginative commands and the 'new' ability to *perform*, even in smaller scale, a new action by applications and social software. The whole media sphere cannot be reduced to software practices.

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[908] Mirzoeff, 2006: p. 335
[909] Mirzoeff (2006) believed that the Ascott intellectual reasoning was 'rather odd mix of Darwin and Hegel' in the following statement (p. 335).

Nevertheless, the algorithms used to design commands are clustering and re-organizing the valuable resources of the network.

Reflecting on the compositionality of intelligent mediation sphere, it is significant to characterise web and internet and elaborate their evolutionary pattern. In a common sense, World Wide Web and internet are often used as synonyms. There are, however, functional differences. The 'open internet' is perceived mostly as a 'fiction', because 'we confused the Web with the Net that we didn't see it'.[910] Technically, *internet* is a giant network that connects millions of computers or many small networks globally.[911] Based on OSI (Open System Interaction) model, internet is consisted of seven layers: physical, data link, network, transport, session, presentation and application.[912] The major design principles of the internet include *interoperability*, *layering*, *simplicity*, *uniform naming and addressing* and *end-to-end*.[913] The Web initiated as project during 1991 in order to make 'a powerful global information system' on the top of the internet.[914] In simple term, web is an architecture, a data-sharing model and a system of accessing or sharing information on the internet.

There exist various epochs of web evolutions.[915] Some believe that the expansion of web condensing revolves around controlled service devices.[916] The web architecture, however, is open to any 'future advances in technology, including new networks,

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[910] Cormier, 2014: p. 52

[911] Gao, 1999: p. 5. Vint Cerf and Bob Kahn, who are considered the fathers of internet with their Transmission Control Protocol (TCP) and Internet Protocol (IP) models, believed that the idea of internet did not occur for 'technical implementation' or the 'commercial availability', rather with the 'introduction of the Hypertext Transfer Protocol (HTTP) and the first Web browser by Tim Berners-Lee in the early 1990s' (Cormier, 2014: p. 51). Vinton Gray Cerf (b.1943) is an American computer scientist and internet pioneers. Alongside with his colleague, Bob Khan, he is the inventor of TCP/IP model for computer networking, an internet protocol suite. He is also known for his concept of 'internet society'. Robert Elliot 'Bob' Kahn (b. 1938) is an American electrical and computer engineer, who invented along with Cerf the primary communication protocols model of internet.

[912] Some has simplified these layers into four containing physical, network, transport, and application layer (see Gao, 1999: p. 5).

[913] The interoperability refers to 'systems can be assembled using client and server computers and software from different vendors' (Gao, 1999: p. 6). Layering means that 'internet protocols are designed to work in layers, with each higher layer building on the facilities provided by lower layers' (p. 6). Simplicity is directly connected to the layering attribute of the Internet 'that it grows both up and down from IP,' which is very simple in nature and provide 'only addressing and formatting of packets' (p. 7). To explain simplicity more, below 'the level of IP, there is the complexity of many different kinds of network hardware, topologies, and routers and IP hides that complexity from applications and insulates application developers' (p. 7). Uniform naming and addressing offers a 'uniform addressing structure' and assign a 32-bit or 64-bit address to 'each computer connected to the network' (p. 8). The end-to-end refers to 'the interpretation of the data' in 'the sending and receiving systems'. 'End-to-end protocols have several advantages' including, they 'hide the internal structure of the network, provide simple abstractions to programmers, and shielding them from such things as the messy details of recovering from lower-level errors (p. 8).

[914] Gao, 1999: p. 10 & 19

[915] Ibid

[916] Chris Anderson believed that the web condensing to 'controllable' apps is the 'natural path of industrialization: invention, propagation, adoption, control' (Cormier, 2014: p. 51).

protocols, object types, and data forms.'[917] Each generation of web evolution addresses a historical period with certain characteristics. The early generation of web (web 1.0) is considered 'an early and important enabler of social computing.'[918] The second generation of the web (usually referred to as social web or web 2.0) is a landmark in the history of web evolution. The new trend is semantic web (web 3.0) and intelligent web (web 4.0) and internet of things is the emerging field.

The examples of the usage of Web 1.0 (web of content) are a content published by websites publishers, the hierarchical organization, the communication of single user to web, computer or data bases, and 'closed services,' i.e. corporate web sites, portals and early generations of search engines, ecommerce, enterprise portals.[919] The key aspects of Web 2.0 (web of communication) are massive interaction, user's empowerment, i.e. one-to-many such as blogging and many-to-many such as social networking, users as content developers, e.g. collective creation, conversations, web as computing platform, i.e. social media.[920] The semantic web, known as Web 3.0 (web of context), is a solution to managing the overwhelming information and big data. The future of web is called intelligent web or known as Web 4.0 (web of things) and Web 5.0 (Web of thoughts). It would be beyond the aim of this book to explain in detail all the technical issues related to any web format. It suffices here to reflect on the diversity of application software and their course of evolution. Many apps are developed on a web platform (some may still be a native app) and compatible with web 3.0 as the most critical type of web format today.

App-arts practices as the emerging aesthetical traits since 2008. App-arts are special among the contemporary practices since they feed the trends of apps-design, their development and usage in the contemporary global media culture. Apps create re-mediation hybrid platform for many other practices, such as games, augmented reality, sound and vision synthesis, and data visualisation, among others. Besides that, app artists, can sell their artistic work on app stores directly. The app-i-fication of media culture is expanding tremendously. On the one hand, the innovations of apps can open a new field for media practices. And on the other hand, apps can cause global jeopardy

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[917] Gao, 1999: p. 19

[918] Cormier, 2014: p. 51

[919] Polillo, 2014: p. 18-20. 'As a client/server model, the browser is the client run on a computer that contacts the Webserver and requests information. The Web server sends the information back to the Web browser which displays the results on the computer or other Internet-enabled device that supports a browser. Today's browsers are fully-functional software suites that can interpret and display HTML Web pages, applications, JavaScript, AJAX and other content hosted on Web servers. Many browsers offer plug-ins which extend the capabilities of the software so it can display multimedia information (including sound and video), or the browser can be used to perform tasks such as videoconferencing, to design web pages or add anti-phishing filters and other security features to the browser. The two most popular browsers are Microsoft Internet Explorer and Firefox. Other major browsers include Google Chrome, Apple Safari and Opera. While most commonly use to access information on the web, a browser can also be used to access information hosted on Web servers in private networks.'

[920] Polillo, 2014: 31-32

by fostering an easier access to the data of the users. For instance, the Facebook scandal of leaking millions of users' data to Cambridge Analytica is claimed to be eased by the Facebook app and the developers access to the users' data.[921] Furthermore, the apps can provide an easier access to the biological data of millions of users, including their blood pressure, figure print, sleeping regulations, mood changes, menstruation cycles, sport-related activities, medication and health-related appointments noted in smart calendars, inter alia. These types of information are quite sensitive for the next biological revolution to come. The future study can focus on these aspects, which cannot be covered fully in the current book. In the next chapter, the app culture and app arts are contextualised and analysed in further detail.

Concluding remarks

Grossberg criticized the fact that the objects of media studies are 'taken either from industry or popular categorization,' which caused 'analytically and conceptually ungrounded' typology and decontextualised analysis.[922] The media taxonomies are informed by the central concept of mediation sphere. To elucidate the matter, it is envisioned that sets of temporal, cultural environment, compositional practices, discursive formations, and social forces in the history of human civilisation can form broad mediation sphere, under which the media practices can be analysed and contextualised.

There are various conceptions in defining these eras such as 'media galaxies' termed by McLuhan, media 'waves' by Toffler, media 'cultural phases' by Meyrowitz, 'cultural environment' by Grossberg, and 'media sphere' by Debray. The conceptual categorisation and taxonomies of media, therefore, developed disproportionately by practitioners or common discourses, sensitive to the technological evolutions. For instance, researchers could use the concept of media interchangeably with the notions of radio, tele-vision, or photo-graphy. These notions later are contextualised according to communicational, social, and cultural forces, for instance, highlighting issues such as process of production, cultural transmission, content creation, perception/reception, and institutions, among others. However, these technological-based notions lack, for instance, temporal and cultural conceptual identity.[923]

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[921] Mark Zuckerberg in his presence at EU Parliament on twenty second of May 2018, claimed that the leak was done through the app developers of the Facebook.

[922] Grossberg (2010) believed that 'Such categories often too quickly simplify the enormous complexities, articulations and convergences. Such constructions of the media isolate the objects of study from their context, a world that is never simply communicative or discursive and whose materiality cannot be simply reduced to either the technological or the economic' (p. 596-597).

[923] The major problem in using technological-based notions such as radio, television etc. is the fact that the temporality, cultural and communication practices remains unidentified. For instance, the radio during early twentieth century, before and after flourishing the television and internet radio belongs to different spheres of mediality. Therefore, it is meaningful to initially theorise the medial spheres as a larger map and then to identify the media practices. In this attempt the boundaries of cross-cultural mediality are exclusive.

To bridge this particular conceptual and theoretical gap in the field, in the current book, the concept of intelligent mediation sphere is introduced. Intelligent mediation sphere is marked by various technological, temporal, social, cultural, communicational, aesthetical, economic, and political mediated dynamics, for instance information society, information economy, networked communication, systemisation of communication process, algorithmic mediated culture, big data market/cloud servers,[924] app-i-fication of culture, crowd-sourcing, globalisation and glocalisation, augmented and virtual realities, internet of the things, decentralised currencies, ubiquity and invisibility, trans-culturalism, documenting lifestyle, data visualisation, deep-learning, artificial intelligence, semantic-/intelligent web, and counter-memories, -realities and -beings, among others.[925] Theorising the intelligent mediation sphere functions as an analytical-conceptual framework in studying contemporary media practices. A summary of theoretical and conceptual frameworks is presented in the following table.

Table 5.1: The summary of taxonomies of mediation spheres [926]

	Meta-Level Forces in Civilisation	Macro-Level Socio-Cultural Memory Dynamics	Micro-Level Compositional Design Elements
Presentational Mediation Sphere	Human Presentation	Presenting / rituals (Act of communication)	Human Body, Emotion, Intuition, Verbal Presence
Representational Mediation Sphere	Writing/Code/ Symbol	Extended Memory / Code (Work of communication)	Visual and Symbols
Mechanical Mediation Sphere	Mechanical /Engine Energy	Collective Memory (Product of communication)	Visual Design
Electronic Mediation Sphere	Electronic /Light Energy	Electronic Global Memory (Process of communication)	Narrative & Motion Design
Intelligent Mediation Sphere	Algorithms Information and Digital Network	Intelligent Artificial Memory Cloud Memories (Network of communication)	Vision Navigation Design
Biological Mediation Sphere	Bio-Genetic	DNA Biological Memory (Neuro communication)	Neuro Design

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[924] Lanier used the concept of 'Siren Servers' referring to the cloud owners and big data market. 'Siren Servers,' coined by Jaron Lanier (2014), refers to an 'elite' super power computer who collect information and analyse the network for their benefit.

[925] See chapter three for more discussions.

[926] Developed after the theoretical discussions of Castells (2010), Toffler (1990), Hammer (2008), Wiebel (2003), Debray (1990) and Fiske (1990).

Each mediation sphere can be further analysed according meta-, macro- and micro-level. There are many indicators under these levels, however, they cannot be addressed. For instance, meta-level (temporal dynamics) can deals with the political and economic structure of human civilisation in certain era, and the pattern of development. The macro-level can address the institutional structure, the cultural aura and communication within societies. The micro-level can deal with the compositional, aesthetics, design and technological forces. In the table depicted above, few indicators are considered including the central forces in civilisation at meta-level, dynamics of memory in socio-cultural scale at macro-level, and key design elements in compositional-technological forces at micro-level.

Elaborating each mediation spheres requires an in-depth archaeological-historical approach, which is beyond the scope of the current book. It can be briefly articulated that in the *presentational mediation sphere,* the process of communication involves direct bodily-emotional and intuitive presence and manifest the *act* of communication. In the *representational mediation sphere*, there is a segmentation of communication process (between communicator, text, and communicatee) and the main focus is on the *works* of communication – in creating 'text' that can extend the memory of the presentational media. The *mechanical* and *electronic mediation sphere* are accelerating the *product* and *process* of communication at a larger scale and fostering a collective and global cultural memory.

In the contemporary *intelligent*[927] *mediation sphere*, information and digital network communication are crucial socio-cultural forces and the intelligent artificial memory, aided by algorithms, are playing significant roles. The central element in compositional design, apart from motion design is navigation and gaze design in many contemporary media practices. The future emerging mediation sphere is biological, bringing a new dimension to human existence with neuro-communication and neuro-design. To recap briefly, it can be argued that in each mediation spheres, the compositionality may alter based on the communicational, cultural and temporal dynamics.

In presentational media, the immediacy and organic development of compositions are noticeable. The situation and atmospheric characteristics of events are considered important. For instance, Beckett believed stage play as a 'deep focus of mise en scène' rather a 'controlled montage'.[928] In play, the meaning and communicator is inseparable. There is no gap between the creator and the creation. The meaning is presented through the communicator. From a classical perspective, representational art practices are bound with visualisation, imagination and imitation of nature, while technology are the conceptual design and extension of nature.

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[927] In a paper entitled 'Rethinking the Aesthetic of Intelligent Media Art' (Spring 2014), I have briefly analysed the scope and challenges of the introduction of the term 'intelligent media'. Jussi Parikka, introduced the notion of 'insect media' in his book (2010). He conceptualised 'modern media […] more than the products of individual human actors, social interests, or technological determinants' and highlighted the 'nonhuman aspect of media, communication, [and] intelligence' (See Parikka: 2010).

[928] Monaco, 1981: 349

Table 5.2: The compositionality across media spheres

	Compositional Axis		Communicational Axis	
	Compositional	*Technological*	*Communicational-Cultural*	*Social*
Presentational Mediation Sphere	Emotion	Human being	Presence	Agricultural society
Representational Mediation Sphere	Signs, Symbols, Index	Material representation & forms	Symbolic and iconic representation	Early civilized societies
Mechanical Mediation Sphere	Motion	From media material to instruments	Reproduction	Mechanical Society (Western Civilization)
Electronic Mediation Sphere	Narrating/ Writing motions Cinematography	From instruments to technology	Stimulation	Industrial Society
Intelligent Mediation Sphere	Navigating/ Writing Vision	From technology to algorithms	Immersion	Networked Society
Biological Mediation Sphere	Neuro-Vision DNA-Writing	From algorithms to organisms	Cognition	Organic society

The contemporary art and technology practices, nevertheless, are not separate phenomenon and they involve visualisation-imagination-conception process.[929] The intelligent media art practices enter a new territory of thinking and ideation. In other words, there is a shift from the paramountcy of *motion* in electronic media to cognition (ideation and thinking) in intelligent media. A shift from cinematography (writing of motion in cinema) to 'opsigraphy' (writing of seeing) or 'opsiscopy' (seeing of seeing).[930]

Figure 5.6: Mediations Spheres
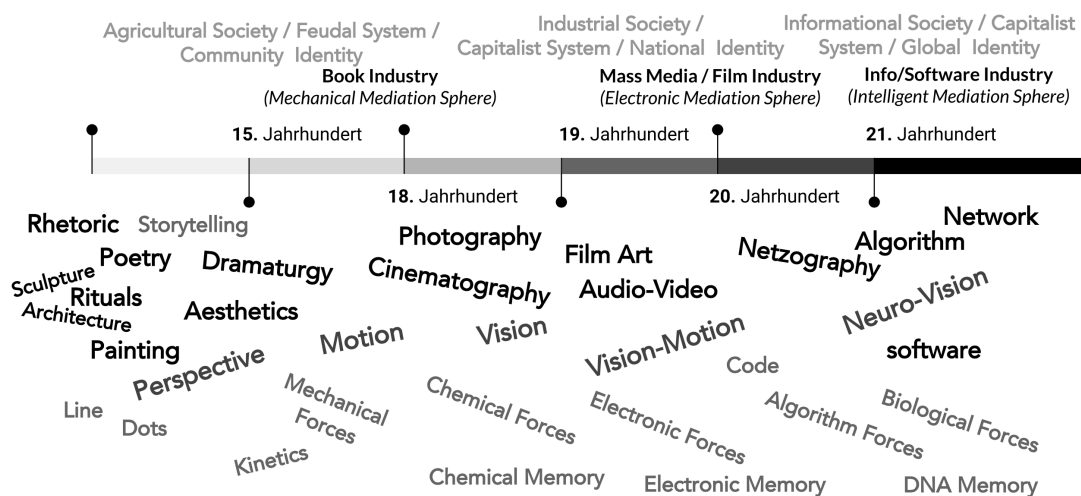
[929] Bolouri, 2014: p. 231
[930] Weibel, 2003: p. 594

In order to reflect on various levels of media compositional practices, there is a need for case studies. For instance, narrative analysis, dramaturgy, character and mood analysis, power and representations, and media aesthetics, and many related topics require concrete contents and is always subject specific. In the next chapter, a case study of app-arts practices is demonstrated to address an emerging trend in intelligent mediation sphere, i.e. app culture. It is significant to elaborate initially the artistic practice of apps. Although, according to Mersch, medial may partly constitutes the mediated and does not 'form its constituent', by understanding forms of media, and anamorphosis technique one can reflect on the mediality of medium.[931] The Anamorphosis, seeing from other perspective and 'seeing by creating a paradox', is the fifteenth and the sixteenth century artistic convention, which 'requires practice in ways of seeing that do not follow the functions in the foreground but focus instead on ruptures and dysfunctionalities that correspond to the "view from the side"'.[932]

Regime of subjective gaze, 'art used technical apparatus and the mathematics of central perspective as its rationale principle'.[933] Roland Barthes introduced the metaphor of anamorphosis as 'an operational principle for tactual strategies' and identified them with 'diversifying critique.'[934] Work of the arts 'breaks the medium open, used it against itself, ensnares it in contradictions to uncover the medial dispositive, the structure of exposure, narrative operations and so on', while aesthetics (of illusions) 'just uses them and continues them'.[935] Relationship between media and art is that, art tries to reflect the medial paradoxes and show the indeterminable and closed aspect of negative media. Arts can probe quasi-anamorphic manoeuvre, that allows for 'seeing from the side' where there is no reflexivity'.[936] The questions before us are not merely, what is (technologically) new about 'new media', but what are the forces in shaping a new mediation sphere? and how do the nature of media practices transform across mediation spheres? What is the nature of media practices in the information-based and networked global world? And how to categorise media practices of our contemporary age? How technology, aesthetics, design, socio-cultural, economic-political dimensions matters in understanding mediation sphere? What would be the future of media-based art and design?

The media practices can be distinguished at three levels of discursive formation (cultural or historical ground for formation of certain media practices), discursive

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[931] Weibel, 2003: p.210

[932] Mersch, 2013: p. 212-14. A famous anamorphosis technique can be seen in are Holbein's The Ambassadors (1533).

[933] 'Alberti defined a picture in two ways, namely on the one hand as a view through a window, whose frame constructs the mediality of its pictorial character by positing iconic difference, and on the other hand as a cross-section though a visual cone, which guaranteed the geometrical constructability of its depiction and disciplined the gaze as well as the representation' (Mersch, 2013: p, 213).

[934] Ibid, p. 215

[935] Mersch, 2013: p. 217

[936] Ibid, p. 218

practice (the ways these media practices functions, produced, used or distributed in certain cultures) and social practice (the larger socio-cultural scale of the media practices).[937] The discursive formation reveals the 'configurations of affective regimes' demonstrating how mediation processes including discourses, sensoria, technologies are articulated and articulate the configuration of the body ('forms of individuation,' biopolitical formations, structure of feelings, privacy, intimacy, locality, identity, embodiment), the 'social body' (forms of collectivity, publicness), and 'non-human' ('the natural world').[938] Discursive mediation is not limited to the produced 'meaning,' 'consciousness' and 'commodities'; rather the multiple and complex 'forms and formations of discursive mediation can manifest without the producing the meaning.[939] Media art are encompassing a wide-range of practices from exploring artistic aesthetics, to (re)construction of media practices, criticisms of mainstream media, media experiment, media avant-garde movements, expanding the perceptions and consciousness, which bring media culture and media literacy into new fronts.

In the current research, the attempt has been made to address various levels of discursive contemporary media practices, namely various forms of media design and media art. The case study of app-arts, as an emerging media art practices, is discussed using the model above, addressing their discursive formations, discursive practices and social practices. After elaborating, in detail, the methodological framework, the two essential research questions are further discussed in the following sections and a summary of the analysis is presented.

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[937] Jensen distinguished three levels of text, discursive practices (production, distribution, consumption), and social practice (Jensen, 2002: p. 107). Similar to this model is Rose (2012), who identified two levels of critical discursive analysis. By discursive analysis I, she referred to 'discourse, discursive formations' and 'productivity'. And by Discursive analysis II, she referred to 'the material practices of institutions' (p. 195).

[938] See Grossberg, 2010, p. 641

[939] Grossberg (2010) believed that cultural practices only operate at multiple and complex 'forms and formations of discursive mediation' and 'a practice is cultural inly insofar as it enters to them, so that what looks like the same practice may exist in different regimes and apparatuses. Such apparatuses may accomplish many different kinds of effects, produce many kinds of relationalities, operate as different modalities of mediation and articulation to produce different lines and forms of affinity and affiliation, different configurations of reality' (p. 639).

6

Intelligent Media Art

Medial Worlds

App-Arts Typology

App Culture

App Store

Cloud Culture　　Media Aesthetics

Media Art Practices　App-Arts

Conceptual App-Art

Crowed-Sourced App-Art　　Communicational App-Art

Techno-centric App-Art

6 Case Study: The Medial World of App-Arts: Practices and Aesthetics

The practices of intelligent media are diverse in various societies. It can be argued that, apps, among the vast spectrum of practices in intelligent media sphere, are distinguishing phenomena. They are unique in terms of expansions, socio-cultural and political dynamics, and market revenue. A vast range of institutions, communities, politicians, business giants, celebrities, scientists, and artists, inter alia, are taking an interest in developing apps. From a technological point of view, on the one hand, apps provide a user-friendly platform for a larger audience, minimizing the digital gaps between generations and continents, and, on the other hand, they are considered a functional way to collect concrete data from individuals, who are using the apps. The big data companies, which are mainly based in the Silicon Valley, are largely benefiting from the latter.[940]

As well explicated in chapter two, the mediality loses 'appearance' by making *something* appears, that is 'their presence has the format of an absence.'[941] Mersch believed that 'reflections on media need the kind of artistic strategies' represented in the so-called media art practices. Owing to the fact that they express 'aesthetic procedures' in contrast to 'discursive ones.' [942] In this way, they activate the 'effects of media reflections on the basis of artistic strategies.'[943] The best technique to discuss this new mediality of apps, therefore, is a survey of apps artistic enactments. Analysing a medium on grounds of its artistic capabilities, i.e. app-art, can unravel the structures, operations and layers of mediality, surpassing the commercial conventions. Apps, similar to any other emerging medial practices in history, require professionals, who are trained in the language of new mediality, e.g. computer coding. Because of the limited number of

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[940] See Lanier (2014)
[941] Mersch, 2013: p. 208
[942] Ibid, p. 217
[943] Ibid

professionals, complex computer linguistics, and the high rate of 'new' software technologies, the app development still is an expensive practice.

A commercial development of medial practices is not a new phenomenon in the history of media, i.e. film industry. Nonetheless, the numerous attributes of the 'new' mediality may be overlooked because of the business-oriented patterns of app evolutions. The avant-garde app-artists bring the unimaginable dimensions of apps mediality into a new front. In this process, an artist, is 'less a maître de plaisir, an arranger of effects, than a maître de paradoxe, a master of contradiction and reciprocal interventions,' who use 'the mediality of the medium against the grain and making its indiscernability discernable.'[944] In other words, app-artists utilize paradoxes and reflexivity in order to demonstrate the mediality of apps.

As the emphasise is to examine the micro-level aspects of mediality, that is reflecting on the compositional and technological spectrum, the app-arts provide state of the art field for investigations. In the following sections, the attempt is made to shed light on various facets of apps-arts. Initially, a technical-historical account of apps in a larger context of software applications is discussed. It is followed by a critical reflection on the development of apps, including brief discussions on the economic-political and the socio-cultural dynamics. Secondly, a general structural design and typology of apps, in general, and app-arts, in particular, are discussed. Thirdly, the artistic aspect of apps is addressed and compositional practices as well as aesthetical traits of app-arts are analysed.

What is an App?

Apps, as a medial practice of intelligent media sphere, are a complex and evolving field of inquiry. An App, from a technological perspective, is a simple version of application software, mainly used, but not limited to, mobile-devices, e.g. smart phones, tablets, notebooks etc. Software, as a new dimension to mediality, is regarded as the most significant feature of 'new' mediality. This is to an extent that the 'new media studies' is equated with 'software studies' in some institutes. It is necessary, as a matter of course, to be cognizant of the technological aspect of the software. For this reason, the rudimentary technical software-related dimensions of apps are discussed in the first section. The understanding of software in media studies, nevertheless, remains, to a larger extent, technical. Subsequently, an attempt is made to enquire into the economic-political and the socio-cultural dynamic apps in a larger communicational, cultural and temporal context. To critically reflect on the temporal facet of apps, it should be highlighted that the following examinations and propositions are narrowed to the initial decade of app practices from 2008 until 2016. Conceivably, discussing a larger socio-cultural arena requires a historical depth. It is not without merit, however, to speculate related concurrent state of the art issues.

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[944] Mersch, 2013: p. 217. See chapter one for further discussion on method of analysis.

Application Software: A Brief Overview

Many aspects of life in the twenty-first century are heavily dependent upon *software*, from economic, culture, health, creative fields, political and social forces.[945] Discussing the nature of software demands, an explanation of the layers of a computer, categories of software, i.e. system and application Software, and the major types of applications software. The software is in close association with its hardware. The development of software is to a great extent aligned with the development of hardware technologies, i.e. enhancement in processors, digital electronic circuits, etc.

Despite the common belief that the essence of modern computers can be defined conceptually as electronic and the digital devices, they are nexus of complex hardware and software interactions.[946] A computer is the electronic programmable machine that is consisted of various layers. The most basic and grounding levels of a computer are called *hardware*, which contains the physical components and the material machinery such as cables, memories, transistors, and electronic circuits. And a set of designed instructions and data processing are called *software*. The cloud computing, remote storages and processors are minimizing the visible physical existence of the hardware. The cloud computing is 'a systemized virtualization of data storage and access' and it is 'a system software that runs as 'a web browser,' allowing users to move information from data centres onto computational devices almost instantaneously'.[947]

The software, in general, consists of two major types: *system software* and *application software*. The system software are the programs that provide an environment for the hardware of a computer to function and can manage the hardware resources at lower level, i.e. operating systems.[948] The application software are programs that take inputs – algorithmic instructions and data – from the users, i.e. word processors, web browsers, etc.[949] The figure below depicts the various levels of a computer, from hardware to system and application software.

Applications software, figuratively speaking, is considered to be at the top of the systems software, since it functions are only based on utilities and operating system. These applications are task-oriented programs, designed for a single-task or a set of complex multi-tasks that enable the user to perform various commands. There are various types of application software available today and, broadly they can be divided into two types: vertical and horizontal application Software. Vertical applications are complex software that target specific trained users and are usually customized for professional or industrial purposes. Horizontal applications are designed for a larger number of users with various levels of technical skill, e.g. word processors, and web

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[945] See Miller & Matviyenko, 2014, p. vii

[946] Manovich (2013) discussed that the very digitality of computer is the very building block of the logic of the system, but what distinguishes computer is its software attributes.

[947] Miller & Matviyenko, 2014: xix-xx.

[948] See Pandey, 2016: p. 9

[949] Ibid

browsers.[950] One attribute of the horizontal application software is its utility. The higher number of usages increments the applications communicative value and utility.[951] They offer a wider social, community, group and interpersonal communicational platform and usability. Among the vast types of applications in horizontal category, the *web application software* is notable.

Apps: A Technical-Historical Perspective[952]

Apps are 'indicative of the condensation' of the web and internet around a 'singularity'.[953] To speak simply, an app is a redundant form of an application software, which is user friendly and can be used by various users with different technical skills. The development of apps is usually associated with the expansion of business investments on smart phones. The App Store is lunched by Apple in the July 2008, with iOS 2.0. It gained usability, however, around 2009 for iOS devices.[954] Android Market, an app store for Android systems, released on the 22nd of October 2008, and later established as Google Play Store on the 4th of March 2012.

Matviyenko (2014) defined app as 'an abbreviated software application – figuratively and literally, linguistically and technically' and explained that 'apps are small programs – pieces of software designed to apply the power of a computing system for a particular purpose.'[955] An app, as an 'assemblage' is built upon the layers of other technological assemblage,[956] namely system software such as operating systems, interface and mobile hardware technologies. The operating system defines the various functions an app can perform, types of components and the relation between these components, including activities, services, content providers, broadcast receivers, etc.[957] Most apps may require a network connection and they can be paired or/and synchronized with other devices. Cormier (2014) believed that,

> What is salient to defining the app [...] is not the portability of the device, but rather the *port*ability of the software, in the sense that it comes outfitted with outlets that allow it to communicate with and transfer data (i.e., port) to other pieces of software.

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[950] See Mietzner & et. al. (2010) and Atwood (2003)

[951] Miller & Matviyenko, 2014: p. ix

[952] I am particularly thankful to Christian Beuter who kindly reviewed the technological discussions and gave me very insightful feedbacks to make the text more accurate. He is not held responsible for any mistake which are my own.

[953] Cormier, 2014: p. 58. Cormier highlighted that 'the technological singularity might consist in substantively: an algorithm or set of algorithms that are effectively capable of rendering their own casual process, at the level of machine code, invisible, and somehow thereby ascending from their platform to ours to become as intuitive as breathing – but also (as apps) as obedient' (p. 62).

[954] Miller & Matviyenko, 2014: p. xviii

[955] Ibid

[956] Ibid

[957] Ibid

(Cormier, 2014: p. 56)

Apps are short-cuts that 'guarantees direct and immediate access to the information stored in the database on the cloud,' which gained a wide reception due to the evolution of mobile phones, users' preferences, mobility and cloud computing.[958] Apps are tailored 'browsers' for specific categories of information. However, in contrast to web browsers, apps, 'guarantee direct' and 'immediate accesses' to database. The structures of apps are usually designed to meet their multi-dimensional functionality. They are the amalgamation of discreet mediation processes, combining 'receiving content,' 'processing content,' and 'sending content' in a single platform.[959] The apps comprise various tiers which are primarily structured by protocols that governs the 'fusion, fission, condensation, and proliferation'.[960]

The abstract logic of app is based on *'machinic protocol'* in Gilles Deleuze's conception that is 'an elegant model of the system of feedback loops and machine learning that apps access to varying degrees.'[961] Each app to individuate itself, 'activates a specific configuration of protocols,' a phenomenon known as *'protocological assemblage,'* that define the 'disciplinary effect' and activate the 'configuration by binding a variable, free in its machinic state, to an expression of their particular, purposive functional capacity.'[962] The app stands in contrast to the image of traditional software, 'a detached, level-headed, pragmatic designation for a work-related tool,' which is designed for a working table.[963] The advancement of devices based on the dynamics of controllable software, which hides their functionality to users makes them more controversial. Perhaps this could be read in terms of the negative medial effect. The iOS systems by separation of the memory from the traditional computer devices, comprised of individual CPU and Memory, turning it into cloud, made the saved big data easily accessible for companies. The apps redefined the way we choose to 'interface with and

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[958] Miller & Matviyenko, 2014: p. xviii-xix

[959] Ibid, p. xviii. The attempts to 'consolidate the functions of variety apps' under one interface, which can be seen in Siri and Iris, based on semantic web logics Cormier, 2014: p. 53). The deductive analysis cannot predict the nth states of systems, 'so the system is capable of generating solutions despite being impervious to any attempt to mine from it any coherent explanation for its results' (p. 53).

[960] Cormier, 2014: p. 53. Cormier believed that 'many apps concentrate the data they generate into zones that can be accessed by other apps, which gives off the impression of an open-source ethos and would seek to localize the penetrative probing of hackers, rechristening the latter as developers. These zones are protocols known as application programming interfaces (APIs) (p. 56). Given the incentive for apps to develop APIs – for the opportunity to participate in a market for the information they collect, in addition to licensing their distinctive proprietary functions to other companies – we could consider the possibility of an entity that establishes connections with all of these APIs, siphoning all available information into one centralized database conductive to an unprecedented degree of algorithmic automation (Cormier, 2014: p. 58).

[961] Ibid, p. 53

[962] Cormier, 2014: p. 53

[963] Kluitenberg, 2014: p. 99

through the Internet.' Nevertheless, the state of the data sharing remains unclear.[964] As clearly stated by Weibel, with 'the infosphere, of which the app world is a component, humankind has created an artificial environment for itself, to allow survival in a digitized society.'[965]

Political and economic dynamics of Apps

The information-based societies brought a new political and economic order. The major elements of power in the networked societies is *information*. With incrimination and explosion of information, algorithms and data-engineering have magnified the complexity of the era. The 'new model of computing opened up possibilities for excursing micro control on macro scale.'[966] The civilian, in political parlance, and customers, in economic literature, redefined their role in the power structure. The mediated-based lifestyle provided a new opportunity to attain information about individuals. This information turned out to be in the proprietorship of the cloud owners. In contrast to the 'protected corporate and governmental data,' big data conglomerate firms have absolute control overs civilians' information, which may lead to 'unprecedented abuse' or exploitation of users' rights.[967] There is no concept of zero-privacy. The cloud owners' profit from the recording of everything that users perform, i.e. navigation, keywords search, contacts, etc., that may lead to 'generating any narrative.'[968]

Mobile apps function as 'lures.' The users grant access to their information, mostly due to seamless computing and subliminal media environment of apps, which 'trick users' and distract their attention from the 'network's algorithmic architecture' to 'entertaining and user-friendly opaque screens'.[969] Apps make it 'fun' for users to produce, knowingly or unknowingly, free information for the harvesters of data, who implement the best processing algorithms to generate the maximum results out of the marginal data.[970] Although many app-developers claim that they clear all data usage in the privacy policies, reading them is laborious, demanding estimated '250 hours of reading from the average user.'[971] In most cases, these policies are accepted without any close reading or questioning cyber laws.

The apps, as a type of consumer goods, function in opposition to the classical norms of economic theory. The demand and price cumulative relations are of different logic, in a sense that the cultural and social capitals determine their incremental 'perceived'

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[964] Clough, 2014: p. 37
[965] Weibel & Riedel, 2015, p. 005
[966] Miller &Matviyenko, 2014: p. xix
[967] Ibid
[968] Ibid, p. xix
[969] Ibid,
[970] Ibid, p. xxi
[971] Cormier, 2014: p. 57

value in 'controlled consumption' business model.[972] The notion of 'controlled consumption' is rarely explained in association with software or app interface business model. Pold and Anderson (2014) developed a theory, in which one can particularly explain why the consumers' data are an important feed to the current economic systems. The four principles of their theory are discussed in the following part.

1) A cybernetic industrial infrastructure integrating and handling production, distribution, exchange and consumption is developed around the product.
2) The consumption is controlled through programming that closely monitors consumer behaviour and the effects of marketing through tracking and surveillance.
3) Controlled obsolescence is programmed into the product limiting the functionality and durability.
4) The overall effect of controlled consumption is a significant reorganising and troubling of specific practices of everyday life.

(Pold & Anderson, 2014: p. 23-24)

The giant hardware and software distribution companies, i.e. Apple, Amazon, Microsoft, Google, and Facebook (as of year 2016) are tracking closely the consumers' behaviour (the second principle). The individual devices are updated and check the functionality and durability (the third principle).[973] This has led to a closed 'proprietary networks,' where the users are monitored at all levels (the fourth principles). The controlled consumption model can open specific business opportunities for cultural software. However, the exchange-oriented model is 'heavily constrained toward the object-oriented cultural model,' a rather 'passive model of consumption framed by licenses' which limits the full expansion of 'culture of exchange.'[974]

Apps are a potential open field, which attract the interest of the political realm. The governments concern the metadata (data about the data), not *what* is said but *who, when how* (often) are becoming more relevant.[975] Viewing apps as an exercise of control is rightly pointed out in the following passage.[976]

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[972] Miller & Matviyenko, 2014: ix −x. The business model of 'controlled consumption', a concept developed by French sociologist, Henri Lefebvre, in 1967 and used by American cultural theorist Ted Striphas (Pold & Anderson, 2014: p. 23).

[973] There are reports that Amazon kindle deletes some e-book after updating their system including scandal of removing Orwell's Nineteen Eighty-Four (Pold & Anderson, 2014: p. 32).

[974] Pold & Anderson, 2014: p. 26

[975] Stanley & Wizner (2013)

[976] Cormier criticised Alexander Galloway's 2004 Protocol: How Control Exists After Decentralization, on the account that he 'strains to provide examples of how protocol properly control people apart from the perceptual threat of disconnection' (Cormier, 2014: p. 54). He further criticised the 'decontextualized' reference of Galloway to Deleuze's concept of 'control' and Foucault's concept

> […] control maintains the positivity of power under the disciplinary society (albeit in a different form) rather than regressing to the negativity of the sovereign prohibition. […] control is *administered* (i.e., applied or invested) as opposed to administrated (i.e. managed). […] What is important is not the specificity of discipline, but of describing how power is *exercised* through protocol, not simply diagrammatized. This can be accomplished at the technical level […] by manipulating the user's experience of the *modularity* of an interface.

(Cormier, 2014: p. 55)

The apps in the theoretical process of collective democratic societies have both the good, bad and ugly facets. Amartya Sen (2009), who criticised John Rawls's idea of fairness, emphasised active engagement of public reasoning throughout the democratic process. At the heart of Amartya Sen's theory of justice is the idea of capability. Sen believed that the true fairness can be achieved by empowering capabilities of individuals. In the Western world, the process of democracy is majorly based on the modern electronic medial sphere. Theoretically, Sen's theory of justice, in which he envisioned a global perspective of democracy, is congruent with the ideal vision of a post-modern intelligent medial sphere. In his view, a global collective democratic society, after the Western approach to democracy, is a true engagement of the civilian in the political process, and, consequently, decision/policy making must be based on the public reasoning eased by ubiquitous systems of participation.[977]

Viewing apps in this context, may appear, at first glance, a promise to benefit this theory. Nevertheless, the business-oriented developmental pattern of application Software, instrumentalisation of algorithms, and post-media populistic practices are deviating far beyond ideal moto of a fair world. The exploitations of information in any form to deviate a political power shifts are major threat to the civil societies. The bio-information are relatively more sensitive field. The biological revolution, in years to come, may reformulate the political and economic orders beyond our imaginations. The stepping-stone has been eased by apps, which monitor the biological data of users. For instance, apps, which can scan and read the fingertips data or any biometrical bio information about the users, can easily access to the banks of data posted in any other apps. For instance, many Iranian folks posted their inked finger during presidential election on the 19 June 2017 on Instagram – the most popular and accessible app of a social networking site in Iran. The analyses of bio-political power of apps are generally contextual and examples specific. There exist many controversial apps that monitors sleeps, diets, exercise, menstruation cycles, and productivity, inter alia.[978] A postulation

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of 'biopolitics', and believed that 'Galloway, in his preoccupation with the diagrammatic aspect of protocol, neglects the complementary disciplinary aspect' (p. 55).

[977] See Sen (2009)

[978] Cormier, 2014: p. 55

of dynamics of bio politics is beyond the scope of the current research. It is sufficed to reflect on the prospects of the existing apps in the context of a biological media sphere.

App-i-fication of the life: A social and cultural perspective

The conditions of the networked- and information-based societies construct the civil life as an exercise of the data analytics and programming. The software, as a computational solution, is incorporated to all levels of daily practices. In other words, Software is 'substantially integrated into the process of contemporary culture and society, reformulating processes, ideas, institutions, and cultural objects around their closeness to algorithmic and formal description and action.'[979] The very existence of software is subliminal. The software offers 'an imaginary relationship' to the hardware, in particular, and to the 'entire distributed network,' in general, by means of 'selective graphical representation that shows only those elements of computing that the user is allowed to see.'[980] The emergence of apps build this imaginary and symbolic relation even deeper.

> Media and communities double each other's imaginaries; an imaginary communion is shared via mediating machineries that are believed to be able to transfer more than 'mere' information; feelings rather than signals; meaning rather than data; satisfaction rather than sound, words, images; identity rather than codification of social life.
>
> (Kluitenberg, 2014: p. xviii-xxix)

Apps, as software solutions for all aspects of life, are under the users' command finger. The world is reduced to the space 'in between' our fingers, in the palm of our hand.[981] Besides the 'practical solutions for mundane consumerist demands,' apps project 'imaginary solutions for potentially unattainable aspirations,' having a 'transcendental nature'.[982] Matviyenko (2014) compared the software aspect of an app to the

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[979] Miller & Matviyenko, 2014: p. vii

[980] Wendy Chun cited in Miller & Matviyenko, 2014: xx. The graphical user interface (GCI) is considered to be mediator between a user and a technology. Matviyenko further discuss that 'At the same time, it strengthens the channels of access to users' private information and engages them in producing more of free data without knowing that they are being exploited for the sake of establishing control and generating profit: for those who harvest data – if their processing algorithms are good – no data are bad or useless. Any information about users, even if it is trivial, can be monetized. Apps make it fun for users to produce data, appealing to their desire to be organized, productive, or creative' (Miller & Matviyenko, 2014: xxi).

[981] The relation between hand and our world has a long topos references in our story of human life in various cultures. Hands were reflection of one's fate and destiny. According to ancient Indian tradition, hands reflect the whole human being from emotions to parts of the body. Now again hand is a place where a new dimension can be reflected. Your world is your apps in your hand. Whether having Android, Apple or windows devices, you can be connected to the app cloud around us.

[982] Ibid, p. 100

'technique,'[983] which is the invisible side of the mechanical machine. Technique defined by Jacques Ellul is a 'complex of standardised means for attaining a predetermined result.'[984] These standards are constructed socially, and techniques are cultural.

> As a conduit for digital information to invade every aspect of modern life, apps are scripts that link the way we search for small software solutions to things that we once took for granted, and to the larger issues facing a hyper-networked society on the precipice of total immersion in digital culture.
>
> (Miller &Matviyenko, 2014: xi)

As the technology evolves and the logical algorithm finds its way, the nature of (big) data get more sophisticated. The apps provide a platform to collect a huge amount of data. The more accurate data collected, it is 'easier to confuse it with 'the truth' and 'forget that the reality cannot be substituted with a representation.'[985] With opening of the 'app universe' at a global scale, the usability of apps should be questioned beyond their functionality.[986] The expansion of apps universe are to some extent due to the promise of making more efficiency 'in a variety of daily tasks' and of making individual empowered by a personal application agency.[987] These aids range from personal to professional communication apps, navigation, logistics, education and entertainment in a single platform.

> […] apps and mobile devices manage to project the phantasm of individual agency (which is inherently limited and compromised by a variety of material, institutional, and personal limitations), they are able to conjure up for their users the illusion that they have achieved a certain degree of sovereignty in their daily operations.
>
> (Kluitenberg, 2014: p. 103)

The complex institutional information and communication brought about the anxiety of 'a lack of agency.'[988] The lack of agency can be reinforced by the idea of the 'lack of technological proficiency.'[989] In this scenario apps are the 'easy' solutions to overcome

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[983] Miller & Matviyenko, 2014: xxiv. She used the cultural technique introduced by Bernhard Siegert (2007), 'techniques expose "operative sequences that historically and logically precede the media concepts generated by them"'; techniques 'as heterogeneous arrangements in which technological, aesthetic, symbolic, and political concepts of one or more cultures of writing, image, number, line, and body interact"' (Ibid, xxiv-xxv)

[984] Cited in Miller & Matviyenko, 2014: p. xxiv

[985] 'The app as a technique for operating mobile devices has become an imaginary connector between users and the datacentre of "absolute knowledge"' (Miller &Matviyenko, 2014: xxiii).

[986] Kluitenberg, 2014: p. 99

[987] Ibid, p. 103

[988] Ibid, p. 104

[989] Ibid

these new social anxieties. Any new generation of devices or apps are emerging with such slogans in the market.

Another significant issue in an era of 'cultural computing,' where media morph into the platforms for cultural digital materials.[990] As a result, the tensions between *object-oriented* and *exchange-oriented* approaches to the culture increment. While the former advocates the *works* of culture, the latter sponsor the idea of cultural text, which are based on *sharing, remixing, collaborative authoring,* and *cultural process*. The exchange-oriented approaches arose sensitivity around the issue of copy rights.[991]

> […] digital culture has been a primary scene of the battle between object-oriented and exchange-oriented understandings of culture – between anti-pirates and pirates, between established right holders and new emerging media artists, or between the old content industries like the movie and music industry and new disruptive business initiatives […] that generate tools for sharing.

> (Pold & Anderson, 2014: p. 19)

The clashes among the content-based cultural industry and sharing- and exchanging-based culture are entering into a new phase. The new models of content copyrights, which are emerging with the advancement of the software algorithms, i.e. hash coding and app interface, can resolve some of the disputes.

App practices: General design structures and typologies

The practices of apps are quite diverse. They may range from entertainment, games, education, and sport to business. The users create values for apps. The apps are ranked financially based on their level of usage. They are designed on the basis of 'computational irreducibility'. Cormier explained that

> […] a simple set of rules can generate enormous complexity, resulting in a system is capable of generating randomness intrinsically (as opposed to having its randomness conditioned by external or initial conditions […]) and cannot have its nth state determined by any rigorous mathematical analysis (the only way to determine the nth state is to let the system evolve to that state […]).

> (Cormier, 2014: p. 59)

Prior to address the app-arts in the next section, it is necessary to discuss the general design structures and topologies of an app. The app design follows a minimalistic

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[990] Pold & Anderson, 2014: p. 17
[991] Ibid, p. 18-19

approach. Gray Hustwit in his 2009 documentary, *objectified*, explained the 'minimalistic principle of design' that informs app interfaces.[992] There are a set of standard hardware, which are 'fine-tuned for aesthetic or ergonomic effect.'[993] The software provides a wider range of standards for creative expansions.[994] The fundamental basis for incremental proliferation of apps, in general, is *protocols*. They are 'a set of rules that defines a technical standards' and they are 'a universal description language for objects.'[995] Data objects are 'heterogeneous elements' that exist in 'machinic processes' which 'always disappears.'[996] The nature of disappearance can be accomplished both at the level of *perception* and of *code*. The *bootstrapping* is the 'general formula' that 'an institutive interface is sought by means of a simple system of prompts that initiates a more complex process.'[997]

The apps are comprised on tiered modularity, a 'fractal arrangement', which 'define a range of ways of interacting with data objects.'[998] These tiers of modularity are:[999]

1) *Semantic tier* – semantic programming languages are at the higher-level in the hierarchy of data objects. The semantic tier is based on the code logic of being *intelligible*.

2) *Perceptual tier* – the graphical interface marks the second layer of the tier, the perceptual. This tier is based on the *intuitive* code, on the top of being intelligible. At perception level, the modularity can be manipulated, and the nature of the software semantics can disappear.[1000] This inconspicuous data gathering can change the dynamics of individual features.

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[992] Cormier, 2014: p. 53

[993] Ibid, p. 54

[994] Ibid

[995] Protocol interacts with the modular interfaces, and influences the user experiences (Cormier, 2014: p. 56).

[996] Ibid, p. 54

[997] 'Responding to a short series of questions in order to install a program tailored to your needs is one instance of bootstrapping; developing graphical interfaces (which effectively offsets the difficulty of interacting with code onto code itself, thereby allowing users to "speak code" by manipulating symbolic objects) is another' (Cormier, 2014: p. 54).

[998] Cormier, 2014: p. 56

[999] See Cormier, 2014: p. 56-61

[1000] At the frame of perceptual tier, the application programming interfaces (APIs) 'emerge as means of rendering select features invisible' and 'effectively intervene in the initialization procedure of bootstrapping' (Cormier, 2014: p. 57). APIs 'submit the initiatory prompts – the simple instructions that govern a larger, more complex computational process – to automation and reduction, invisible in any practical sense' (ibid). The perceptual level is where advertisers embed scripts in order to 'collect data submitted in HTML forms (by means of the Hypertext Transfer Protocol methods POST and GET) as market research', benefited by further quantity information collected via social networking account signing up strategies (ibid).

3) *Code-Protocol tier* – the third tier is at the level of the computer code, which results the automation and enables data sharing. The basic unit of code is less intelligible as the higher-level programming language that render the machine language.[1001] In other words, the intelligible is the original function of the semantic programming language, that allocates people to intervene the code. It transforms the secondary function in the code tier, which are less reliant on human beings' regular maintenance. Protocols are considered the 'primary mechanism for pooling the information necessary for these systems to automate and self-regulate' or 'serve as a king of neural network, delivering the epilepsy of hypersynchronous liquidation to all active nodes (brokers)'.[1002] The 'protocols are dead things' until a content is supplied for them.[1003] In other words, protocols 'exist only upon use', 'being *for* use and *toward* some purpose', creating an *assemblage*.[1004]

4) *Transcendent tier* – the machine code begins to disappear at the fourth tier, and the platform is transcended to *itself.*

The abovementioned description demonstrates how design practices can disappear the mediality effects in the process of mediation. This example demonstrates how Mersch's negative media theory – in which he believed that the presence of mediality is in a form of an absence – can be seen in practice. This instance is at a micro-level, encompassing the axis of the compositionality to the technological medial dimension.

Kluitenberg defined apps, broadly, in terms of imaginary media, comprising of two typologies: apps as *compensatory apparatuses* and apps as *machines of transcendence*.[1005] The *compensatory apparatuses* include a vast category of 'productivity apps,' which aim to fulfil the 'familial or professional expectations' of users.[1006] These types of apps reinforce the 'phantasmatic' compensatory functions, e.g. task managing apps that correspond to task overload culture, scheduling apps as a solution to appointment load and forgetfulness, mind-mapping apps as a resolution to the unfocused mind or 'poorly structured thought

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[1001] The automated code tier repurposes the first tier, the 'semantic richness once served primarily as a means of structuring interfaces from bottom up' serves as 'being colonized by automated, reflexive processes that act no more than a conduit between the second tier (where institutive, graphical interface reign) and the primordial soup of machine code' (Cormier, 2014: p. 58).

[1002] Cormier, 2014: p. 59

[1003] Ibid, p. 60

[1004] 'While elegance in code has always been a preoccupation for the information-technology community, app designers made elegance a priority in order to use of the limited space on their devices more effectively while also tailoring the utility of those devices to their specific personal and professional needs. An app, itself an assemblage, also enters other technological assemblages' (Miller & Matviyenko, 2014: xiii).

[1005] Kluitenberg, 2014: p. 104

[1006] Ibid

process,' health-related apps that correspond to health conditions 'in need of compensatory procedures.'[1007]

App as *machines of transcendence*, moves beyond the lack of or ability in coping with 'new' world. These types of apps 'project the phantom of being able to transcend the inherent limitations of human existence.'[1008] The transcendental apps can be of two levels: practical and existential. *Practical-transcendental* apps are based on the necessity of networked based 'global village,' a need to overcome the physical constrains of space in global life. A good example in this category is communication and social networking apps that are used as practical transcendental purposes. Besides the information-exchanges, these apps aim to create 'phatic forms of communication' that exhibit 'marking presence' and 'establishing connections one-to-one or one-to-some communicative exchange.'[1009] *Existential -transcendental* apps drive from an existential threat. For instance, in the case of the communication apps, there is 'threat of privation of social contact and connection' and the 'terror of solitude,' which are both practical and existential.[1010]

The leisure apps can fit in both compensatory and transcendent categories. For instance, on the one hand, game apps can be 'compensatory apparatuses and as (soft) machines of transcendence,' and on the other, they can excel the user to perform the activity they are not particularly skilled in or good at. They are bringing about the compensatory functions that allow the users to perform the desires for exceptional activities, e.g. the sport apps, in which the fantasy of playing a hero and mastering the rules of the games can be fulfilled.[1011] The game apps can also perform as transcendental machines that allow users to 'engage in activities, spheres, and realms that are principally inaccessible' in daily life, i.e. 'historical scenes, large-scale combat operations, space travel, or immersion in fantasy worlds.'[1012] Apps which are usually in format of games provide 'phantasmatic transgression of the constrains that define the life experience,' highlighting the tension between imaginary and realized.[1013]

The general major creative forces for developing apps are the lifestyle trends that correspond to desires and lacks. Finding protocols which have not been implemented by other apps or new algorithms to manage information collected via other apps are the most significant criteria in app evolution. There are several constrains to these evolutionary processes, including economic factors and market revenues. App-arts are more liberal in terms of evolution. Nevertheless, there are certain challenges which are

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[1007] Kluitenberg, 2014: p. 105

[1008] Ibid, p. 106. The range of these constrains can spans from physical distance, physical or mental harm or death threat, social codex, sexual taboos and gender limitations, etc.

[1009] Ibid

[1010] Ibid, p. 106-107. Kluitenberg believed that other is yet limited number of spiritual app to correspond to the anxieties of the death and after life, as expanded in other media forms so far.

[1011] Ibid, p. 105

[1012] Ibid, p. 106

[1013] Ibid

addressed later in this chapter. The influential of graphical user interface (GUI) plays an important role in cultural computing of today's app practices. The GUI that is 'originated in work sphere' focuses on *function, usability and efficiency*.[1014] The app-interface has roots in aesthetic interfaces of games, software culture, and cultural interfaces in general.[1015] The dynamics of object-oriented versus exchange-oriented culture influence the aesthetics. The app-art practices, mainly, belong to the category of exchange-oriented and networked-based culture.

Spectrum of app-arts practices and aesthetical traits

App-arts are the expression, development, process, and usage of apps in artistic ways. Since the launch of the App Store in July 2008 and Google Play in October 2008, engineers and artists are practicing a wide range of artistic apps embracing the new 'canvas' of expression. The hardware of mobile devices are redundant forms of desktop computers and their software are redundant forms of application software.[1016] The app-arts have various levels and aesthetical dimensions. The overall structure of an app-art is usually compared to the layers of metaphoric meaning. The meanings are unfolding in layers, condensed and redundant in each level. The immediate layer of meaning is app-art icons, which are a complicated combination of artistic title, technical representation, iconic signs, promotional economic branding, and category identity, among others. The discrete approaches in iconic representation demonstrate the ultimate desire to achieve the uniqueness and individuation in the artistic expression. An attempt, which with an iconic boom of historic proportion is a challenge for individual app-artists to achieve.[1017]

[1014] Pold and Anderson, 2014: p.17

[1015] Ibid

[1016] The abbreviation 'app' by itself conveys linguistically redundancy stands as metonymy for application software. Paul D. Miller, an American app and multimedia artist, composer and writer, in his 2014 book described app as 'an immediate sense of reducing the thoughts at the edge of what you envision to an icon, a logo, a square, a circle, a widget – the basic interpretation of thought into action, of sense into sensation. The logos and icons that symbolize the surface touch of an irresistible logic of late capitalism are all on the surface of a screen that fits in your hand (Miller & Matviyenko, 2014: p. ix). Miller sees app as metaphor, reduced to an icon and consisted of many layers of metaphor and believe that 'every time you touch an app, you are basically just touching a metaphor, a conduit into an operating system linked to more metaphors layers on metaphors about the unfolding questions defining the data you see on the screen in front of you' (ibid). The 'metaphors that app convey […] as a kind of disambiguation, a type of analogy closely related to the technological rhetoric of our era that has achieved its effects on our culture via association, comparison, or resemblance. These icons and logos represent an ambiguous category that includes allegory, hyperbole, and simile, but does not exclude wilful playfulness. As a matter of fact, you can think of an app as a kind of dynamic tension between code and culture' (ibid, p. xii-xii).

[1017] Cormier (2014) believed that the 'visual syntax of traditional software – each program presented as a self-enclosed functional entity, each with an associated icon – is projected onto a new arena of information consumption wherein such self-enclosure is an illusion' (p. 56). The 'grid according to which the icons on mobile devices are arranged is a superimposition over the space in which the corresponding apps are, in fact, deeply interconnected – it masks this interconnectedness by rendering them superficially discrete' (Cormier, 2014: p. 56).

Some believed that the intelligent media can be prosthesis of humans' body[1018] or an alternative to it. Perhaps this belief is an affirmation of McLuhan's idea, who called electronic media as the extension of man's senses and body. The intelligent media, to be sure, has surpassed the borders of sensation, positioning themselves as extension of human beings' imagination and mind. App-art are moving beyond mediation as the immersion of senses, i.e. media as the extension of man's senses and body (McLuhan, 1964) into imaginary worlds, i.e. media as extension of human desire (Kluitenberg, 2014), imaginations and mind. App-arts have created waves of creativity and opportunity to move beyond the mere visualisation. App-artists are trying to minimalize the sensory and visualisation process, in an attempt to expand the imaginary integration with the medium. On the one hand, the apps are a complex pattern of Alan Turing prophetic view of 'a single machine which used to compute any computable sequence,' a collective work of engineers and mathematicians, and on the other hand it goes beyond the 'user's desire in ways no one could have imagined' far beyond the realm of science fiction.[1019] There is huge distance between 'what is plausible and what is possible' an app to be, which opens a vast space for creativity and artistic expressions.[1020]

The most important point in analysing the dynamics of app-art in the contemporary life is the presence of apps in our daily life. As Mersch pointed out, the mediation can be best reflected in the media art practices.[1021] Consequently, in order to analyse the mediality of apps, it is significant to investigate their avant-garde art forms at the first place. The question is to what extent the app-arts can be considered as an artistic work? In common sense the term application denotes functionality. It is rather ironical that some apps in order to be an art free themselves from functionality. In electronic media, the software used at the production end in order to create the content, e.g. editing, remix etc. Integrating the computational dimension to technology of medium, which is made possible via the abstract language of algorithms in an action-oriented platform called software, led to new orders of artistic mediated practices.

The medial practices and aesthetical traits of apt-arts are quite diverse. The types of app-arts, in the intelligent media art sphere, can be broadly divided into four major practices. The first category is *technocentric* app-arts, which are sensitive to technological development and integrate innovative techniques. The second category is *conceptual* app-arts. In contrast to the first type, this category reduces the techno-functionality of apps and provides an abstract conceptual space for app-artists. The third category is *communicational* app-arts, which extent from intra-personal, human-machine, inter-personal, to group and community interactions. The *crowd-sourced* app-arts are the fourth

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[1018] An article in Miller & Matviyenko (2014)

[1019] 'The processors in every tablet, iPad, laptop, cell phone, and router can be still be traced back to some of the debates between John von Neumann and Alan Turing, between Lady Ada Lovelace and Charles Babbage, and between al-Khwarizmi and Stephen Wolfram' (Miller & Matviyenko, 2014: p. xi-xii)

[1020] Miller & Matviyenko, 2014: p. x

[1021] Mersch (2010)

category, which are generative in nature and are based on collective-networked practices. These four categories are depicted based on two continua, where each category represents a pole in the diagram. Based on this dynamic model and four major sorts, other minor categories can be developed. Nevertheless, this study is delimited to these four aforementioned categories.

Figure 6.2: Types of App-Arts Practices
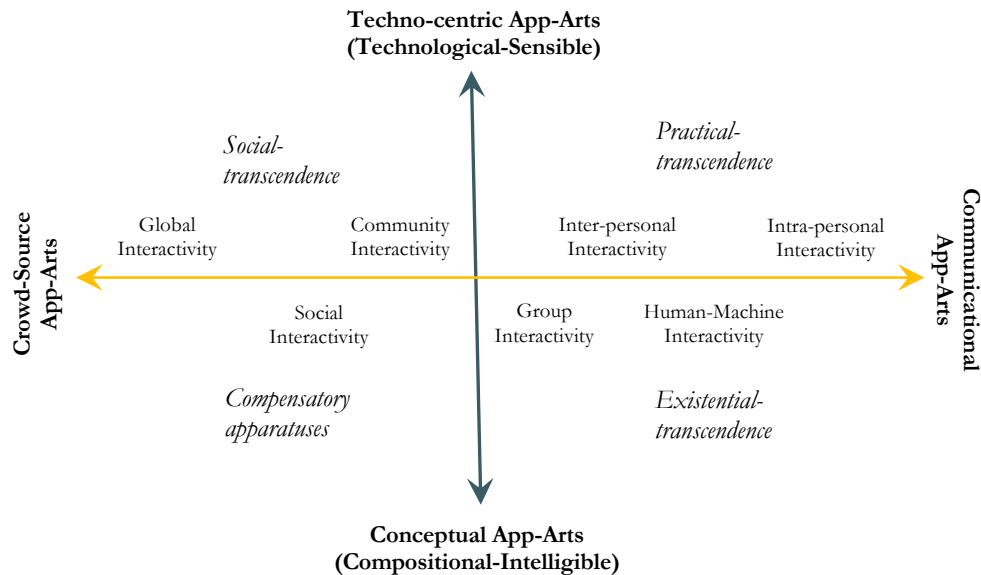
In this continuum, based on these four practices, four domains of app-art can be broadly identified, and slightly modifies after Kluitenberg's typology, including *compensatory apparatuses* (productivity apps, fulfilling familial or professional expectations of users), *social transcendence* (overcoming social constraints), *practical-transcendental* (overcome the physical constrains of space/time), *existential-transcendental* (drives from the existential threat).

Technocentric App-Arts

Techno-aesthetics is probably the most popular traits practiced in app-arts. The integration of the technological innovation expanding the senses, imagination, introduction of new tools or functions, evolution in software or emergence of new gadget can all influence the production of app art. Some examples in this category is elaborated below.

EDMT (2015)

The *EDMT*, designed for Android in 2015, is an abstract immersive audio-visual app-art, which is developed by VJ Fader, Mandy Mozart, et al.[1022] EDMT is a 'playful' and

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[1022] VJ Fader (James Cui) is visual multimedia artist, working on video mapping and video art, generative animation, and art installations, based in Los Angeles, USA. Fader received a degree in illustrations and animation from the Art Centre in Pasadena California, and he is self-exploring the

dynamic sound and visual generator, synchronizing the two senses of sight and sound seamlessly. This app art allows users to 'play' and 'generate mind-expanding graphics' and sounds.[1023] *EDMT* won a prize in 2015 for artistic innovation utilizing the creative aspect of medium at Center for Art and Media (ZKM), Karlsruhe. This app-art claim to be an innovative 'instrument' concept, which goes beyond a traditional sense and provide an interactive and dynamic interplay with sounds and visuals, creating the 'magic' of synchronicity of sight and hearing sense.[1024]

The key features of the *EDMT* include, multiple interactive audio-visual scenes, real-time generative 3D graphics with dynamic sound, interactive multi-gesture inputs and accelerometer, audio reactive scenes and output to a digital TV or external projector via HDMI. The *EDMT* app-art has a control set, which is functioning under the multi-touch technology. The touch patterns are defined under one finger (*interact*), two finger (*zoom*), three finger (*colour*), and four fingers (*theme exchange*). Other interactive tools are device shake in order to change the master scene, as well as left to right order (changing scenes), and bottom control (jumping the scenes).

The app allows the user to experience the music visually throughout the series of selectable scene in dynamic and playful way. The *EDMT* claims to be a learning tool for kids in communicating with technology. The use of fingers is crucial in command giving. There is also a possibility of seeing the mimic of voice in animation cartoons one has created. It responds both to sound/audio reactive and external motions. The scenes of the app include nine major master screens. The three master shots are designed based on simple visual vocabulary of particles and circles, i.e. Fun Particle, Circle Dancer, Pachinko Ball.[1025]

The major emphasis is on the transformation of these tiny particles and balls, which morph into one another or may change colours like chameleons under the command of three fingers. The dreamy immersion in world of particles with integrative sounds creates fancy atmosphere. Three master shots enter user to *practical-transcendent* world, highlighting the physical imagination of interacting with atomic elements or floating in particles, i.e. floating around stars, playing in fancy ball pool, celebrating the snowfalls beyond gravity, playful dance of dust in air under the beam of sun.
Another set of three master shots, including Sin Curve, Whitney Scope, Geo Sequencer, and to some extent the Plus Cube, are based on the logic of perspective and space creation. In contrast to element-based compositions in particles, the emphasis is on the

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programming language. He is the founder of Neuromixer VJ Software in 2004. Mandy Mozart, is electronic music composer based in Berlin, Germany. The other members who contributed to EDMT are Gabriel Fioretti, Janik Hotz, and Ali Chibli.

[1023] In Weibel & Riedel, 2015, p. 008 EDMT won prize for artistic innovation utilizing the creative aspect of medium at ZKM App-Art Award 2015.

[1024] The 'EDMT is a truly unique visual music App! Designed by media artist Fader, it allows you to 'play' with your phone or tablet to generate mind expanding graphics and EDM inspired sounds' (Fader, 2015).

[1025] See http://edmt.tv/en/

dynamism of walking through the imaginary space and never-ending mathematical routs, which probably only exist in the medial world. This again is an example of *practical-transcendent* type of app.

The last two master scene of the EDMT, Game of Life and Singing Face, are based on inter-visualisation (similar to inter-textualization), that is they have a direct or indirect reference or remix of certain familiar visuals or genres in other mediality.

The visual aesthetics of the major developer of EDMT, VJ Fader, in general, is quite noticeable. The VJ resemble, visual jockey, in alliteration to DJ, disc records jockey.[1026] Being a Japanese-American artist, a line of Zen minimalism visual taste can be identified in his compositional design. There are other works premiered by VJ Fader internationally, working with multimedia and visual remix in variety of platform spanning from video mapping (art of animating architecture façade or 3D objects), music videos, generative animation (visual stimulation) and stage installations and designs (creating atmosphere and identity for live fantasy) among others. His app-art aesthetics and composition can be traced in his installations and visual concerts. He usually uses the indigenous master theme where he performs or set the visual stage installation. The Japanese culture influenced him in designing the stage for Fuji Rock Festival in Japan in 2013 and Hifana 3D festival Tokyo. Including themes such as origami and red flag of Japan are traceable in his compositions.

The visual development of Fader spans from experimental animation, video songs, video mapping and visual software application design to app-art design. What distinguishes his app-art practices, is the very medial effect of apps, integrating new technology in expanding the sensual experience of familiar visuals in combination with audio, and providing a playful platform to transcendent the practical desires, and experiment the scope of imaginations.

iMagination

Another technocentric app-art example is iMagination, developed by Armin Heinrich and designed for iPhone. The app-art do not exist in app store any more. This iMagination is a graphic puzzle, which generate computer mathematical graphics by inserting numbers.[1027] The app-art is empowered by the computing technology and geometrical algorithms. iMagination is an explorative work of art to world of spatial geometry and identification of mysteries of numbers in colouring or visualizing anew the grey digital canvas of an app.

[1026] The term DJ is introduced by Walter Winchell, an American commentator in 1935.

[1027] In the usage hint Heinrich wrote 'Change these numbers and press 'iMag' to see the result. The numbers change the figure only - not the colour. Each time you press 'iMag' will the colour of your graphic be changed - but not the figure. Change only one value at a time to see what happens. Hint: the last but one value should be above 100 for most figures. Have fun!'. He further explains that 'The graphics shown by iMagination depends only on the 5 numbers in the text field (top left) e.g. 6-24-89-234-100.9 […] you will learn a lot about computer graphics.

Conceptual App-Arts

The conceptual app-arts span a wide range of abstraction, highlighting a paradoxical nature of app technology, creating irony or criticism, or/and making the impossible imagination. One of peculiarity in practices is irony of the usability of apps, i.e. *I Am Rich* (2008). Other conceptual works are based on the exaggerated or underestimated imaginary functions of apps, i.e. *iShave* (2015). In the following some examples are discussed.

I Am Rich (2008)

The app called, I Am Rich, designed by Armin Heinrich for iOS, was probably among early version of reducing the functionality of an app to mere a commodity. The app was posted on App Store, on 5th of August 2008 and removed by the Apple the next day.[1028] The app cost was 999.99 US Dollars (799.9 Euros / £599.99), the highest rate allowed at app store. During this short span of time, eight people managed to purchase it, including six sales from US and two from Europe (generated approximately 5,600 $ for Heinrich and 2,400 for Apple). The app was categorised as 'lifestyle' in app store. The first version of it (1.0) was almost 0.1 MG. The app description provided a screen shot of the first page. In the description Heinrich mentioned that his app belongs to 'art & lifestyle',[1029] and specifying that it is 'not for everyone'. The further descriptions specify that:

> The red icon on your iPhone or iPod touch always reminds you (and others when you show it to them) that you were able to afford this. It's a work of art with no hidden function at all. After pressing the (i) on the main page, a secret mantra will be shown. This may help you to stay rich, healthy and successful. If it's too expensive for you – check out my other apps – they are all much cheaper.

> (Heinrich, 2008)

When it is launched, the app's master page displayed a screen with a glowing red gem, as the screen shot, and a single icon of *i*, which lead the users to a simple screen containing a mantra in large text format depicting: 'I am rich, I deserv it, I am good, healthy & successful'.[1030] The word 'deserv' is written with spelling mistake, seems to be in a colloquial way. The feedback of few people who purchased it reflects the shock,

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[1028] Miller & Matviyenko, 2014: p. ix

[1029] In app store, only the category lifestyle exists.

[1030]To find out how the app functions see this video https://www.youtube.com/watch?v=Os2axzJHbzA (retrieved on 26.07.2015), further info https://en.wikipedia.org/wiki/I_Am_Rich (retrieved on 26.07.2015). The app later was available with a 10-dollar price in other stores, i.e. Android etc.

perhaps as the app developer waiting for.[1031] The app has no functionality, appeared as a critical art product. It is, however, a manifestation of immaterial version of 'Veblen good',[1032] luxurious items without not necessarily aesthetic and cultural value. It is merely an icon on iPhone that 'suggests [… one's] wealth and status', 'to portray a perception of status'.[1033] This very example may seem quite paradoxical to the very nature of application software, where the value increase with more utility by more users. App nature is based on a collective value rather than individualistic oriented revenue. The app apparently re-lunched on 10 December 2009 on app store with the price of 9.99 Euro. The second version of the app (2.0) released as *I Am Rich LE*, with the same value, and updated in 12 February 2016. It acknowledges that it is a luxurious artwork and calculator.[1034]

The story of I Am Rich app did not end with the first banning of the Heinrich app. There are quite number of apps designed for iPhone with almost the same title as I Am Rich, but with quite different icon. The following app is designed by Cloud Flame, who has developed a number of other game and design apps, and cost 99.99 $ in 2.0.1 version of it released on 22 April 2016 (the first version released on 12 April 2016, the version 2.0, claiming a more 'minimalistic' and 'elegant' feature released on 21 April 2016).[1035]

Similarly, there is I AM RICH App developed by Claudio Mutter from Switzerland and the first version of it (1.0) launched on app store on 15th April 2016, in a size of 166 MB, cost 99.99 $. She has developed, besides this app, another game app, *Flappy Burrito* (2016).[1036] There are many other apps existing in Google Play Store with

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[1031] There is now a word in urban dictionary on the name of Armin Heinrich. One user wrote that: Dude, I just got the "I am rich" app for my IPhone from the app store made by Armin Heinrich, does it do anything? Um… no […]. (see Heinrich, 2008) "Can you please make this app so it does absolutely nothing like the first one?" implores another customer. "I didn't buy this app to get my money's worth." "It's art and it's brilliant," writes another, more satisfied buyer. "Not everything you pay for has to have value. Screw practicality." (Ibid)

[1032] Veblen good is a terminology in economy. In simple terms, 'the consumption of Veblen goods is a function of the Veblen effect' namely 'goods desired for being over-priced'. This phenomenon is named after Thorstein Veblen, the American economist, who 'first identified conspicuous consumption as a mode of status-seeking' in his 1899 book The Theory of the Leisure Class. See Miller & Matviyenko, 2014: ix-x and https://en.wikipedia.org/wiki/Veblen_good retrieved on 26.07.2015.

[1033] Miller & Matviyenko, 2014: p. ix-x

[1034] In the description of the app, Heinrich made the point that 'Since so many people asked for it. Be part of the fun! The LE version has all the features of the famous full version and in addition all this: an inbuilt calculator for basic and financial calculations, the famous mantra without spelling mistakes, an inbuilt help system, 1/100 of the original price.' He explained that this artwork lets you think about: money, luxury, modern media, the press, value, time, tolerance, joy, jokes, life, art and whatever you like ;-). Latest Updates: Increased price for more fun!' (Heinrich, 2016)

[1035] In the description of the Flame explains that: 'I Am Rich - an expensive and exclusive app for the Apple App Store. This unique application made for you to prove that YOU ARE RICH. It is not a joke nor is it an app for anyone, not a useless nor motionless diamond gemstone, silent, elegant and motivational, a work of art, with no hidden function at all, nothing and everything. Welcome to the elite class!' (Flame, 2016).

[1036] In the description of the app, Mutter explains that, 'Everyone can buy an iPhone, but only the rich can buy this App. I AM RICH is a status symbol. It was created to remind you every day that you

the same name of I Am Rich, cost in between 99.99, 199.99 Euro up to 350 Euro. They promote the idea in their description that this app is belong to '1% people of society' or a 'show off' app to display that the user can 'afford it', instead they offer a 'licensed' picture, a screen photo, affirming this 'wealth'. [1037] There are a bunch of similar apps that focus on the reduced functionality and high price, e.g. I Am Famous, Most Expensive App, etc. These apps are mostly use a gem or diamond as their icon, some of them use symbol of dollar or a bag with a dollar symbol, while some used the gold as motif. These types of app practices go beyond being an app-art and appear more as junk or spam app, which require more socio-cultural oriented analysis.

iShave (2015)

Apart from *I Am Rich* app, Heinrich has developed several other game apps, sound and musical apps ranging from 0.99, 4.99 to 9.99 Euro. His games apps are including, *Smart Ball / Smart Ball Touch*, *All You Can Eat*, and *iSoko Sokoban*. The app called *iShave* is developed out of a contest to makes the iPhone to be able to perform all we need.[1038] The (*i*) is a recurrent alphabet in most of Heinrich app-aesthetics playing crucial feature. Even the name I am rich is big resolutions to the '(i)ness' phenomenon.

Communicational App-Arts

The third type advocates a communicational aesthetical trait and usage of metaphoric redundancy. In this category, information, meaning creation and communicating them is central. The communication can take place at different level, from intra-personal, to group and community. Good examples in this category are *ARART* and *Metamorphabet*.

ARART (2013)

ARART is developed by a group of Japanese artists – Kei Shiratori, Takeshi Mukai, and Younghyo Bak, and won a prize in 2013 at Center for Art and Media (ZKM), Karlsruhe. *ARART* aims to blur the boundaries of 'the real and virtual world by having the iDevice superimpose a new dimension of reality on real art works.'[1039] *ARART* creates a poetic visual discourse or a temporal visual narrative with a static build. This resemble 'an

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are rich and successful! This app has a clean and luxury design with a lot of nice features.' There are wallpapers which one can save and use as a Background and more (Mutter, 2016).

[1037] There are some users who asked for more price of the app. One user wrote that 'There's a constlier app than this which cost $400' and in response the developer said that 'Sorry, my bad. It's 400$ now. I updated the price;) Please consider updating your review!' https://play.google.com/store/apps/details?id=com.mbgs.imrich

[1038] He explained it in his disruption of the app that 'Ein Freund fragte mich: "Was kann denn Dein neues iPhone?" "Alles!", antwortete ich. Er fragte: "Alles? Kannst Du Dich damit auch rasieren?' Ich lachte und sagte 'natürlich - es kann alles'. Jetzt kannst Du es auch hier ist iShaver, der Rasierer für das iPhone. Mit dem iShaver kannst Du so tun, als ob Du Dich mit dem iPhone rasierst. Es sind zwei verschiedene Rasierer eingebaut' (Heinrich, 2015).

[1039] In Weibel & Riedel, 2013, p. 10

immediate sense of reducing the thoughts […] into action, of sense into sensation'[1040] using layers of metaphoric visual languages. The context, historical information, imaginary dimensions are programmed in the app to show 'beyond' the real art works.

Metamorphabet (2015)

Metamorphabet, developed by Patrick Smith in 2015, simplified the language of gaming, graphics, and animation, and it is a 'playful' and interactive alphabet designed for all ages. It emphasises the user's experiences with their inner-world and allows them to open layers of metaphors and meanings. The style is a playful and poetic dynamics of sound and visual, with basic vocabulary of alphabets, visual metaphors and codes.[1041]

Crowed-sourced App-Arts

The crowed-sourced app-arts are shared and collaborative practices. The major compositional tendency is designed in user's feed. The collective creativity of users produces the aesthetical value for the app-art.

Hatsune Miku

Hatsune Miku,[1042] is a Japanese Vocaloid humanoid[1043] character. In Japanese Hatsune Miko means 'the first voice from future'. It is basically singing synthesizer crowdsourced application software. This program has a Japanese humanoid virtual idol. She performs holographic (3D) concerts. *Hatsune Miku* resembles 'the idea of a person, the idea of an app', where 'the distance between the two have vanished into the quantum realm of the networks that hold the modern information economy together'.[1044]

Radwende (2014)

This app targets a broader social cause for enhancement of cycling culture and environment protection in Wiesbaden, Germany. The crowd app-art, Radwende, is

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[1040] Miller & Matviyenko, 2014: p. ix

[1041] See Pold & Anderson, 2014: p. 20

[1042] Denotatively mean in Japanese "first" (hastu), "sound" (ne), and "future" (miku). 'Hatsune is a holographic animated projection fully owned by Crypton Future Media Corporation. A crowdsourced virtual idol, she has had number-one hit songs – sold online, they have generated millions of dollars, and they are among the most requested karaoke downloads in Asia. On top of that, she (that is, the software program) promotes Toyota in TV commercials, and she gives holographic concerts. She is a voice in music synthesizer software. Her users have created a totally crowdsourced celebrity that reflects the dynamics of "the social" in media and the value of collaborative creativity. She, of course, is now an app.' (Miller & Matviyenko, 2014: xii)

[1043] Vocaloid is a singing synthesizer software, a mimicking voice program, supplied with a data base of lyrics, melodies, vocals and voice of actors and singers, which facilitates remixing and editing voices and projection of virtual singer. The most prominent example is Hatsune Miku, is there are many different vocaloids, but the most common is the first... hatsune miku, literally meaning 'voice of the future'

[1044] Miller & Matviyenko, 2014: p. xii

developed by Michael Volkmer.[1045] This app documented the real time cycling routs of individual bicycle travellers and generated the city map data. The map has been used for further development of Wiesbaden cycling infrastructure. Besides that, a drawing mashing showing the cycling path of individual member of city as well a holistic abstract visualisation of the map has been produced as public memory of the artistic cause. This app-art won the best prize for crowd art in App-Art Award ceremony 2015 at the Center for Art and Media (ZKM), Karlsruhe. It can be argued that the creative space offered by apps are limited. Approximately, less than ten percent of apps in app stores allow for creative and artistic exploration and expression. Technologically apps move towards miniaturization and minimalization in composition. The innovative compositional features are circular user interface and circular animation, transparent colour composition, e.g. Iiya Shapko,[1046] using layers of compositional elements on top of each other.

App-Arts: Critical reflections

Defining app beyond its technical aspect forge a wide range of discourse. The economic perspective provides a 'demand-based' definitions of app. It explain an app as 'a strategy for stimulating informational exchange' in an information-based society, reinforced by either the consumers or markets desires to fulfil their social need for (virtual) mobility, time-freezing, speed, tailored expert solutions, etc., or their technical demand for easier *navigation* in comparison to the 'traditional text-based Web browsing on smaller mobile interfaces'.[1047] The social approach provides an 'effect-based' definition of apps according to 'the sociological changes they elicit, the assemblages they enter into, or the oligarchies that profit by them.'[1048]

Apps can be interpreted as the cultural commodity platforms and myths they reinforce. It is similarly significant to consider the dynamism and integration of apps in lifestyle. Apps can 'alter our experience', 'shape the way we feel and act' and induce certain psychological habits.[1049] Apps as 'interfacial' strategies can 'manipulate the experience' of information exchange.[1050] The political approach provides a power-based definition of apps, as 'a strategy for consolidating *control*'.[1051] The control-based identification of app demonstrates that: first, apps are 'potentially transient and malleable form' that are sensitive to dynamics beyond 'demand' and 'effect'; second,

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[1045] Michael Volkmer (b. 1965) is the founder of Scholz & Volkmer, a digital brand management, trained initially as a photographer, he completed studies in communication design at Wiesbaden University of Applied Science.

[1046] See https://dribbble.com/Shapko

[1047] Cormier, 2014: p. 52

[1048] Ibid, p. 52

[1049] Ibid, p. 55

[1050] Ibid

[1051] Ibid

apps are in wider context of technological-political forces; third, and apps are, in a broader sense, beyond their particular features or functions.[1052]

Clough in his 2014 article, 'The Philosophical Carpentry of the App: Criticism and Practice', has discussed the links between 'object-oriented ontology' in relation to digital informational technologies and the 'crisis of form in the presentation of the content'.[1053] She posed the question that app should be discussed as an 'object' or a 'relation'.[1054] Clough answers this question in both terms of app as an object and as a relation. The apps, on the one hand, move from 'product' to 'service', and put 'an end to general-purpose computers'; and on the other hand, they reformulated the 'relationship of production, consumption, and the governance of the market'.[1055]

> […] an ontology appropriate to the app might be found in object-oriented ontologies where philosophical speculation can give support to rethinking the commodity and the hold that it has had over the distinction, if not the opposition, between relation and object. For it is precisely the suspicion that the app is reducing a process to an object, or is commodifying a process and therefore is dangerously obscuring human knowing […].

> (Clough, 2014: p. 39)

The 'corelationism' object-oriented ontology criticizes the 'relationism' ontology, moving beyond the 'agency of objects and things or the reality of objects without human consciousness' and reconsidering the nature of relations between things.'[1056] Mediality in terms of object-based ontology is quite a common practice. Considering various aspect of apps, their ontology cannot be positively defined. The mediation effect brings them to the realm of negative abstract concepts. There is less record of arguing media as relations, which is considered as a base in the negative definition of the intelligent media. Bruno Latour, in his 1993 book, *We Have Never Been Modern*, argued that 'no object is ontologically lesser than any other but nonetheless no object exists outside a network or relationship'.[1057] There are counter arguments that do not necessarily see objects in being in relationship with others. For instance, Graham Hartman, in his 2009 *Prince of Networks*, believed that 'objects are not reducible to their relations'.[1058] Similarly, Gilles Deleuze held that 'relations are external to objects', and 'objects are not reduced to their relationships'. Nevertheless, they all accept the 'objects cannot exist outside all

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[1052] Cormier, 2014: p. 55
[1053] Clough, 2014: p. 35
[1054] Ibid
[1055] Ibid, p. 35
[1056] Ibid, p. 39
[1057] Cited in Clough, 2014: p. 39
[1058] Cited in ibid

relations.'[1059] The process and relation, 'event-ness' and dynamism are inseparable part of objects.[1060]

Clough, furthermore, argued that the 'recent ontological turn in critical theory,' which reformulated the epistemological question of 'human knowing' to the 'question of being', which led to a 'rethinking of objects and relations, commodities and commodification'.[1061] The new dynamics between consumption, production and distribution invites for the 'formation of "an expressive infrastructure"', where 'various kinds of public and their opinions and affects' meet individuals.[1062] The public is not a real public, but a narrative of information of individuals, rolling around sensation, passion and sometimes prejudices.[1063] The 'performative ontology' emphasises the *becoming* rather than *being*,[1064] which reinforces the 'commodification of process aimed toward a surplus of inventiveness.'[1065]

The object-oriented ontology sometimes appears to be a critique of the materialism, which aims to 'fill in all the gaps between objects in some combination of undermining and overmining them'.[1066] The relations themselves are considered, in terms of new objects. Graham Harman believed that objects are of two types: real and sensual, in which the relations between the two is based on a 'vicarious causality'.[1067] The object has both 'endo-relations' (internal structure) and 'exo-relations' (external structure). The fact about the app is that, the compositional traits of it cannot be analysed purely on the sensorial observation and examination of its concert objects or app-works. The relational aspect of apps invites us for a more critical and philosophical approach in analysis.[1068]

Apps are part of the *expressive infrastructure* of contemporary intelligent media. Navigating data[1069] and immersing in sensation are the central traits in overall medial systems. The issue of 'colonizing and monetizing users' individual experience are the primary goals of many apps'.[1070] In cost of producing free data, apps gives to its users a sense of fun, creative, productive experience.[1071] As Adam Greenfield notes, the very term 'user' is no longer suitable for designating a person interacting with technology: 'At the most basic level, one no more 'uses' everyware that one would a book to read or the

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[1059] Clough, 2014: p. 39

[1060] Ibid, p. 40

[1061] Ibid, p. 37

[1062] Ibid, p.37-38

[1063] Ibid, p.38

[1064] Nigel Thrift in Clough, 2014: p. 38

[1065] Clough, 2014: p. 38

[1066] Ibid, p. 40

[1067] See Ibid: p. 40

[1068] Object-oriented ontology 'announce the need for a critical approach, not aimed at disclosing the forced knowledge of relations but rather aimed at performance, doing or practice – that is, participation in producing relations' (Clough, 2014: p. 43-44).

[1069] Clough, 2014: p. 38

[1070] Miller & Matviyenko, 2014: p. xx-xxii

[1071] Ibid, p. xxi

floor to stand on'. For many of the field's originators, the whole point of designing ubiquitous system was that they would be ambient, peripheral, and not focally attended to in the way that something actively 'used' must be"'.[1072]

App discourses: Rhetoric, myth and metaphors

The discourse around the emergence and expansion of apps are widely influence by the myth of new technological sublime, a utopia, or a wonderland. The Silicon Valley located in San Francisco is a principal headquarter in software industry with thousands of software engineers across the globe. There is substantially the myth of 'American technological sublime' attached to apps, i.e. slogan of Apple, 'Keep calm, there's an app for that'. Another associated myth is relationship between technology and happiness, e.g. Nokia's slogan of 'Think (h)appy thoughts.'[1073] The new media technologies reinforce emotions attached to the myth of the ideal world, e.g. emotions such as happiness, pleasure, no worries, accessibility and satisfaction. App industry, similarly, reinforces the myth of (h)app-iness, which can be delivered, downloaded and installed on devices around us and bring the world under the command of our fingers.[1074]

A powerful metaphor that is used in association with apps is *cloud* computing. Cloud reinforces the 'invisible connectivity' as 'the coalescence of processing power into an instantly available utility, ready for any eventuality'[1075]. The term cloud reintroduced in 2006, after 20 years of currency in information technology (IT) firms, at a conference by Google as 'an emergent new model of computing based on accessing and using data remotely'.[1076] The cloud computing underpin 'the consumer myth of weightless, safe, cheap, easy, fun-to-use, and helpful apps'.[1077] Besides that the cloud as metaphor supports the myth of 'imaginary *immateriality*'.[1078] The visual cloud rhetoric appeals there again to the myth of the American technological sublime. In fact, the cloud computing is an infrastructure, a building 'like a factory.'[1079] Cloud imaginary offers 'a series of utterly beautiful images where the huge physical constructions that presumably consume enormous amount of energy and cause environmental pollution' are visualised with natural surroundings.

[1072] Miller & Matviyenko, 2014: p. xxii

[1073] Nokia promoted that, 'Ten million apps are downloaded every day from the Nokia store. You'll find all your favourites that you've come to count on, with new ones added every day' (Miller &Matviyenko, 2014: p. xviii).

[1074] This slogan suggests that 'if you have a problem, look for an app, the ultimate solution – always, anytime, anywhere' (Miller &Matviyenko, 2014: p. xvii). A desire to 'access and manipulate the surrounding objects of the world with a double click or a touch' of fingers, it is a patriarchal Western desire (p. xxiii).

[1075] Rob Coley and Dean Lockwood, Cloud Time: The Inception of the Future 2012 (cited in Miller & Matviyenko, 2014: p. xiii, xx)

[1076] Miller & Matviyenko, 2014: xx

[1077] Ibid, p. xx-xxi

[1078] Ibid, p. xx-xxii

[1079] Cited in ibid, p. xxii

The apps, furthermore, emphasise the notion of *everyware*, with the promise of acceleration and immediacy. With an app under command our finger, waiting is not an option, one can achieve what is needed in '*no time*' and '*right here*'. An 'app technique promises to remove all doors, gates, and their gatekeepers – in order to save us waiting'. [1080] Furthermore, apps brought the ideal of 'uninterrupted productivity' and yet medial invisibility. It is believed that a good medium is an invisible one, which does not 'intrude' on the consciousness, hence the user, can focus on the activity and task not the medium.[1081] Weiser believed that 'the most profound technologies are those that *disappear*, and that they weave themselves into the fabric of everyday life until they are indistinguishable from it'.[1082] The 'computer *as we know it* has been replaced by "the invisible computer"',[1083] represented in app technology.

App-art: Opportunities and limitations

The mainstream physical distributions of cultural products (via CDs, DVDs, Blue raids, etc.) require high-end cost for producers and artists. Besides that, the mainstream distribution networks are highly sensitive to the market interest. Therefore, certain genres or practices may attract more financial supports rather than avant-garde or freelance art to exhibit themselves.[1084] The app-store, at a first glance, provides a platform for distribution of a wide range of cultural products, from business, entertainment to individual artists. This platform is especially beneficial for game designers, who aim to bring dead-genres into a new life that is not possible through mainstream distributors.[1085] App-store as a new model of distribution network provided a platform for controlled consumption economics. Artists can sell their apps for few amounts to generate considerable revenue as a platform, despite the substitution of thirty percent of the total revenue by app-store.[1086] The business model of app store, besides that, allows for 'distribution of long tail of cultural content' which in return releases 'the market to more than the mainstream'.[1087]

In contrast to other software art or network art during 1990s and early 2000s which had difficulties to reach audience, or to be sold at all to any media art galleries or collectors, app-art relatively can reach their audience immediately via store and to be sold without a third party.[1088] App store can reduce the dependency of artists from collectors and galleries and can provide a platform for them to exhibit a more organic way of producing art. App-store nevertheless has its own limitations and some call it as

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[1080] Miller & Matviyenko, 2014: p. xxvi
[1081] Ibid, p. xx
[1082] Ibid
[1083] Ibid, p. xxii
[1084] Ibid, p. 19
[1085] Ibid
[1086] Ibid, p. 21
[1087] Ibid, p. 23
[1088] Ibid

a 'closed environment'.[1089] The alternative apps that invites for new business models are banned on app stores and the so called 'controversial' apps are removed immediately on the basis of self-censorship policy. In this light, the freelance app-artists may face a hug challenge. There are few (new) media art museums to preserve their works. Some believe that the nature of the new model of network system had such drawbacks from the early stage and the 'nostalgia' of free and creative networks as it was during 1980s is 'foundational myth,' since the internet has been 'a closed world, only accessible to (Western) academics and the U.S. military'.[1090]

There are various examples of removal of app-art from the app stores. For instance, WikiLeaks app, which critically demonstrated the encryption of user's search pattern in other apps is banned in App Store. Similar to this *Clueful* app, which informed the users on the ways they are 'monitored by other apps' is banned.[1091] *I Am Rich* (2008) app despite expenses controversy, was removed due to Apple's policy that an app must contain some sort of 'definable content.' The next version of it appeared with an in-build calculator. *Phone Story* app, made for iPhone and Android which is produced by a critical game designer Molleindustria, was banned. The game was allowed on app store for few hours, and 901 users bought it. The amount generated aimed for charities.[1092] The aim of the app was to 'provoke a critical reflection on its own technological platform' and designed series of critical game episodes such 'the explosive mining of Coltan in Congo', 'the suicidal conditions of the sweatshop workers in China', 'the constant desire for new products', and the product with planned obsolescence designed by big brands.[1093]

Transborder Immigrant Tool (TBT) app, created by Ricardo Dominguez (Electronic Disturbance Theater in Mexico/U.S.) which allowed users, mostly immigrant to find water station in area of Southern California desert via Spatial Data Systems and GPS technology, was banned.[1094] *Drones+*, designed by Josh Begley, a New York University student, which notified users on announced US drone strike, banned similarly. Begley, as he pointed out in an interview with *New York Magazine*, aimed to surface the information regarding the reports on US drone attack 'in a new way'.[1095]

The app store provides 'a ready-made business model for artists', which can limit new artistic expression in engaging and developing alternative relationship with their audience.[1096] These limitations can be summarised as limiting the critical artistic

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[1089] Miller & Matviyenko, 2014: p. xi

[1090] For instance, Zittrain (2008) believed in generative internet rather an appliancized network 'a generative Internet that fosters innovation and disruption, to an appliancized network that incorporates some of the most powerful features of today's Internet while greatly limiting its innovative capacity – and, for better or worse, heightening its regulability' (Miller & Matviyenko, 2014: xix). Geert Lovnik criticised Zittrain and believed there has been never a free internet.

[1091] Miller & Matviyenko, 2014: p. 28, see also Cluefulapp.com

[1092] Ibid, see phonestory.org

[1093] Pold & Anderson, 2014: p. 25

[1094] Miller & Matviyenko, 2014: p. xxxi. Post.thing.net/node/1642

[1095] Cited in Miller & Matviyenko, 2014: p. xxxi

[1096] Pold & Anderson, 2014: p. 27

reflection of the contemporary technology, limiting the hacks, remix and modification which are essential for development of digital and network art, limiting innovations by development of the 'vast monopolies' of app stores,[1097] and limiting the privacy of the users in exploring the new art. The jailbreaking, which is 'freeing an iOS device from Apple-imposed limitations', is a technique used by users to access banned apps.[1098] George Hotz, a seventeen-year-old, who jailbrock iPhone 3 in 2007, questioned the real ownership of devices he purchased as his motivation.[1099] The App Store functions as a political tool in some instance in favour of United States international policies. For instance, during the Donald Trump presidency the App Store banned the Iranian apps on App Store in August 2017.[1100] The regulation policies of App Store are stricter than the Google Play Store. Many banned apps in App Store, end up in Google Play Store.

Concluding remarks

An app is a software with paradoxical values.[1101] The apps encompasses three realms of psyche, imaginary, symbolic and real.[1102] The imaginary relationship created with an app gives the people tools to navigate in complex informational worlds. The app imaginary promotes the idea of securing the users against the aggression of network, information pollution, and data overload.[1103] An app can promote 'performance, doing, and practice in making relations', as a 'reliable' agent.[1104] One approach in analysing the mediality of app is to deconstruct them, showing what kinds of worlds it makes. Deconstruction of an app is not an easy task. The business-oriented development pattern of apps and instrumentalisation of algorithms repress the full flourishment of the new mediality. The app-art is a site, where some hidden layers of mediality can be analysed. Application artists, although with limited possibilities, are attempting towards the use of the emerging mediality to reflect the oddness and promote new aesthetics beyond the language of the market. Apps comprise of many layers and each layer is a world of itself. It minimises the whole mediation practices from icons to algorithms. There is tendency of mushrooming in app culture. If one app is developed, there are almost ten versions of it with slight differences in name or icon by other developers i.e. I am rich.

[1097] Pold & Anderson, 2014: p. 27
[1098] Ibid, p. 30
[1099] Ibid, p. 30-31
[1100] The Iranian developers received the following message from the App Store: 'We are unable to include your app […] on the App Store. Under the U.S. sanctions regulations, the App Store cannot host, distribute, or do business with apps or developers connected to certain U.S. embargoed countries. This area of law is complex and constantly changing. If the existing restrictions shift, we encourage you to resubmit your app for inclusion on the App Store' (Source: BBC Persian): http://www.bbc.com/persian/business-41050450 retrieved on 25.08.2017
[1101] Miller & Matviyenko, 2014: p. ix
[1102] Ibid, p. xxv
[1103] Ibid, p. xxviii
[1104] Ibid, p. 47

Conclusion: Challenges and Opportunities in Theorising Media in Transition

The conceptual definition of media is changed during the history. The Greek notion of medium, carried inevitably the 'in betweenness' connotations. The strategic shift in using the plural form in the academic disciplines in West, brought a modern dimension to the notion. The main conceptual crisis arises from this point in the history, where medium theories are limited to the 'modern' definition of media. The trends of newism[1105] divided the media notion of media into old and new. In this light, every media is assumed to be 'old' or something completely 'new.' This 'new' faces of media either advocated the 'new' technological and new materialism sublime (a shift from analogue to digital media technologies and instruments, e.g. digital gadgets, robots, etc.) or embraced the ubiquitous and non-visible media (post-digital and disappeared media as algorithm embedded in architecture or surrounding designs, e.g. internet of the things, etc.).[1106]

The pre-medium theories are the least favourable area of investigation. The transition from medium theories to post-medium theorists are influenced by various ontological, epistemological, and methodological orientations in the Western academic systems. The result of the investigation demonstrated that the major intellectual traditions which informed the developments of the medium and post-medium theories include linguistic and literary traditions, technological methodologies, communication and sociological studies. The influential approach both in medium and early post-medium theories are the well-stablished technological methodologies which appeared

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[1105] Grossberg (2010) in his book referred to this trend of 'either' old or all 'anew'. He mentioned that the laziness of cultural studies, as it 'too often assumes that everything is the same as it has been, or that everything is new' (p. 11). To my understanding this dualism exists in many conceptual generalisations of any phenomenon. During my studies for my master thesis I have noticed that the conceptual duality is more often practiced in Western research traditions. As Grossberg succinctly mentioned, researchers must go beyond this oversimplification of phenomenon, beyond dualism of old or new, black or white, etc.

[1106] See Parikka, 2015: p. 177

compatible to the (corporate-based) academic institutions and maintained the media studies as a profitable discipline.[1107] These methodologies opened the field to the diverse range of technological-based media concepts and (quasi-)theories (e.g. 'digital media,' and 'computer- based media,' etc.). The oddness of calling contemporary media as digital media system is akin to calling a human being as a molecular system. It is a huge challenge to incorporate these technologically driven notions in the conceptual framework of a given 'new' media study. The main reasons include, they are universally formulated, de-contextualised, and the technology of media is generalised to the whole process of mediation.[1108]

There are some tendencies in distinguishing the cultural-specific approach to media theories. For instance, in the academic journals there is a distinction between German media theories, Canadian media theories, American media theories, inter alia. These categorisations are nationalistic in orientation rather than being informed by cultural and worldview structures of a certain community. For instance, from Kittler's techno- and code-centric media definition to Mersch's negative media theory and Belting's concept of media as body, there are huge epistemological divisions in conceptualisation of 'new' media in German media theories. It is more congruent to compare the McLuhan (the Canadian media theorist) and Kittler (the German media and literary theorist). As the analysis of some medium theories in chapter two demonstrated, it is embarking to identify the philosophical and worldview assumptions behinds medium theories. Nevertheless, comprehensive theories and critical methodologies to study the contemporary media are very limited and the technological-oriented theories cannot fully explain the complexity of contemporary media. To reflect the complexity, it appeared fruitful strategy to theorise the media situations in terms of mediation spheres.

The primarily objective is to investigate the ontology of media in the course of socio-cultural history and to theorise the contemporary media from wider perspectives. As rightly pointed out by Mersch (2010), the attempts in theorisation of contemporary media are mainly avant-garde in approaches. In other words, the new media neologisms usually lack a historical and theoretical context. Besides that, a holistic definition of media is marginally considered in the contemporary theoretical and ontological discourses. To bridge the theoretical and conceptual gaps in the field, the notion of intelligent mediation sphere is introduced as an alternative notion, referring to the contemporary media environment. In the current book, the attempt is made to frame

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[1107] Stefan Heidenreich (2011) explained that how 'the 1980s entry of media studies' is 'quickly adopted into a domesticated disciplinary system' in Germany (in Parikka, 2015: p. 187). He pointed out that the 'term media turned into a discretionary keyword without theoretical specificity, but with a powerful promise of generating money for research' (Ibid).

[1108] Grossberg (2010) posed a critique on the concept of culture as it is too often 'assumed, appropriated, generalized and even universalized' (p. 473). He believed that this approach is almost similar to other similar categories, mediation as a larger process associated closely with the culture is no exception in mal-conceptulaization.

the theory of intelligent media in the context of the history of media theories. An investigation into the history of media theories – which is divided into three phases of pre-medium, medium and post-medium theories – revealed insightful outcomes.

It is important to notice how in the course of media history, the notion of medium oriented towards certain aspect of mediality. In pre-medium theories (from antiquity until 1880s), media are associated with the spiritual conditions of human beings, and their relationships to the divine or the ultimate 'Truth'. For instance, in pre-Christianity era in East, the medium is associated with unification with the cosmos, divinity, inner being and the good creation energy, i.e. Zarathustra and Buddha. In Greek philosophy, Plato associated medium with the Truth. He believed that the dialogue can only reflect the Truth and other forms of mediality, i.e. writing, were seen as distortion of reality. Aristotle's approach to medium was positivist in the modern sense. He viewed media as physical entities, namely the basic elements, i.e. air, glass, water or crystal, positioning 'in between' human perception (five senses) and the natural world, e.g. air is *in between* ears and water *in between* eyes in order to perceive the world.[1109] Aristotle introduced for the first time, the 'in between' Greek preposition in a form of a philosophical noun 'the medium'.[1110] Kittler (2009), argued that, the philosophical thought on the ontology of media is neglected since Greek. He believed that Heidegger was the first to arise 'a philosophical consciousness for technical media, 'when he turned philosophy into thought'.[1111] Despite this claim, there are few examples in pre-medium theories who question the nature of media. For instance, Lessing and Herder addressed the time- and space-based medium.

The medium theories (from 1890s until 1990s), are correlated with mass communication and media in the modern order of societies. The aesthetic and expressive mode of representation, the technological dynamics (with respect to electrical transmission), and the social institutions are among the significant dynamics. Significantly, the linguistic turn, defined media in terms of new language of expression, i.e. Balázs' theory of the language of new medium of film. Any form of expression was considered a form of language. These theories are particularly dealing with aesthetics and modes of expression in any medium. The *social* perspective viewed media in terms of social institutions. The *technological* perspective is perhaps the most dominant approach in defining media, especially since 1960s with rise of mass media.[1112] Nonetheless, there are various points in history which the technological approaches appeared as a central tendency in defining media. The Shannon's mathematical information theory established media as a technological entity or a technique of transferring information in

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[1109] This idea of medium as basic physical elements (medium als 'physukalische Grundstoffe oder Grundelemente') is based on the Aristotle's theory of perception (see Mersch, 2006: p. 18 and Aristotle, De Anima)

[1110] The term metaxú is emerged in Aristotle's De Anima. See also Mersch, 2006: p. 19 and Kittler, 2009: p. 25.

[1111] Kittler, 2009: p. 24

[1112] Ibid, p. 25

the communication process. Kittler and Manovich definition of new media as processing or software-based computing machine demonstrate the development of the means of communication or information exchange processes. The technical conditions of electrification offered primary functions of *storage* and *transmission* system in the process of communication. They became central theme in the theoretical parlance medium theories.

The post-medium theories (from 2000s until 2016), are oriented towards information/software innovations and their dynamics in socio-cultural lifestyle. With the emergence of the networked society, *system theory* gained attention, which addresses the issue of *process, interactions* and *programification* [1113] in the communication.[1114] This theory is developed after the *information theory* of media, e.g. Shannon's mathematical communication and information theory, which addresses technological measurement, transmission, and the 'control and regulation' in media system.[1115] Some medium theories epistemologically view media in terms of technology and tools of communication, while others see it as an integral process of communication. There are other communication perspectives of mediality. For instance, Mirzoeff defined medium as communicative fields of relation between sender, message and receiver. The most interesting definition is perhaps, Brecht definition of media, which is based on the aesthetical relationship between elements engaged in the communication processes. His artistic works spans from literature, to radio play, TV and film production. In these processes, he tried to reflect on the issue of mediality and media-specific aesthetics. To recap briefly, the embarking analysis depicts that the ontological definition of media shifted in orientations from philosophical (media in relation to the 'Truth'), semiotics (media as language), social (media as social institutions and issue of power), technological (media as technique or technology), communicational (media as cultural meaning) and a future possible trend of biological orientations.

In this research, the attempt is made to theorise the contemporary intelligent mediation. The arguments are based on four dimensions of a theoretical framework,[1116] namely philosophical assumptions, conceptual frameworks, explanations and principles.

[1113] The term 'programification' initially introduced by Maylor & et al. (2006) in field of management. They used this notion as a new proposal to argue the importance of program management instead of project management. However, programification in the media studies refers to building a set of instruction in code format to control the operation, process, function and performance of socio-cultural communication data in a medium. This term is used in continuation to the notion of electrification, which refers to the introduction of electricity to a technical medium in order to run, transmit and store socio-cultural communication text. These two notions, however, should not be considered as a conceptual dichotomy, rather they represent a conceptual continuum and continuation.

[1114] Littlejohn, 2002: p. 36

[1115] Ibid

[1116] According to Littlejohn & Foss (2008), a theory has four dimensions: philosophical assumptions – which are the 'basic beliefs that underlie the theory', concepts – the 'building blocks' of the theory, explanation – the 'dynamic connections made by the theory' and principles – which are the 'guidelines for action' (p. 15).

The significant philosophical assumption is the contemporary media can be defined in terms of mediation processes and mediated formations. Based on the investigations the mediation is comprised of various set of relationships, dynamics, and aspects. To reflect this complexity and to overcome the abovementioned challenge, the concept of medium is defined in terms of spherical model. The three identified continua in explaining the complexity of media are compositional axis, socio-cultural-communicational axis, and temporal axis. One possible way in arguing the media transformations is in the framework of historical mediation spheres. The identified historical media categories are *presentational, representational, mechanical* and *electronic, intelligent* and *biological mediation* spheres.

There some significant points which must be critically reflected. It is required to analyse deeply the abovementioned medial spheres in future studies and to demonstrate the differences in various societies and cultures across the globe. To address the intricacy of each sphere and related dynamics are beyond the scope of the current book. In order to discuss all levels of intelligent mediation sphere theory beyond philosophical assumptions and concepts, it is important to explain the medial relations and argue for possible principles. Based on the spherical continuum of media, in which medium is defined as a set of cultural, communicational and temporal relations, the intelligent mediation spheres can be explained in association with other media spheres. It is significant to notice that any universal proposal of the principles of intelligent media fails. There is a need to draw a context and define the types of media practices. In each mediation sphere, the media practices may diverge or converge.

A study of the specific 'mediality' can be addressed *indirectly*, since 'medial partly constitutes the mediated'.[1117] In other words, the medial may partly constitute the mediated, however, it does not 'form its constituent'.[1118] This idea implies the separation of media from mediated *forms*. By understanding forms of media, one cannot directly comprehend the medial. The software art, in general, and application art in particular are emerging types of intelligent media art practices. There are few artists in this category and the works are still very limited. With their paradoxical values, apps, are entering the realms of the virtual and the real, providing immediate pragmatic solutions to access data in information-exploded societies. The meta data generated from usage of apps, ironically, adds to the entropy and complexities of informational networked-based systems, distribution of resources and power logics. The more accurate data collected via technological devices, there is a menace to generate more 'inaccurate' narrative about the global citizens in any form of exploitation. The app culture is an ever-increasing open field and in years to come, perhaps in a biological medial sphere, their complexities enters a new dimension.

[1117] Mersch, 2013: p. 209-210
[1118] Ibid, p. 210

An important context in which one theorise and conceptualise a particular phenomenon is influenced largely by worldviews and paradigms. The Western-oriented worldviews are playing central role in media and communication theories since the establishment of the academic fields during the last century.[1119] The movement initiated during the 1980s, in order to indigenize the media and communication theories based on the Eastern worldviews and philosophy, introduced new line theories.[1120] In this research, the attempt is made to be cognizant of such various worldviews in theorising the intelligent media. For instance, the communication as a phenomenon in Occident is theorised as an *outward* process, from individual to the social, comprising three elements of sender-message-receiver. In Orient, for instance, in thoughts of Sufism, which almost span from Turkey to China, the communication process is essentially an *inward* process, an effort to achieve unity with the divine intelligence.[1121] Therefore, communicational axis, is not merely a socialisation process, rather it indicates the journey from dispersion to unity.[1122]

Another important issue besides the worldview is the socio-cultural and gender representativeness of media theorists. There are few cultural minorities or women who are active as media theoretician. The holistic ideas of Marie-Laure Ryan on the issue of mediality and her narrative approach in defining media is discussed. Beyond the gender or cultural ethnic group empowerment, the argument here is any epistemic approach to media can significantly alter the theorisation of media. And in order to address the complexity of contemporary media, there is a need for such alternative and diverse approach in theorisation of mediation. With the analysis of various epistemological and ontological tensions in definition of media, more comprehensive analytical tools for media studies can be inferred.

[1119] See Bolouri (2011). The Western theories are generally individualistic, reductionist and logic-oriented. In particular, Western theories of communication are constructed based on constitutive elements of communication, concepts of individuality/self, continuity, and dynamism.

[1120] See Bolouri (2011) and Dissanayake (2009)

[1121] There are various arguments on the basic elements of communication. Through past four years, I have this question why sender-text-receiver is considered as the basic communication elements? And where the idea comes from? Many argue that this model is derived from the Bell Laboratory (Shannon and Weaver) and it is a mathematically oriented theory. My hunch is the roots of this model could be traced even earlier, during the agricultural era, as a trade system, where there was seller (sender), a commodity (text), and buyer (receiver). However, this is idea is merely a hypothesis (See Bolouri, 2011).

[1122] A journey from dispersion to unity is the basic philosophy of Sufism. This is idea is manifested in poetry, architecture and other Sufis practices (See Bolouri, 2011).

Terminology

Application Software – Also known as *end-user programs* or *productivity programs* are the tangible layer of software which is designed to interact with the output and commands of users e.g. word processors, Web browsers, database management systems etc. There are other layers of software (i.e. system software) which is in command of engineers or designers, based on their level of proficiencies (see also software and system software). A closely associated concept is **software suite**, which is a 'group of software applications with related functionality', e.g. office software suites may include word processing, spreadsheet, presentation, etc.[1123]

App – Literally, app is an abbreviated form of application. In terms of functionality, it is limited version of an application software which can function in devices with a well-defined functionality such as mobile devices. Although application software has a long history in computer science and have been used long in military and research labs, Apps are quite new phenomena, which introduced recently to the wider global population and with a certain systematic economic angle to it. App Store (iOS) first lunched in July 2008, followed by app store for Android systems on October 2008.

App-Art – There exists various genres and types of Apps today. One category, which is developed by artist, are using holistically app formats as an expression of new artistic movement and expanding the language of art. Any such attempts are primarily called app-art in this book. There are, of course, various lines of attempts within app-art practices which is discussed in chapter six.

[1123] See Web Evolution (2015)

Composition – The composition has a quite diverse range of meaning and usage in various scholarships. In a comprehensive sense, composition can be defined as every human being practices and activity.[1124]

Cross-Medial Analysis – The analysis and elaboration of one media sphere from the perspective of another media sphere. Since our conception of mediality is very much interwoven to the contemporary practices, sometimes our perspective to previous spheres of mediality is biased, i.e. seeing previous form of mediality (e.g. presentational media sphere) in terms of mass-media, which is a modern industrial concept. Other related terminologies are **Intra-medial analysis**, which is focusing on one media sphere; **Inter-medial analysis**, integrating and creating a synthesis of approach of two or more media spheres in order to investigate one particular medial sphere; **Multi-medial analysis**, analysing one medial sphere with importing knowledge from analysis of other medial sphere, some scholar has suggested **multimodal** instead of multimedial (i.e. Kress and Van Leeuwen), referring to combination of different types of signs in one media platform[1125]; **Trans-Medial analysis**, creating a unity of framework for analysis beyond individual medial perspectives.[1126]

Culture – The **cultural work** as 'organized, expressive apparatuses or formations operating in specific contexts,' rather than mere texts, technologies, or commodities'. [1127]

Epistemology – There are various tendencies in defining the epistemology. Epistemology is generally understood as the 'theory of knowledge'[1128] and demonstrate how we know and how we investigate the world around us. There are three major questions regarding the epistemology including: *how we know reality*, *nature of theory*, and the *values and common-sense*. There are major epistemological orientations in research including positivism, critical and interpretive. In this research, the major epistemic process is critical (see chapter one).

Intelligent Mediation Sphere – The concept of intelligent mediation sphere refers to the contemporary (post-electronic and post-digital) media situation and media socio-cultural, communicational and technological environment. This mediation sphere is comprised of various mediated formations. Intelligent

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[1124] In open discussion with Lawrence Grossberg, 01.05.2017
[1125] See Ryan and Thon: 2014, p. 9-10
[1126] See Jensenius (2012) for differences between cross, intra, multi, inter, and trans.
[1127] See Grossberg, 2010: p. 637
[1128] Cohen & Crabtree (2006) and Khaki (2010)

mediation sphere is marked by various technological, temporal, social, cultural, communicational, aesthetical, economic, and political dynamics, for instance information society, information economy, networked communication, systemisation of communication process, algorithmic mediated culture, big data market/cloud servers, app-i-fication of culture, crowd-sourcing, globalisation and glocalisation, augmented and virtual realities, internet of the things, decentralised currencies, ubiquity and invisibility, trans-culturalism, documenting lifestyle, data visualisation, deep-learning, artificial intelligence, semantic-/intelligent web, and counter-memories, -realities and -beings, among others.[1129]

Internet – Known as 'a massive network of networks', internet is basically a 'networking infrastructure', that connects computers globally, in which any computer can literally 'communicate with any other computer as long as they are both connected to the Internet'.[1130]

Media – Traditionally media are defined in terms of technology, means/channel of communication or content. Media refers to mediated formations in temporal and spatial living environment. They 'set the shape, pace, rhythms, and typography' of cognitive, social, biopolitical life and define space and time. [1131] Media can be addressed at three levels: media ontology, media typology and media practices. Ontologically the essence of media can be discussed in terms of mediation process.[1132] In philosophical term, media is a negative concept and any positive definition of media may fail.[1133] Secondly, mediation process can be typologically can be divided into mediation spheres. And thirdly, media practices, are the common-sense usage of the cultural works (organized, expressive and affective apparatuses and formations operating in specific contexts[1134]).

Media Practices – During a certain historical period, within the scope of media spheres, certain media related practices, with a certain technological, communicational, socio-cultural and compositional traits forms and are accepted forms of mediality in a particular society or globally. For instance, within the electronic media sphere, mainstream media practices such as

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[1129] See chapter three for more discussions.
[1130] Webopedia (2015)
[1131] See Grossberg, 2010: p. 632
[1132] See ibid
[1133] See Mersch (2010)
[1134] See Grossberg, 2010: p. 637

radio, television, film and several other **media art practices**, such as music videos, audio arts, etc. has been manifested.

Mediation Spheres – In each millennia of humans' civilization there exist dominant widely used types of mediality. There are various conceptions in defining these eras such as 'media galaxies' termed by McLuhan, media 'waves' by Toffler, media 'cultural phases' by Meyrowitz, and 'media sphere' by Debray. Debray defined *mediasphere* as 'middle ground, setting or environment [milieu] of the transmission and carrying [transport] of message and people'.[1135] In this research, the term media sphere is used due to flexibility and comprehensive over other conception referring to distinguished characteristics in history of thought, social, economic, political, technological situations and cultural civilizations reinforcing certain types mediality in a particular era. There are various classifications of media spheres, eras of mediality. In the major taxonomies in this research is *presentational media sphere, representational media sphere, mechanical media sphere, electronic media sphere, intelligent media sphere, and biological media sphere* (see chapter three for further discussions).

Medial Reflexivity – Since medial is a negative condition, the medial reflexivity, is method of 'seeing from the side', which is 'capable of paradoxical manoeuvres that show the mediality of the medium.'[1136]

Mediality – The mediality (or mediumhood)[1137] refers to the conditions and aura of media. To describe the media-related complexities, there is a need to expand the vocabulary around this issue. One mainly used term is **medial**, in adjective form, describing the issues related to media, i.e. medial world. There are other related additions to medial such as 'trans-medial', 'inter-medial', (see Cross-Medial Analysis entry), 'super-medial', 'sub-medial', 'post-medial' etc. The **mediality**, as a noun, rather describe the aura and environments of media, while medial explain the varieties and sorts of media.[1138]

Medium – As the analysis demonstrate, there are various definition of medium throughout the history (see chapter two). The medium is defined negatively and holistically as the medial relation created between compositional, technological, communicational and socio-cultural environments in certain era. This medial relation is illustrated in a conceptual continuum of medium

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[1135] Debray, 1996: p. 26

[1136] See Mersch (2013)

[1137] Ryan (2003) believed that mediality or mediumhood is a 'relational rather than an absolute property'.

[1138] The suffix -al, forming usually adjective, denotes 'relating to' or 'of the kind of' in English (medial). The suffix -ity, forming nouns, usually refers to degree of quality or condition (i.e. humanity, mediality).

in chapter three. There are two approaches in medium ontological analysis in research: one is the *micro-level* approach, investigating the axis of compositional-technological and two is *macro-level* approach, studying the axis of communicational-socio-cultural.

Medium Theory – Medium theory, used in singular form, is referring to the core ontological issues and higher-level questions of mediality. **Media theory**, in plural form, is referring to immediate and low-level tangible questions regarding media practices.

Mediology – The field of Mediology initially is introduced by French media scholar, Régis Debray. Mediology is an attempt to analyse and study media in a larger (macro-level) scope of socio-cultural and technological landscape. It is critical to mere techno-centric analysis of mediality attributed to Toronto school of media studies.

Methodology – Generally, methodology, is the way we gain 'knowledge about the world', which is essentially 'an articulated, theoretically informed approach'.[1139] The methodological framework in this research is delineated into five layers of *research paradigm*, *strategies*, *approaches*, *methods*, and *model of analysis* (see chapter one).

Ontology – Ontology generally 'concerns the philosophy of existence' and 'the nature of being and existence.'[1140] The ontology refers to a two-fold-question of *the nature of reality* and *human being as the knower*. Ontological perspective helps to analyse the *whatness* of phenomena around us, i.e. what is the nature of contemporary media, in a more holistic perspective, minimizing the causal or unidirectional deterministic orientations.

Paradigm – Paradigms are largely considered as 'models or frameworks' which are originated from a 'worldview or belief system about the nature of knowledge and existence'.[1141] Kuhn (1962) introduced the concept and highlighted importance of paradigm in research and believed that paradigms are set of shared belief in a scientific community which inform, or sometimes bias, how a particular research community approach an inquiry. **Research paradigm** refers to *the process of viewing reality*.[1142] It is a set of perspective shared by many theories. There are various research paradigms identified. The three major ones are positivism, critical and interpretative paradigms. Each paradigm may

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[1139] Ellen, 1984, p. 9 cited in Cohen & Crabtree (2006)
[1140] Cohen & Crabtree (2006)
[1141] Ibid
[1142] Ibid

enjoy distinct ontological, epistemological and methodological orientations. The leading research paradigm is critical (see chapter one).

Reflexivity (in methodology) – the capability and affordability of a particular methodology to acknowledge its own influence on the analysis (and probably determine the reflexive degree of influence on the analysis).

Software – Software refers to 'computer instructions or data' which 'a computer processor reads in order to perform a task or operation'.[1143] The software, in general, is consisted of two major categories: *system software* (professional system-based software, such as operating systems) and *application software* (user-end software, such as web browser).

Theory – A theory is fundamentally viewed as 'a unified, or coherent, body of propositions', that is 'a system of thought' or 'a way of packaging reality, a way of understanding it'.[1144] A comprehensive theory is consisted of four major levels: *philosophical assumptions* (ontology, epistemology, methodology), *concepts, explanations,* and *principles*. If a theory lacks the latter two levels, i.e. explanations and principles, is called as **quasi-theory**.

World Wide Web (or **Web**) – World Wide Web is 'an information-sharing model', 'a way of accessing information' over Internet'.[1145] In other word, it is 'a system of extensively interlinked hypertext documents'[1146] which is 'built on top of the Internet'.[1147] A web, by essence can be considered an application which works alongside other applications on the internet. The web is in constant course of evolution, spanning from Web 1.0 (world wide web/web of content), Web 2.0 (social web/web of communication), Web 3.0 (semantic web/web of context), moving towards Web 4.0 (intelligent web/web of things) and Web 5.0 (web of thought).

[1143] See Web Evolution (2015)
[1144] Littlejohn & Foss, 2008: p. 15
[1145] Ibid
[1146] Dictionary.com (2015)
[1147] See Web Evolution (2015)

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Appendices

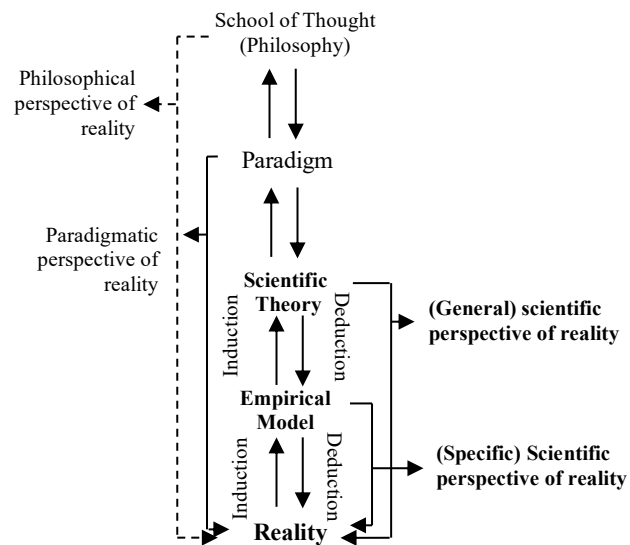## Paradigmatic Frameworks: Positivism, Critical and Interpretive Paradigms[1148]

	Aspects	Positivism Paradigm	Critical Paradigm	Interpretive Paradigm
Ontology	*Nature of Reality*	There is an objective reality. ▪ *Realist ontology*: general patterns & universal laws, which can be discovered	Ability to know this reality is imperfect, ▪ *Critical (subtle reality) ontology:* reality is subjective, critical examination required	Reality is constructed subjectively. ▪ *Relative ontology*: meanings are developing socially/culturally and they are fluid
	Human being as the knower	There are real worlds object apart from the human being knower. ▪ Separation of subject and object ▪ The humans as rational being shaped by external forces ▪ The free determination is an illusion	The human being knower is part of what she knows. ▪ Elimination of subjective-objective dualism ▪ Human being as creative and adaptable creature ▪ Human being is structurally limited ▪ Who & what we are part of how we know ▪ Context and community in which we know	The human being knower cannot be separated from what is the known. ▪ Unity of subject and object ▪ Human being as social creature, who continuously creates meanings ▪ Human being has powerful will
Epistemology	*How we know reality*	The human being perception can provide accurate data of the world since there is an objective reality separated from human being as the knower (claims & truth can be compared). ▪ Empirical and experimental verifications	Via critical analogy, observation & dialogue hidden layers of reality can be excavated. ▪ Language guides & limits the observational process ▪ Objectivity can be attempted	The investigator and object of investigation are closely interlinked. ▪ Truth is negotiated through dialogue ▪ Findings/knowledge is created as an investigation proceeds
	Nature of Theory	Theory is an inductive rational system of definitions and variables explaining cause & effects patterns of natural phenomenon. ▪ Representational epistemology: the objective reality can be accurately described by signs and symbols ▪ Goals: discovering the cause & effect patterns in order to predict and control (Instrumental Orientation)	Theory is a critique, which address situations and reveals hidden layers of reality covered with forces & forge actions. ▪ Modified transactional/subjectivist epistemology: interaction of knower & known ▪ Goal: to find out the hidden layers & structures of reality, breaking myths & transform the society (Dialectical orientation)	Theory is a relative description of how meanings are created/disseminated in social community in particular context, situation & time. ▪ Transactional or subjectivist epistemology: reality is inter-subjectively understood ▪ Goal: understanding & explaining practical & meaningful social interaction, negotiating meanings, interpretation & dialogue among community[1149](Practical-orientation)
	Values & common sense	Research is value-free (objective-oriented). ▪ No scope for subjectivity and common sense (dominance of objective science)	The research is value oriented. ▪ Values are hidden under social/cultural/political/etc. forces ▪ Valuing actions & common sense	Research is value-added. ▪ Researchers as inherent part of research ▪ The common sense and values are significant ▪ Pragmatic & moral concerns are important
Methodology	*General Methodological Frameworks*	▪ Strategies: Inductive, deductive ▪ Approaches: explorative, descriptive ▪ Methods: quantitative, experimental, hypothesis generation & testing	▪ Strategies: abductive, retroductive ▪ Approaches: Critical-analytical ▪ Methods: Qualitative approach, historical, comparative, dialogue & critical methods	▪ Strategies: abductive, retroductive ▪ Approaches: explorative, descriptive, analytical ▪ Methods: qualitative, generative, interview / dialogue and observation, ethnography
	Criteria of 'Good' Research	▪ Objectivity: distance between subjective biases of researcher & reality ▪ Validity: measuring procedures ▪ Reliability: measuring replication ▪ Generalizability: measuring universality	▪ Relevance, reflexivity & plausibility ▪ Justifiability: Articulation of philosophy ▪ Responsibility and accountability: discussing implications of concepts & bring change to the world	▪ Ethical validity ▪ Substantive validity: Self-reflection, awareness that validity or truth cannot be grounded in an objective reality, & there are multiple truth

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[1148] Developed by the researcher after Khaki, (2010), p. 52-3, Cohen & Crabtree (2006), & Carballo (2003).

[1149] Fostering a dialogue is crucial, since the process can forge 'a more informed and sophisticated understanding of the social world' (See Cohen & Crabtree (2006)).

Epistemic Process: Positivism, Interpretative and Critical Paradigm[1150]

Epistemic Process of Positivism Paradigm

School of Thought (Philosophy)

Philosophical perspective of reality

Paradigm

Paradigmatic perspective of reality

Scientific Theory

Induction

Deduction

(General) scientific perspective of reality

Empirical Model

Induction

Deduction

(Specific) Scientific perspective of reality

Reality

Epistemic Process of Interpretative Paradigm

School of Thought (Philosophy)

Philosophical perspective of reality

Paradigm

Paradigmatic perspective of reality

Quasi-Theory / Conceptual Model

Abduction

Retroduction

(Specific) Conceptual perspective reality

Reality

Epistemic Process of Critical Paradigm

School of Thought (Philosophy)

Philosophical perspective of reality

Paradigm

Theory

Retroduction

Retroduction

Conceptual Model

Abduction

Retroduction

(General) Conceptual perspective of reality
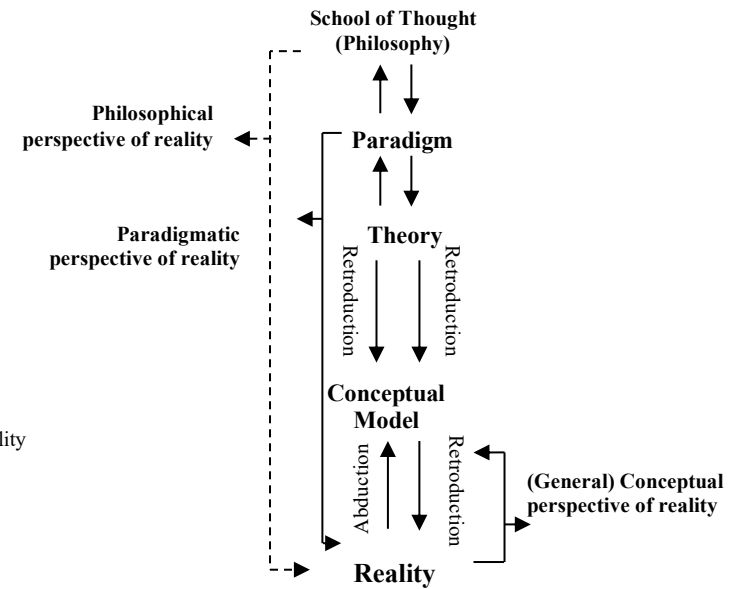
Reality

[1150] Developed after Khaki (2010)

Paradigmatic Frameworks: Media as Reality[1151]

	Aspects	Positivism Paradigm	Critical Paradigm	Interpretive Paradigm
Ontology	*Nature of Reality*	Media is an objective reality. General patterns & universal laws that governs media can be discovered.	Ability to know media as reality is imperfect; however, critical examination helps to understand layers & patterns of this reality.	Media is constructed subjective reality. It is merely socially and culturally constructed.
	Human being as the knower	Human being, the knower, is *apart* from the real-world object of media and can discover objective laws of media as reality.	Human being, the knower, is *part* of what s/he knows and part of media as reality. Human being as creative and adaptable creature shapes media.	Human being, the knower, cannot be separated from what is the known. Understanding media as reality is subjective and can be interpreted socially/culturally.
Epistemology	*How we know reality*	The humans' perception can accurately objectify media as reality (empirical and experimental verifications)	The critical analogy, observation & dialogue can reveal hidden layers of media as reality (language guides & limits the observational process)	The nature of media as reality is negotiated through dialogue or process of investigation.
	Nature of Theory	Media theory is an inductive or deductive rational system of definitions explaining cause & effects patterns. Representational epistemology: Media as the objective reality can be accurately described by signs and symbols Goals: discovering the cause & effect patterns of media in order to predict and control (Instrumental Orientation)	Media theory is abduction or retroduction of reality, a critique that address situations and reveals hidden layers of media as reality Modified transactional/ subjectivist epistemology: Interaction of knower & known Goal: To find out the hidden layers & structures of media as reality, breaking myths & transform the society (Dialectical orientation)	Media theory is a relative description of how meanings are created & disseminated in social community in particular context. Transactional- subjectivist epistemology: Media as reality is inter-subjectively understood Goal: Understanding & explaining practical & meaningful social interaction, negotiating meanings, interpretation & dialogue among community (Practical-orientation)
	Values & common sense	Research is value-free (objective-oriented). No scope for subjectivity and common sense (objective science)	The research is value oriented. Values are hidden under social/cultural/political forces Valuing actions & common sense	Research is value-added. Researchers as inherent part of research The common sense, values and moral concerns are significant
Methodology	*General Methodological Frameworks*	▪ Strategies: Inductive, deductive ▪ Approaches: explorative, descriptive ▪ Methods: quantitative, experimental, hypothesis generation & testing	▪ Strategies: abductive, retroductive ▪ Approaches: Critical-analytical ▪ Methods: Qualitative approach, historical, comparative, dialogue & critical methods	▪ Strategies: abductive, retroductive ▪ Approaches: explorative, descriptive, analytical ▪ Methods: qualitative, generative, interview / dialogue and observation, ethnography
	Criteria of 'Good' Research	▪ Objectivity: distance between subjective biases of researcher & reality ▪ Validity: measuring procedures ▪ Reliability: measuring replication ▪ Generalizability: measuring universality	▪ Relevance, reflexivity & plausibility ▪ Justifiability: Articulation of philosophy ▪ Responsibility and accountability: discussing implications of concepts & bring change to the world	▪ Ethical validity ▪ Substantive validity: Self-reflection, awareness that validity or truth cannot be grounded in an objective reality, & there are multiple truth

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[1151] Developed by the researcher after Khaki, (2010), p. 52-3, Cohen & Crabtree (2006), & Carballo (2003).
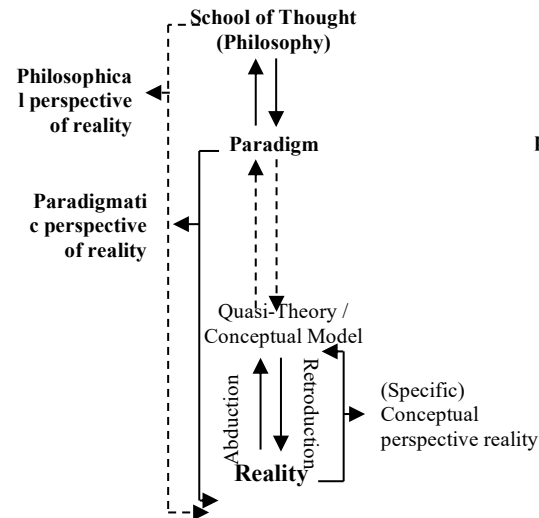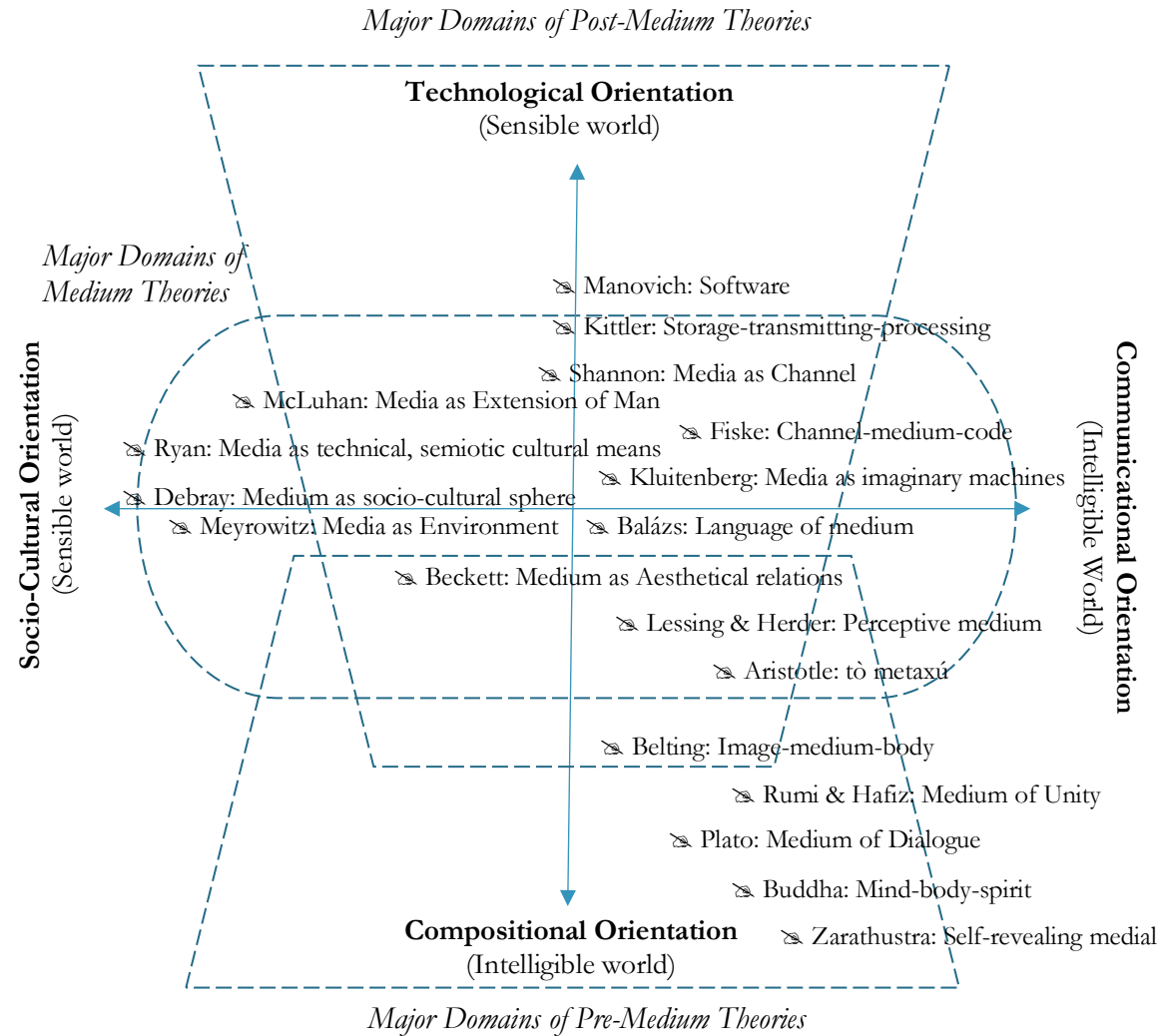
Literature Review: Ontology of Intelligent Media

	Scholars	Main Concept/theory	Philosophical Assumptions	Primary Referred Literature	Origin
Pre-Medium Theories: Ancient-1880s	*Zarathustra*	Spenta Mainyu, the self-revealing medial of Ahura Mazda Good Thoughts-Good Words- Good Deeds (Ideal communication pattern)	Ahura Mazda, is God of both earthly and heavenly life. Spenta Mainyu is his manifestation and medial of creativity on earth. One can reach to truth and Ahura Mazda, the wise lord, by fulfilling pure thoughts, words and deeds.	*Avestan* and secondary sources	Ancient Persian Philosophy
	Buddha	'Silence' as the medium of mind-body-spirit Breath as technique of silence	The mediality of silence brings the communicative order (where words end truth begins). The mediality of silence can be maintained with breath technique.	Secondary sources	Buddhism Philosophy
	Plato	'Dialog' as the medium of thought The Allegory of Cave Critique of speech vs. writing Five layers of Knowledge	Medium as Shadow of reality and cannot reflect truth. Dialogue is the only medium to reveal the truth, Writing can hide the truth Medium is the three initial layers: 1. Name, 2. definition, 3. image, 4. knowledge, 5. Truth	*The seventh letter* (360BC), *Phaedrus* (370BC), *The Republic (*The allegory of the cave) (370BC), and secondary sources	Greek Philosophy
	Aristotle	Media as 'in between' entity Medium (Metaxu) Thing-medium-sense organ Medium-Activity Taxonomy of human being Activity	Medium as in between entity Perception is only possible through a medium. Each sense organ has their specific medium. The medium stands in between the things and organs. Medium plays certain activity in between things and organ. Human being's activity is consisted of three types. 1) theoría (thought), 2) praxis (action), and 3) poíesis or teckne (production): a) Art (imitation of nature), b) Technology (extension of nature).	*De Anima*, *Poetics* (350 BC) and secondary sources	Greek Philosophy
	Rumi & Hafiz	Reed as the mystic medium of unity Mystic state (Hal) Reed metaphor Seven Cities of Love Self-soul-spirit	To reach the unity with divinity, the ultimate Truth Mental knowledge vs. sensory knowledge. The empty medium. A journey from plurality to unity, from sensations to divinity. Spiritual journey to Unity and divinity Ideas occurring to the heart in the state of retreat/Mental knowledge	*Masnavi*, Rumi (13 AD), *Divane-Hafiz* (14 AD), and secondary sources	Sufism Philosophy
	Lessing & Herder	Time-/space-based medium Language (word) as medium	Medium can be distinguished based on sensorial association, orals are time-based while visuals are space-based medium	*Laocoön: An essay upon the limits of painting and poetry (1766)*, *Essay on the Origin of Language* (1772) and secondary sources	German Philosophy

	Scholars	Main Concept/theory	Philosophical Assumptions	Primary Referred Literature	Origin
Medium Theories: 1890s–1990s	*Béla Balázs*	'New medial order and language of medium	New form of medium, initiated by film, brought new form of mediality and its own language	*Theory of the Film: Character and Growth* (1952)	Hungarian
	Claude E. Shannon	Media as a (transmission) channel of communication (Mathematical theory of Communication)	Medium as a channel of communication Communication, as a linear process, has two ends of production and destination. The medium is an 'in between' entity of transmitting the message.	*A Mathematical Theory of Communication* (1949)	American Scholarship
	Marshall McLuhan	Medium as extensions of man	Medium is the extension of senses and medium is the message.	*Understanding media: The extensions of man* (1964), *The Medium is the Massage: An inventory of effects* (1967)	Canadian Scholarship
	Samuel Becket	Mediality as frameworks of aesthetical relationships	Mediality is determined by the type of aesthetical relationships and internal-external frameworks based on aesthetics.	*Cascando and other short dramatic pieces* (1967) and secondary references: Monaco (1981) *How to read a film: The art, technology, language, history, and theory of film and media*, Oppo (2008) *Philosophical aesthetics and Samuel Beckett.*	Australian Scholarship
	Joshua Meyrowitz	Media as cultural environment	There are broadly three ontology of media, defined in terms of metaphors: media as conduit, media as language, and media as environment or situation.	*No sense of place: The impact of electronic media on social behaviour* (1985), 'Images of Media: Hidden Ferment–and Harmony– in the field' (1993), Media evolution and cultural change (2010)	American Scholarship
	John Fiske	Mediality in triad of channel – medium - code	There are three types of media: presentational, representational and mechanical media.	*Introduction to communication studies* (1990)	Irish Scholarship
	Régis Debray	Mediality as socio-cultural sphere	Medium can be best addressed in mediological spheres	*Media Manifestos: On the Technological Transmission of Cultural Form* (1994), *Transmitting Culture* (1997/2000 trans)	French Scholarship

	Scholars	Main Concept/theory	Philosophical Assumptions	Primary Referred Literature	Origin
Post-Medium Theories: 2000-2015	*Lev Manovich*	Media as software command	The new medium is not merely the hardware transmitting and storage system, but it is the software which is processed and developed based on cultural, social and economic needs.	*The Language of New Media* (2001), Post-media Aesthetics (2001), *Software takes command: Extending the language of new media (2013)*	Russian-American Scholarship
	Friedrich A. Kittler	Storage-transmission-processing medium	The medium can holistically be categorised as storage, transmitting and processing medium. The new media has all three technological functions.	Transmission and Storage Medium (2010), Towards an Ontology of Media (2009)	German Scholarship
	Hans Belting	The triad of Image-medium-body Body as living medium	The medium is best conceptualised in relation to body. The ultimate live medium is the body in its original sense (close to philosophical orientations of Plato).	Image, Medium, Body: A New Approach to Iconology (2005), *An Anthropology of Images: Picture, Medium, Body* (2011)	German Scholarship
	Marie-Laure Ryan	Media as technical, semiotic and cultural means of (artistic) expression	Medium is a 'polyvalent term' and it is consisted of three dimensions including: technical dimension, semiotic substance, and cultural dimension. A medium is comprised of these three in various proportions.	Story/World/Media: Tuning the Instruments of Media Conscious Narratology (2014), On Defining Narrative Media (2003)	Switzerland-US Scholarship
	Eric Kluitenberg	Media as imaginary machines	The medium is essentially an imaginary mediality, fulfilling the desires and dreams of man. Mediality is extension of man's desires and imaginations.	*The Book of Imaginary Media (2006)*	Netherland Scholarship
	Thomas Mock	Typology of medium conceptions	The medium as a concept has witnessed a very complex history. There are essentially two lines of conceptions, the first divided into three orientations of medium as: means of *perception* (physical medium) means of *understanding* (semiotic medium) and means of *dissemination* (technical medium) and the second as the form of *communication* (communication medium).	Was ist ein Medium? (2006)	German Scholarship
	Dieter Mersch	Negative media theory	Nature of Concept of medium: Equivocal/no point of reference/Structural impenetrability Concept of Mediality instead of Media Mediated (instead of media product) Mediality in terms of media (medial process): Creations, Representations, Transfer, Mediation, Underlying materiality, Dispositive, Performances	*Medientheorien zur Einführung* (2006), Tertium datur: Introduction to a Negative Media Theory (2013)	German Scholarship
	Lawrence Grossberg	Media as mediation process	Media as mediation process and mediated formations	*Cultural Studies in Future Sense* (2010)	American Scholarship

A map of pre-medium, medium and post-medium theories:
Locating major media scholars and their medium theories or conceptions

Major Domains of Post-Medium Theories

Technological Orientation
(Sensible world)

Major Domains of
Medium Theories

Socio-Cultural Orientation
(Sensible world)

Communicational Orientation
(Intelligible World)

✎ Manovich: Software

✎ Kittler: Storage-transmitting-processing

✎ Shannon: Media as Channel

✎ McLuhan: Media as Extension of Man

✎ Fiske: Channel-medium-code

✎ Ryan: Media as technical, semiotic cultural means

✎ Kluitenberg: Media as imaginary machines

✎ Debray: Medium as socio-cultural sphere

✎ Meyrowitz: Media as Environment   ✎ Balázs: Language of medium

✎ Beckett: Medium as Aesthetical relations

✎ Lessing & Herder: Perceptive medium

✎ Aristotle: tò metaxú

✎ Belting: Image-medium-body

✎ Rumi & Hafiz: Medium of Unity

✎ Plato: Medium of Dialogue

✎ Buddha: Mind-body-spirit

Compositional Orientation   ✎ Zarathustra: Self-revealing medial
(Intelligible world)

Major Domains of Pre-Medium Theories

Note: Grossberg, Mersch and Mock are not mentioned since they are arguing for holistic medium conception.
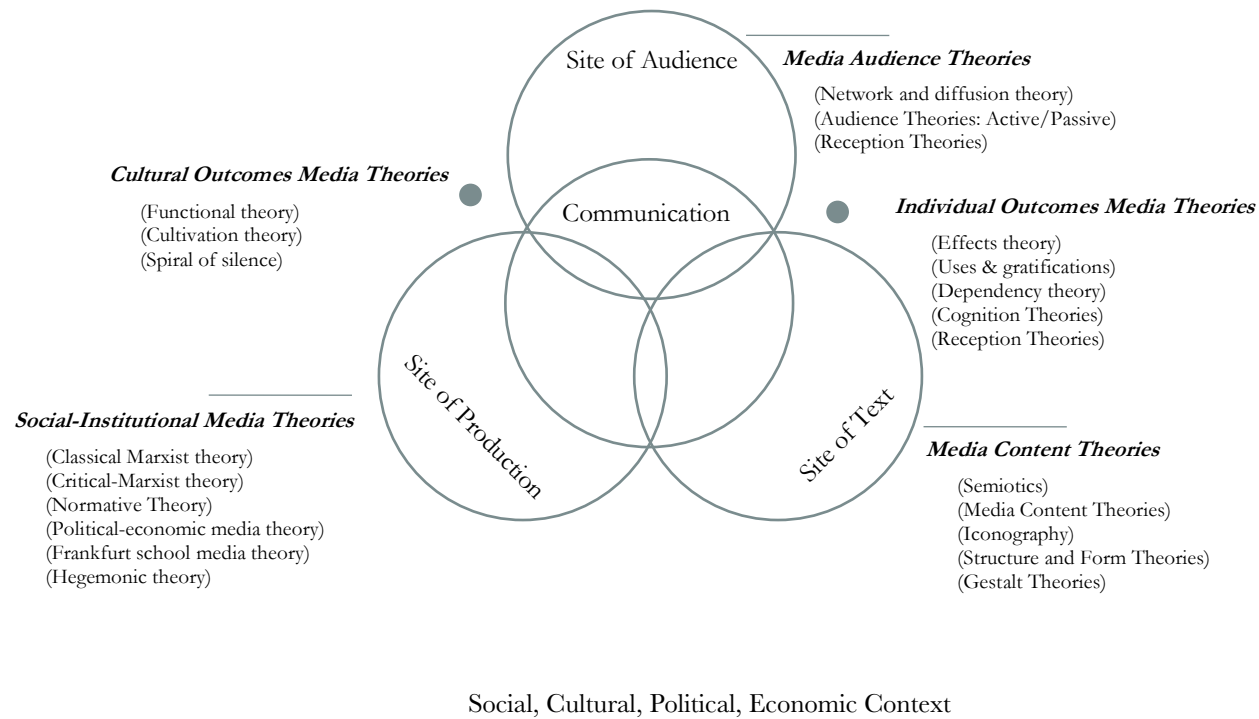
Media Spheres[1152]

	physical/technological medium	Outcomes/culture	Communication Characteristics	Sense ratio /memory
Presentational Mediation Sphere	Body Oral Speech Symbols (Stars, sunrise)	Organize experience chronologically, Supports community and relationship *Culture of community* (minimal differences, decisions are collectively based on wisdom of tradition) - emotion	communicator is the medium malleable and organic, everyday experience, oral medium, unity of life and knowledge *Symbolic order:* the sign had 'a clear connection with the signified';	*Hearing:* hearing-oriented M*emory:* as holder of society's knowledge
Representational Mediation Sphere	**Text**: Coding systems, Writing system Signs/symbols, Alphabets **Production**: Ink **Storage**: Stones, clays, papyrus, Parchment, Manuscript	Storing information biased towards growth in political authority, empire building, large bureaucracy and the military'	Writing = time separation of knowledge (what is known) from knower (who knows it) Manipulation and edit /change in message, Space-binding communication. In *counterfeits* era, from renaissance to industrial revolution, signs had 'less direct relationships' with signified	Individual experience – Author/producer and the text (and minor concept of audience)- Communicator and meaning (individual/social)
Mechanical Mediation Sphere	**Text**: Paper, books (first generation), Newspapers/ magazines (2nd generation) **Production & Storage**: Mechanical system: translating waves into physical forms (on disc or wax), Panorama, Phonograph	Segmentation (explosion) motion / kinetic	*Culture of class* (decisions rely on truth stored in documents) In *production* era, during industrial revolution, the invention of machine made the 'object independent of any human use of signifier'	*Sight* *Writing and visual material* *Communal sense of experience (public display Medium* Relationship *Author-text-mass audience)*
Electronic Mediation Sphere	Telegraph apparatus (Morse 1840) Telephony/ Telephone (Bell) Radiotelegraphy Marconi Radio, Television	Masses (implosion), Information explosion, Information as commodity Narrating/writing motions (Cinematography)	Knowledge Change constantly *Culture of cells or groups (to me culture of mass), (various interest group), many voices* in *simulation* era, 'signs no longer represent – but create – our reality (e.g. Disneyland)	Aural-hearing-sigh
Intelligent Mediation Sphere	Remediation of all forms Processing and algorithms	Global, Local Vision (Writing vision)	Networked Communication Information and data as dynamism of the communication	Immersion of sense
Biological Mediation Galaxy	DNA and Bio-Structure	Bio-spiritualism genetics	Organism Communication	

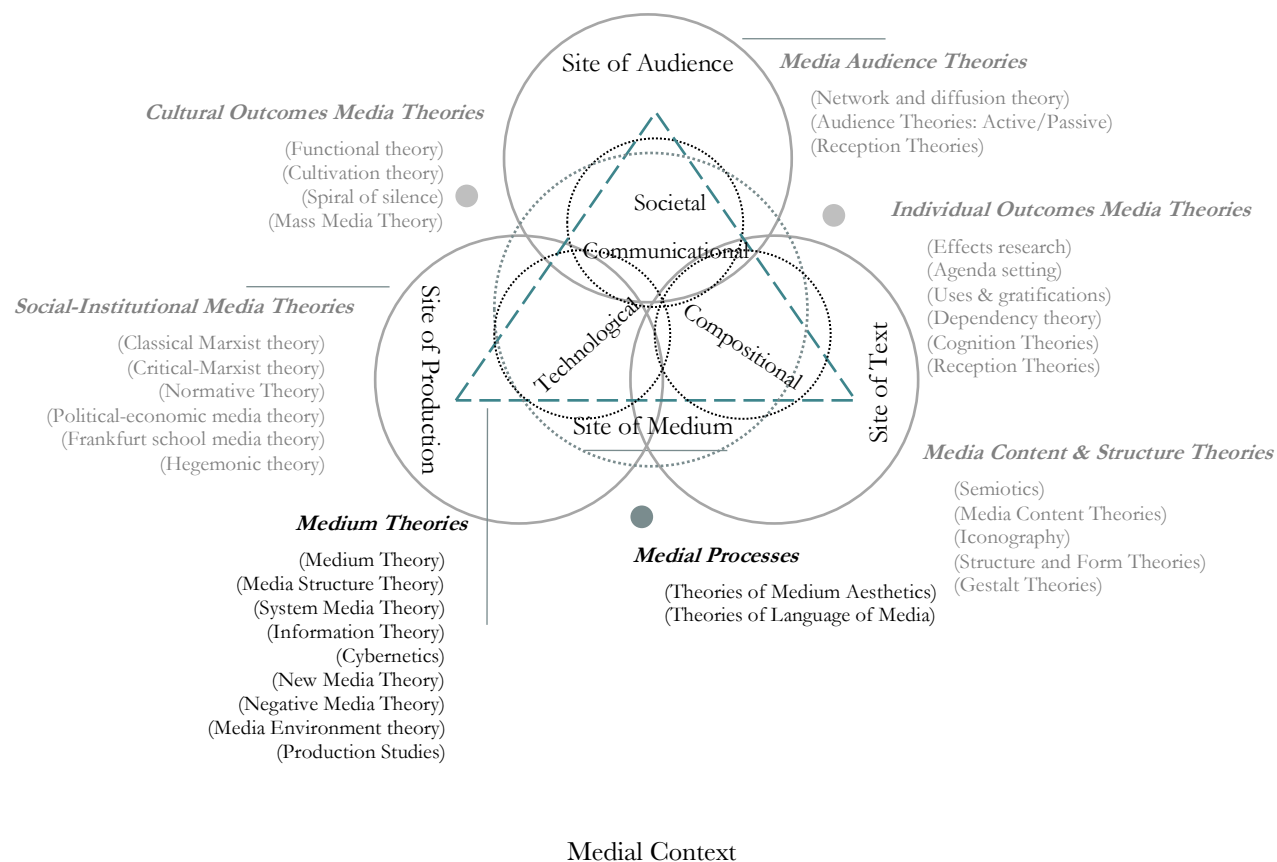[1152] Developed after Debray, McLuhan, Meyrowitz, and Ellis inter alia.

List of App-Arts

Category of App-Art	Name of App-Art (Year)	Name of Artist/s	Brief Summary	Link
Technocentric App-Art	*EDMT* (2015)	Fader & Mandy Mozart, et al.	*EDMT,* designed for Android in 2015, is an abstract immersive audiovisual app-art. It won prize at ZKM, 2015.	http://edmt.tv
	iMagination	Armin Heinrich	iMagination is a graphic puzzle, which generate computer mathematical graphics by inserting numbers. This app does not exist in App Store.	http://www.soundside.de/
Conceptual App-Art	*I Am Rich* (2008)	Armin Heinrich	Controversial app lunched only for a day 5-6 Aug 2008 (999.99 $). The app's master page displayed a screen with a glowing red gem, as the screen shot, and a single icon of *i*, which lead the users to a simple screen containing a mantra.	http://www.soundside.de/
	iShave (2015)	Armin Heinrich	*iShave* is developed out of a contest to makes the iPhone to be able to perform all we need.	http://www.soundside.de/
Communicational App-Art	*ARART* (2013)	Kei Shiratori, Takeshi Mukai, Younghyo Bak,	*ARART* aims to blur the boundaries of 'the real and virtual world by having the iDevice superimpose a new dimension of reality on real art works.' It won a prize at ZKM, 2013.	http://www.app-art-award.org/rueckblick/
	Metamorphabet (2015)	Patrick Smith	*Metamorphabet* simplified the language of gaming, graphics, and animation, and it is a 'playful' and interactive alphabet designed for all ages.	http://metamorphabet.com
Crowd sourced App-Art	*Hatsune Miku*	Crypton Future Media	*Hatsune Miku*, is a Japanese Vocaloid humanoid character. She performs holographic (3D) concerts.	https://ec.crypton.co.jp/pages/prod/vocaloid/cv01_us
	Radwende (2014)	*Michael Volkmer*	Designed for App Store and Google Play, *Radwende* documented the real time cycling routs of individual bicycle travellers and generated the city map data. It won a prize at ZKM, 2014.	https://www.radwende.de

Lower Media Theories [1153]

Media Audience Theories

(Network and diffusion theory)
(Audience Theories: Active/Passive)
(Reception Theories)

Site of Audience

Cultural Outcomes Media Theories

(Functional theory)
(Cultivation theory)
(Spiral of silence)

Communication

Individual Outcomes Media Theories

(Effects theory)
(Uses & gratifications)
(Dependency theory)
(Cognition Theories)
(Reception Theories)

Site of Production

Site of Text

Social-Institutional Media Theories

(Classical Marxist theory)
(Critical-Marxist theory)
(Normative Theory)
(Political-economic media theory)
(Frankfurt school media theory)
(Hegemonic theory)

Media Content Theories

(Semiotics)
(Media Content Theories)
(Iconography)
(Structure and Form Theories)
(Gestalt Theories)

Social, Cultural, Political, Economic Context

[1153] The diagram developed based on the models of Littlejohn, 2002: p. 304 and Rose, 2012: p.43. The media theories represented here are some examples and not limited to these theories.

Higher and lower Media Theories[1154]

Cultural Outcomes Media Theories

(Functional theory)
(Cultivation theory)
(Spiral of silence)
(Mass Media Theory)

Media Audience Theories

(Network and diffusion theory)
(Audience Theories: Active/Passive)
(Reception Theories)

Individual Outcomes Media Theories

(Effects research)
(Agenda setting)
(Uses & gratifications)
(Dependency theory)
(Cognition Theories)
(Reception Theories)

Social-Institutional Media Theories

(Classical Marxist theory)
(Critical-Marxist theory)
(Normative Theory)
(Political-economic media theory)
(Frankfurt school media theory)
(Hegemonic theory)

Site of Audience

Societal

Communicational

Technological

Compositional

Site of Production

Site of Text

Site of Medium

Media Content & Structure Theories

(Semiotics)
(Media Content Theories)
(Iconography)
(Structure and Form Theories)
(Gestalt Theories)

Medium Theories

(Medium Theory)
(Media Structure Theory)
(System Media Theory)
(Information Theory)
(Cybernetics)
(New Media Theory)
(Negative Media Theory)
(Media Environment theory)
(Production Studies)

Medial Processes

(Theories of Medium Aesthetics)
(Theories of Language of Media)

Medial Context

[1154] The diagram developed based on the models of Littlejohn, 2002: p. 304, Rose, 2012: p. 43 and arguments of Meyrowitz, 1985: p. 33. The model is not linear in contrast to the early models and explains the complex matrix of media theories relationships.