

PROFESSIONAL DEMARCATION IN NEW MEDIA ART IN TURKEY

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ABSTRACT

In a world where the Post-media condition has rendered the artistic media hierarchies obsolete, New Media Art continues to exist as a professional territory with ambiguous boundaries. The term refers to a community of specialists and institutions with some common practices with, but also autonomous from the Contemporary Art territory.

This dissertation defends the position that understanding New Media Art's current scope requires a close examination of the rhetorical tactics of the professionals involved in its territorial demarcation. It uses Thomas F. Gieryn's concept of "boundary-work" to explore whether the territory's cultural repertoire is diversified across subgroups, and whether it conforms to or contradicts the international cultural repertoire.

The study finds that the professional ideology of the New Media Art territory in Turkey has developed in parallel with the world at large, especially starting from the mid-1990s, but not monolithically. The common ideology of the curators/producers has four defining characteristics: potential for democratization, intersections of art, science and technology, interaction/interactivity and interdisciplinary collaboration. The subjects use these concepts in two different meanings depending on their career orientations, exhibiting two main repertoire variants. The main characteristics of the artists' common ideology is similar to the curators'/producers', but thanks to the greater variety in their individual professional identities, their cultural repertoires are relatively more flexible and heterogeneous. Most importantly, the choice of the repertoire variant in both populations is positively correlated with the art funding conditions specific to Turkey.

Keywords: New Media Art, Contemporary Art, Post-media, boundary-work, Turkey

ÖZET

Yeni Medya Sanatı, Medyum-sonrası durumun sanatsal medyum hiyerarşilerini geçersiz kıldığı bir dünyada profesyonel sınırları muğlak bir alan olarak varlığını sürdürmektedir. Bu terim, Çağdaş Sanat alanı ile bazı ortak pratiklere sahip, ancak aynı zamanda ondan bağımsız bir grup uzman ve kurumun varlığına işaret eder. Bu tez, Türkiye’de Yeni Medya Sanatı’nın güncel kapsamını ve profesyonel ideolojisini anlamak için, alanı tanımlayan profesyonellerin retorik taktiklerinin yakından incelenmesi gerektiğini savunur. Thomas F. Gieryn’in “sınır-çalışması” kavramını, alanın kültürel repertuvarının alt gruplar arasında çeşitlilik gösterip göstermediğini ve uluslararası repertuvarla uyumlu olup olmadığını incelemek için kullanır.

Çalışma, Türkiye’de Yeni Medya Sanatı alanının profesyonel ideolojisinin, özellikle 1990’ların ortalarından itibaren dünyayla paralel olarak geliştiğini, ancak bu gelişimin yekpare olmadığını göstermektedir. Küratör/prodüksörlerin ortak ideolojisi dört ayırt edici özelliğe sahiptir: Demokratikleştirme potansiyeli, sanat-bilim-teknoloji kesişimleri, etkileşim ve disiplinlerarası işbirliği. Süjeler bu kavramları kariyer yönelimlerine bağlı olarak iki farklı şekilde kullanmakta ve böylece ortaya iki ana repertuvar varyantı çıkmaktadır. Sanatçıların ortak ideolojileri küratör/prodüksörlerinkine benzemekle birlikte, kültürel repertuvarları bireysel mesleki kimliklerinin çeşitliliğinden ötürü görece daha esnek ve heterojen bir yapı ortaya koymaktadır. En önemlisi, her iki grupta da hangi kültürel repertuvar varyantının kullanıldığı, Türkiye’ye özgü sanat fonlama koşulları ile pozitif bağıntı içindedir.

Anahtar Kelimeler: Yeni Medya Sanatı, Çağdaş Sanat, Medyum-sonrası, sınır-çalışması, Türkiye

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CHAPTER 1

INTRODUCTION

1.1 Thesis Statement

The debates surrounding art's definition have a long history, and they are closely related to the problem of the medium¹. Until the invention of photography, artists were mostly trained in Fine Arts, i.e. Painting and Sculpture, during which they learnt about the technical possibilities these media had to offer and the results they could obtain with each. The nuanced skills were passed down from generation to generation through the studio's master-apprentice relationship. However, this dynamic was challenged by the invention of photography, which involved operating a machine and some chemical operations requiring a different skill set that initially remained out of the artists' reach. Its internal mechanism was a mystery to everyone except its inventors who had a scientific background in fields like Chemistry or Physics. Photography migrated from the scientific into the artistic realm only after it became technically and financially more accessible, and the artists gradually became acquainted with the techniques required to develop a photographic frame. Then came film, where a similar process took place; as film cameras became less heavy and expensive, the artists began to use them for new experimentations. Consequently, even before half way through, the 20th century saw an explosion in the emergence of new artistic media.

¹ As Peter Weibel (2012) argues, these debates have their roots in Aristotle's *techné – episteme* dichotomy.

The artists working with traditional media reacted to these developments in various ways. Some were already among the ‘pioneers’ introducing these new techniques into the artistic sphere, while others were open to the idea of experimenting with them but did not necessarily abandon the traditional media they were accustomed to working with. Others took a more defensive position, arguing that Painting and Sculpture would always retain their supremacy and value in the artistic media hierarchies. However, these developments had another consequence that challenged art’s scope and definition more than ever: the professionals from non-artistic fields but with the necessary technical skills in these new media gained access into the artistic territory, and some even emerged as important figures in the art world. This phenomenon was further exacerbated by the birth of computers and digital technology, thanks to which computer scientists, coders and programmers also found themselves in the art world with their unrivaled technical literacy. Meanwhile, the growing popularity of artistic practices like collage, appropriation and ready-mades both in the form of still and moving images became even more mainstream with the emergence of digital technologies. Consequently, images produced for non-artistic purposes in other professional contexts such as science, education, journalism and business began to migrate more easily and regularly into the artistic realm. In other words, art’s professional domain was not only challenged by the introduction of new techniques that required alternative skills and educational backgrounds, but also by the widening of its visual vocabulary that extended into other domains previously considered non-artistic. This is why the disciplinary boundaries of Contemporary Art are so difficult if not impossible to delineate.

Today, Contemporary Art refers to a broad range of practices involving all types of media. As new channels of artistic expression continue to evolve, more and more professionals in the art world declare that they find media hierarchies irrelevant and obsolete. However, despite the gradual disappearance of these hierarchies, a term still continues to exist and to refer to a professional territory with some characteristics in common with, but also autonomous from the Contemporary Art sphere: New Media Art. Although New Media Art appears in Contemporary Art institutions more often compared to the past, the notion of a New Media Art community with its own experts, institutions, funding structures and audiences independent from the Contemporary Art sphere is still alive. This thesis defends the position that the nature of the relationship between the professional territories of New Media Art and Contemporary Art cannot be understood solely based on the study of the essential differences between their media palettes or conceptual approaches. In fact, in his book titled “Beyond New Media Art” (2013), Domenico Quaranta observes that “New Media Art” refers to “the art that is produced, discussed, critiqued and viewed in a specific ‘art world’ or the “New Media Art world”, and he suggests that understanding its definition requires a sociological approach (p. 35). Taking this position as a point of departure, this thesis aims at describing the ‘Turkish New Media Art world’ and its professional ideology, comparing and contrasting it with the ideology of the New Media Art territory in the world. It traces the current dynamics dominating the Turkish art scene by examining the professional demarcation strategies employed by the New Media Art professionals, and in doing so, it asks the following questions:

-Does a common professional ideology exist in the New Media Art world in Turkey?

-If it does exist, does it conform to or contradict the global developments?

-Is it monolithic, or do any competing variations exist?

-What rhetorical tactics do the New Media Art professionals in Turkey use to demarcate their professional territory?

By answering these questions, the study hopes to contribute to the scholarly literature in three ways. First, it offers an extensive documentation of the early 21st-century Turkish New Media Art world by collecting qualitative data from a significant sample of professionals some of whom are among leading figures in the field. Second, although studies exist on New Media Art's history and current status in Turkey, no other scholarly work exists that examines it from a similar theoretical perspective. Third, the study offers a research model that can be applied to other regional contexts for a comparative analysis, and has the potential to initiate a scholarly discussion on how professional ideology in artistic fields emerges across societies and cultures.

1.2 Theoretical Approach

1.2.1 Boundary-Work

In an interview conducted in 2013 by Pablo Jato for the documentary “El Espejo del Arte”², Mexican art writer and critic Avelina Lésper is asked what art is (Çeviri Konuşmalar, 2019). Lésper replies that art can only be defined with what art is not, and Contemporary Art is only a style demanding no technical or conceptual strength. In her view, Contemporary Art is not even art, for true art does not necessitate an intermediary for being understood. Contemporary Art is a product of the artists, curators, academic circles, cultural institutions, museums, galleries and auction houses validating any object of their preference as a work of art, which the general public does not understand. These objects with no aesthetic or conceptual value presented as Contemporary Art become economically valuable thanks to the rhetoric produced by art institutions and curatorial texts. She refers to this system as the “grand fraud”, in which galleries act as the shops, with artists as their business partners and curators as their marketing professionals. When asked to name an artist who could be thought of as today’s Da Vinci, she says he or she does not exist, for the “artist-as-genius” paradigm has been destroyed from the 18th century onwards with the destruction of the authorship mechanisms and the widespread use of artistic appropriation. To become an artist in this system means the obtainment of high status without excessive effort, and if a hierarchy of value between artworks disappears, the path is clear for everyone aspiring to become an artist. She also claims that the criticism surrounding these objects is as fictitious as the rhetoric

² <https://www.imdb.com/title/tt4725816/>

placing them in the artistic sphere; thanks to this fiction, if the public does not appreciate the artwork, it is due to their lack of understanding. Hence, the aesthetic experience is reserved for those who can speak the system's language as the eye is excluded from the debates on artistic value and replaced by the rhetoric in defense of the object. According to Lésper, this not only damages art but also threatens the society's creative and critical thinking. Yet, she is moderately optimistic; she believes the system is currently in decline as the public is increasingly aware of its fraudulence, and the system's disinterest in authorship is preparing its own end.³

Ironically, Lésper has been in the headlines in early 2020 for accidentally destroying an artwork at the Zona Maco Art Fair in Mexico while conducting a guided tour and making disdainful comments about the work in question (Associated Press, 2019). She did this by placing a soda can on the work, but she denied it was a deliberate act and she apologized for the inconvenience.⁴ Her criticism of the art world is worthy of consideration, but she also continues to work as an active professional in it; despite her radical criticism, she takes a group of visitors to an art fair, i.e. the mecca of art's commodification process. Her interview turned her into an internationally renowned figure, and the incident at the fair immensely contributed to her visibility⁵. This is not to say that Lésper's actions are calculated, but her dissident attitude has actually brought her more visibility, let alone isolating her.

³ <https://www.youtube.com/watch?v=pgF9nate2J0>

⁴ <https://www.bbc.com/news/world-latin-america-51444129>

⁵ As of March 2020, the first three pages of a Google search on Lésper almost exclusively present entries on the art fair incident the majority of which are published in internationally acclaimed newspapers and websites, and very few entries about her work.

Art is a human construct, and its scope has continuously been shifting throughout history; similarly, the artists' and the curators' relation to their professional territory has constantly been a subject of negotiation, and the same holds for New Media Art. If New Media Art as a professional territory is also a rhetorical construct whose boundaries are constantly renegotiated, its professional demarcation processes can be examined from the perspective of Thomas F. Gieryn's boundary-work⁶. The theory focuses on the "problem of demarcation" (1983, p. 781) and the professional ideology of the scientists, and Gieryn defines the term as the scientists' "attribution of selected characteristics to the institution of science" to push certain activities outside its domain, labelling them as non-scientific (1983, p. 782). Generally, the scientists' rhetorical statements are either motivated by an urge to expand the range of resources available to them or by the struggle to maintain their professional autonomy; an examination of both the style and the content of their arguments reveals the professional ideology their identities are based on (Ibid.).

In this article, Gieryn reviews the sociological theories of ideology and identifies two main categories, theories based on strain and theories based on interest, and agrees with Geertz⁷ that they can be used in a complementary fashion, and an adequate approach should study how strains and interests interact within one ideological statement (1983, p. 782). Most importantly, he is interested in examining the "stylistic variations in the rhetoric of ideologists" and the social

⁶ Gieryn, T. F. (December 1983). "Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists". *American Sociological Review* 48(6), 781-795. Available on JSTOR.

⁷ Here, Gieryn refers to Clifford Geertz, the author of the highly influential book *Interpretation of Cultures* (1973), and agrees with the emphasis he places on the ideological statements' rhetorical styles.

conditions causing them to emerge (1983, p. 783). He asks, “what images of science do scientists present to promote their authority over designated domains of knowledge” (Ibid.). He questions how scientists use flexible rhetorical tactics for professional demarcation depending on the context within which the demarcation process takes place. More specifically, he refers to these as “a number of ‘cultural repertoires’ available for constructing ideological self-descriptions” (Ibid.). This thesis uses Gieryn’s approach to scientists to observe the boundary-work processes of the Turkish New Media Art professionals.

1.2.2 Methodology: Data as A Cross-Disciplinary “Anchor”

This study is based on the content analysis of the qualitative data collected via semi-structured, in-depth interviews conducted with curators, producers and artists selected via purposive sampling. The interviews are composed of a set of standard questions and a set of questions tailored for each subject. Standard questions assess the subjects’ educational backgrounds, professional identities, income sources and the institutions they identify with, whereas the tailored questions assess their artistic/curatorial positions, their understanding of New Media Art and its history and theory as well as their approach to the use of data as artistic material. The data is analyzed with the purpose of identifying the main characteristics of the field’s professional ideology, the variants of cultural repertoires in it and the conditions under which one or the other is used for professional demarcation. The data from

the curators/producers and the artists are qualitatively analyzed both separately and comparatively.

In HTML language, the term “anchor” refers to “a hyperlink that links one page to another page”⁸, and enables navigation even between websites using one word or image. This study uses “data” as an anchor connecting various domains like art, science, design and journalism thanks to its presence in all of them. Moreover, New Media Art practices often involve data visualizations that often migrate from one domain into another or simultaneously exist in multiple domains. Due to their ambiguous character, they are able to initiate intense boundary-work, allowing the researcher to obtain detailed information on how the subjects perceive their own professional identity and differentiate it from others. On the other hand, some New Media artists use data as raw material for audio-visual experimentations that do not produce knowledge like do data visualizations. This practice opens yet another discussion platform where the subjects’ demarcation strategies become more visible.

1.3 Structure, Scope and Terminology of the Thesis

The thesis is organized into six chapters. Chapter 2 is dedicated to an extensive literature review on New Media Art and Data Art, and it begins with the debates surrounding New Media Art’s defining characteristics. It continues with the historical developments leading to the territory’s emergence starting from the 19th century Industrial Revolution, and it covers the 20th century art historical

⁸ <https://www.javatpoint.com/html-anchor>

movements attributed to its foundations. It overviews some of the most influential theories in the field discussing technology's impact on society, the nature of the contemporary technological systems and the latest tendencies in media hierarchies. The second section delves into an investigation on the concept of data and the various theories regarding its aesthetic value as artistic material. It offers various examples of data-based artistic practices from around the world and addresses the terminological ambiguities in the non-artistic professions emerging around data. The third section offers a summary of the leading theoreticians and studies from Turkey. Chapter 3 describes the research methodology in detail, whereas chapter 4 analyzes the data collected from the curators and chapter 5 analyzes the data collected from the artists under the specific categories mentioned in section 1.3. Chapter 6 summarizes the study's main conclusions and discusses its contribution to knowledge.

Evidently, some elements had to be excluded from the study to maintain coherence and feasibility. First of all, the theories mentioned in the analysis were not discussed as in depth as the theories addressed in the literature review, for the main purpose of this study is to establish the dominant theoretical threads in the field and not to initiate a philosophical debate around them, which could be the focus of another, future endeavor. Second, the interview subjects' accounts on specific artworks from their artistic portfolios were also excluded from the discussion, for the volume of the information obtained with regards to more generic questions was already immense, and the discussion of the findings on the artworks themselves deserve a more concentrated analysis, again saved for the future. The subjects' artistic intentions

were well articulated independently of whether they discussed them in relation to a specific artwork or not, so the exclusion of this portion of the information did not have a negative impact on the study. To the contrary, it allowed the researcher to concentrate her efforts on the discovery of the general principles underlying the subjects' professional ideologies.

The study uses the terms “New Media Art” and “Contemporary Art” as put forward by Quaranta, who takes his momentum from Claire Bishop's influential article, “The Digital Divide”, published in *Artforum International* in 2012⁹. He identifies a distinction between the “New Media Art world, with its own tradition, its institutions, its jargon, its idea of art” and “the contemporary art world” that lacks “the conceptual tools to understand” the former (2013, p. 40). He places a particular emphasis on the artists who have mixed feelings towards both territories (Ibid.); but he also observes that “they want to be understood as art, not as New Media Art”, due to which “they are embarking on a difficult process of migration toward the contemporary art world” (2013, p. 41). This study takes this observation as a departing point, and examines whether such “migration” is really taking place in the Turkish New Media Art world or not. Moreover, “Data” is another term used throughout the study in plural meanings. In addition to the section on Data Art in chapter 2 that begins with an overview of terminology, the term is used by the researcher in reference to the findings in the form of “qualitative data” in chapters four and five dedicated to the analysis.

⁹ Bishop, C. (September 2012). “Digital Divide: Claire Bishop on contemporary art and new media”. *Artforum International*, 51(1), 435-441.

CHAPTER 2

NEW MEDIA ART AND DATA ART

2.1. Defining New Media Art

At first sight, the term ‘New Media Art’ appears to refer to a clearly defined artistic category; yet, a closer examination reveals the complexities it remains short of addressing. According to McCarthy and Ondaatje, the media arts “lack the long history, well-established traditions, and external visibility of other art forms”; “they place a premium on innovation and experimentation”, and “their creation and distribution rely to a much greater extent on emerging information technologies” (2002, p. vii). Mark Tribe, the founder of ‘Rhizome.org’ observes the following in his foreword to Manovich’s seminal book, *The Language of New Media* (2001): “...the newness of new media makes it particularly difficult to write about, or at least to say anything useful. Most writers lapse into futurology, or remain mired in ungrounded theory” (xi). For Quaranta (2013), “the complicated background of the term New Media Art reflects both the uncertain definition of the arena it applies to, and the weakness of its affirmation strategies” (p. 23). The main difficulty with the term, however, appears to lie in the field’s position in relation to the broader art sphere. Is New Media Art a technology-based subcategory of Contemporary Art? If so, based on what criteria do some artists, critics, curators and institutions still define their area of specialization as the former instead of accommodating themselves within the broader and perhaps less constraining sphere of the latter? If New Media Art’s evolution is independent from that of Contemporary Art, why

does the former still turn to the latter for art historical references? More importantly, why does the former often appear within the organizational apparatus of the latter?

The majority of the scholarly attempts at a New Media Art taxonomy fall into two generic categories¹⁰: the medium-based and the function-based approaches. While the medium-based viewpoint focuses on the technologies employed in the artwork's production, presentation and distribution, the function-based perspective concentrates on the actions and responses the artwork generates in the viewer. A good example for the medium-based approach would be Ursyn's attempt at identifying subtypes originating from computational technologies, including "digital art, generative art, computer graphics, computerized animation, animated film, mixed media art, visualization, simulation, biologically-inspired evolutionary art, biological growth patterns, and artificial intelligence, and introducing several levels of interactivity aimed at the net art distributed via the Internet, interactive or performance-based video installations, virtual environment, artificial life, games, robotics, and many other genres" (2015, p. 211). Lorenzo Pereira (2015) talks about "artworks created with new media technologies, including digital art, computer graphics, computer animation, virtual art, internet art, interactive art, video games, computer robotics, 3D printing, and art as biotechnology".

¹⁰ The RAND report adds yet a third category, i.e. the "stylistic approach": "Technological approaches, for example, sort the media arts by the media used and emphasize the connections between changes in technology and the artistic practices using those technologies (Renan, 1967; Lunenfeld, 2000b; Antin, 1986; von Uchtrup, 1999)". Here, a discussion based on style is avoided because, first, stylistic categorizations can change depending on the specific philosophical/aesthetic approach taken; and, second, stylistic categorizations can be made more properly at a secondary level once the other two categorizations are clearly laid out.

Medium-based approaches are useful for practical purposes¹¹; but they remain short of distinguishing an artwork from non-artistic objects using similar technologies. Does a video game become an artwork once it obtains museum or gallery exposure? Does it follow that a personal computer's screensaver deserves to be treated as a work of art? In fact, artists and institutions presenting New Media Art in a medium-based taxonomy are often criticized for being "technofetishists", i.e. forming an isolated community of practitioners relying on the newest technology for appreciation (Chatzichristodoulou, 2013, p. 312). For that matter, Florian Cramer goes as far as placing the entire genre within the scope of the technology museums (as cited in Bunt, 2012, p. 95). In this regard, Christiane Paul (2015) makes a practical distinction between "art that uses digital technologies as a tool for the creation of more traditional art objects" and "digital-born, computable art that is created, stored, and distributed via digital technologies and employs their features as its own medium", and she considers the second category as the one truly represented by the term "New Media Art" (p. 8). However, this distinction is often ignored in the practical realm, and both are presented under the same medium-based category.

In addition to the medium-based classifications, some scholars propose distinction criteria based on the artwork's functional characteristics. According to Ilfeld (2012), "new media art employs third-wave cybernetic discourse and champions notions of emergence, virtualization, de-authorization, gift economies and digitization" (p. 62). In response to his own observations on the medium-based approach, Pereira argues

¹¹ Curators or collection managers in museums often prefer this kind of classification as it increases efficiency in artwork maintenance, logistics and conservation.

that “connection and conversation” are better distinguishing features for the genre, resulting in the emergence of “cultural objects and social events” (2015). The authors of the RAND report¹² adopt the functional approach as well and argue that the media arts “have continually applied and adapted new technologies for a variety of artistic purposes including storytelling (narrative), providing insight into the world as it exists (documentary), and offering new perspective for our perceptions of time, space, and motion as well as exploring the properties of these tools (experimental work)” (2002, p. ix-x). They favor the functional approach, for they find the medium-based approach not as effective in studying the media arts’ organizational structure given the diversity of styles and institutional contexts in which they are presented (p. 29-30). Christiane Paul (2012) identifies characteristics as “computable, process-oriented, time-based, dynamic, real-time; participatory, collaborative and performative; modular, variable, generative and customizable” (p. 168). However, she also warns that these do not simultaneously exist in all new media artworks and some exist in other art forms as well (Paul, 2012, p. 169). Finally, according to Steve Dietz, connectivity, computability and interactivity are the three main defining qualities of Net Art, a subcategory of New Media Art (as cited in Graham, 2013, p. 245). Again, these features are to be found in some works that are not necessarily examples of Net Art, and they are not always simultaneously present in one single artwork (Graham, 2013, p. 245).

¹² This is a document titled “From Celluloid to Cyberspace: The Media Arts and the Changing Arts World” prepared by Kevin F. McCarthy and Elizabeth Heneghan Ondaatje on behalf of RAND Corporation, an American research organization operating in a variety of fields including security, infrastructure, education and technology. This particular report which is part of a series of reports on arts in America in the 21st century, was financially supported by the Rockefeller Foundation (<https://www.rand.org>).

Other specialists propose a definition of New Media Art based on its social impact rather than viewer perception; participatory art forms and time-based performances devised to circumvent the museum's authority had already existed before the emergence of computer technology, but with its much higher audience potential resulting from its ability to extend time and space, New Media Art is able to reach a greater number of participants at once and to do so more swiftly. New Media artists bypass institutional restrictions via these extended channels of engagement that function as democratic arenas for social activism. Chatzichristodolou (2013) argues that New Media Art "poses certain challenges and threats to established value systems" with "its inherently networked potential"; its effects cannot be contained as easily as those of a physical object, thus it needs to be addressed and evaluated by different specialists and its potential for social usefulness should be exploited more effectively (p. 314). Similarly, according to Fisher (2003), virtual reality emerged out of the desire to build a communication platform immune to centralized regulations (p. 27). However, as already mentioned, activism through art has already been taking place through the use of more traditional media; its effect is only augmented by new media's greater outreach, i.e. a matter of scale. In fact, for Mary Anne Staniszewsky, the roots of the contemporary installation practices can be traced back to the participatory exhibition experiments from the first half of the 20th century (as cited in Graham, 2013, p. 243). *MoMA Poll* by Hans Haacke (1970) in the "Information" exhibition at the MoMA was a great example of interactivity, yet it did not feature any 'technological' components (as cited in Graham, 2013, p. 246). Another work from this exhibition belonged to Stig Brøgger who installed

simple wooden platforms in public spaces and exhibited the documentations of the public reaction, i.e. generating a participatory experience without the use of advanced technology (Ibid.)¹³. So, like medium-based perspectives, the function-based approaches alone are insufficient in defining New Media Art's scope. Concepts like immersion, participation, process-basedness and interaction that we tend to associate with it have already been part of our artistic vocabulary thanks to some earlier Avant-garde movements, examined in detail in section 2.2.

Although each has a contribution to our understanding of the field, neither of the taxonomic approaches alone can offer an all-encompassing definition of New Media Art. A relatively more satisfactory approach comes from Chatzichristodoulou, who argues that "...new media art as a genre is not just concerned with process over outcome, but is in process owing to the media this form employs as its means of becoming manifest in space, in time or in networks. Further, the genre's procedural quality is what renders it potentially open to interaction, connectivity, participation or intervention – that is, particularly apt to inviting various forms of active user engagement" (p. 302). This is important as it implies that the medium is not only an artwork's means of manifestation and distribution, but also the place where its functional characteristics reside. In fact, assessing the medium and the function in combination is fruitful, since one function can be undertaken by more than one media or each medium can assume plural functions in one single object. Indeed, in their groundbreaking book "The Medium is the Message: An Inventory of Effects" (1967), Marshall McLuhan and Quentin Fiore addressed this problem. According to

¹³ Advanced technology here means 'digital'.

the authors, “societies have always been shaped more by the nature of the media by which men communicate than by the content of the communication”, and in our contemporary society where electric technology dominates all spheres of life, content and form cannot be thought of separately (p. 8). They wrote this text in 1967, a period during which TV was the most recent mainstream technological revolution; the rise of the computer for personal use in the 1980s followed by the emergence of the Internet in the 1990s made these changes even more dramatic and their effects more highly pronounced.

Then the question follows: why do we need a category like New Media Art in the first place? The answer to this question has two parts. The first is related to the term’s capability of referring to a moment in art history that remains exclusively in the present, and its scope shifts through time with the shifts in technology. As Pereira points out, “the penetration of new media into contemporary art practices is an ongoing process” (2015). Similarly, Paul (2015) explains how “the terminology for the technological art forms has always been extremely fluid”. She argues that from 1960s to 1990s, digital art assumed meanings like “‘computer art’, then multimedia art and cyberarts”, and now its meaning has a closer affinity with ‘new media art’ in the form of “film and video, as well as sound art and other hybrid forms” (p. 7). The medium itself constantly shifts from being ‘new’ to being ‘mainstream’, ‘traditional’, ‘old’ or even ‘obsolete’, and what the term ‘New Media Art’ refers to is neither stable, nor directly dependent on the medium or the function; instead, it depends on the palette of technologies available at a specific point in time and their relationship to each other. The second aspect which this

study aims at addressing is the term's ability to point at the existence of a rather vaguely defined professional territory that manages to remain autonomous from the broader Contemporary Art world without giving up on the latter's resources altogether, defined by Quaranta (2013) as the "New Media Art World". To better understand how this world emerged, it is necessary to trace its origins in art history.

2.2 A History of New Media Art

Depending on the specific research context, it is possible to offer several versions of the art historical narrative describing the birth and the evolution of New Media Art. In line with its research question, this study builds a narrative which is particularly sensitive to the relationship between artistic movements and the emergence of new media, and how the two influence each other rather than addressing them separately. Furthermore, although the relationship between art and technology in its broadest sense can be traced back to the prehistoric cave paintings, this study takes the 19th century Industrial Revolution as a point of departure due to its impact on the "speed" of the operations rather than their nature, and their resulting "mechanization". Speed, mechanization and their effect on the perception of time and space also have a crucial role in the familiarization of mass audiences with the experience of the moving image, which becomes the key point of transition between the analogue and the digital. As this study focuses on the question of whether New Media Art professionals identify any common art historical denominators between their field and the field of Contemporary Art going back to the 20th century, its

efforts are also particularly concentrated on identifying these connections. In fact, Manovich says that “new media does not radically break with the past; rather, it distributes weight differently between the categories that hold culture together” (2001, p. 229). Nevertheless, some media had more impact on art history compared to others; this is because they radically disturbed the existing media hierarchies, transformed the function of the older media, and caused major shifts in the cultural paradigm. One of these was the invention of photography, a product of the Industrial Revolution whose impact on art’s scope was only comparable to that of its next most grandiose successor, the modern-day computers.

2.2.1. Industrial Revolution and Photography

Although the *camera obscura* existed since ancient times and has been assisting painters since the 16th century¹⁴, the invention of photography took place in the late 1820s and early 1830s¹⁵. In his “Camera Lucida: Reflections on Photography” (1980), Roland Barthes observes that the technical invention of photography owes more to the discoveries in chemistry than to those in optics (p. 31), as chemistry made the image reflected within the camera possible to capture, freeze and store, whereas the optic element had been discovered much earlier. Barthes also identifies a greater artistic affinity between photography and theater than photography and

¹⁴ Source: <https://www.britannica.com/technology/camera-obscura-photography>

¹⁵ Although Joseph-Nicéphore Niépce is considered the first person in history to produce a “permanent photographic image” in 1826, Niépce’s collaborator Louis Jacques Mandé Daguerre’s *Daguerreotype* from 1839 is more renowned. For further information: <https://library.harvard.edu/sites/all/themes/HarvardLibraryPortalTheme/timeline/index.html> and <https://www.britannica.com/biography/Nicephore-Niepce>

painting (Ibid.). This observation appears counterintuitive as we are accustomed to approach the history of photography in conjunction with that of painting. However, Barthes sees in photography something that is missing in painting, a certain form of ‘madness’, an element of ecstatic shock that painting does not possess but that theater does, and for Barthes, photography loses this essential quality if the photographer aspires to become a painter-like artist (p. 117). This is why the author refers to photography as “a bizarre *medium*, a new form of hallucination” (p. 115) and not an illusion like painting. Due to its immediate relationship with the object it documents, “in the Photograph, the power of authentication exceeds the power of representation” (p. 89). In this sense, its realism has more affinity with that of the theater the two essential qualities of which are presence and immediacy. So, in interpreting the relationship between the photographer and his object, Barthes observes a dynamic, interactive process similar to the relationship between the actor and his audience¹⁶. We may even argue that for Barthes, photography has a more ‘performative’ quality with respect to painting, and it is also thanks to this that, even in its basic, single-frame form, it is considered one of the building blocks of the history of New Media Art.

The birth of photography took place during a period in which the effects of the Industrial Revolution¹⁷ were acutely felt; steam engine, big machinery, factory work, assembly line, the shift of large populations into urban areas and the new

¹⁶ “The *Operator* is the Photographer. The *Spectator* is ourselves, all of us who glance through collections of photographs in magazines and newspapers, in books, albums, archives... And the person or thing photographed is the target, the referent, a kind of little simulacrum, and *eidolon* emitted by the object, which I should like to call the *Spectrum* of the Photograph, because this word retains, through its root, a relation to ‘spectacle’” (Barthes, 1980, p. 9).

¹⁷ For more information: <https://www.britannica.com/event/Industrial-Revolution>

means of transportation brought about a drastic change in the perception of time. The rural man dependent on the land and its seasonal cycles was now placed in a densely populated city with a 24-hour routine. The seamless notion of labor tied to the surface of the agricultural field with a variety of tasks performed by the same individual was now highly compartmentalized, with each step of the production process assigned to a separate individual, defined in terms of payment per unit of time. The work of each factory man was based on the endless repetition of the same action as many times as possible within a given time frame. And now the whole that used to come out of the single person's activities could only come out of the synchronized work of many men, each mechanically performing their own task as if they were parts of a gigantic machine. The relationship between the rural worker and the acres of land he had to maintain was replaced by the relationship between the urban worker and his efficient use of time. In other words, time replaced space as the basic unit of economic value.

This does not mean that this new cultural environment made the notion of space completely irrelevant; it only caused it to undergo a radical transformation. The man taking the train observed the outer world from the rectangular frame of his passenger's window, and the train's speed made him notice the trees near the railroad passing him by as if they were running in the opposite direction, and the sunset in the back generating the rhythmic flashes of light in between them. As the train accelerated, the frequency of these 'binary' blocks of light and shadow increased, and they ultimately turned into a seamless whole, a blurry, abstract texture. So the man realized that space was a fluid medium, and if portions of it

were arranged in a sequence at a sufficient speed, the space could be extended through time, ultimately making the sequence of frames disappear altogether. In his highly compartmentalized life, the urban worker also had something called ‘leisure time’, and since the 18th century, he had been familiar with certain forms of entertainment based on optic illusion that, combined with the factory’s assembly line and the train experience, would pave the way for the emergence of film. These, in turn, would set the stage for the New Media Art of the 20th and 21st centuries.

The *eidophusikon*¹⁸ (1781) of Philip Jacob de Louthembourg; “the ‘magic lantern’ devices of Athanasius Kircher, Johannes Zahn, and others”; the “artificial elsewhere” created in Robert Barker’s *panorama* (1792)¹⁹ via “virtual spatial and temporal mobility” (Friedberg, 1998, p. 257-258); the Parisian *phantasmagoria*²⁰ (1797) and Daguerre’s *diorama*²¹ (1822) were all basic rehearsals for film and then for television, computer screen, immersive multimedia and, ultimately, Virtual Reality (VR). These devices were important as they “concealed their machinery — were dependent on the relative immobility of their spectators, who enjoyed the illusion of presence of virtual figures” (Friedberg, 1998, p. 259), a description also

¹⁸ A device that “relied on spectators in a darkened auditorium viewing an illuminated (10 foot by 6 foot) translucent screen, with light projected from behind” (Friedberg, 1998, p. 259).

¹⁹ “A 36-degree cylindrical painting, viewed by an observer in the center”, “in a darkened room surrounded by a scene lit from above” (Friedberg, 1998, p. 257).

²⁰ “A lantern with lens devised in France by Etienne-Gaspard Robertson (Friedberg, 1998, p. 259).

²¹ The effect of Daguerre’s diorama that emerged slightly later than the panorama was very similar to that of the latter but was based on a slightly different principle. Here the viewer remained static while the scene was mobile: “the dioramic illusion relied on the manipulation of light through a transparent painting. Daguerre’s visitors looked through a proscenium at a scene composed of objects arranged in front of a backdrop; after a few minutes, the auditorium platform was rotated 73 degrees to expose another dioramic opening. The diorama was designed to construct and restructure — through light and movement — the relation of the viewer to the spatial and temporal present” (Friedberg, 1998, p. 260). But Daguerre’s ultimate invention was the daguerreotype (1835) (p. 261), and the photo camera would eventually bring visual manipulation of light and movement into its most compact and mainstream form that survives even to this day.

suitable for the effect that most lens-based art forms have generated throughout the 20th century and beyond. During the Industrial Age, other scientists invented a diverse range of optical instruments that could be experienced individually or in smaller groups experimenting with similar illusory mechanisms. In the 1830s, Charles Wheatstone and David Brewster invented the *stereoscope*²² out of studies of visual physiology, considered by many as the oldest ancestor of VR (Batchen, 1998, p. 275-276). In 1830, *phenakistiscope*²³ by Joseph Plateau and Simon Ritter von Stampfer, and in 1876, the *praxinoscope*²⁴ by Charles-Émile Reynaud were invented as ‘optical toys’. The updated version of the former, *the projection phenakistiscope*²⁵, was released in the 1860s and was one of the closest experiences to watching a film. And finally, the *zoetrope*²⁶ emerged in 1833 but was patented in 1887. These differ from the panorama or the diorama mainly because of their size and scale; while the former were spatially immersive experiences involving large-scale productions like theatre stages or museum exhibitions, these small devices were available for domestic use and intended for individual experience or small audiences at a time, like game consoles or personal computers.

²² “device that allowed the viewer to experience three-dimensional images by looking through a mask at a card with two images of the same scene printed side by side” (Mirzoeff, 1998, p. 187).

²³ “The toy consists of a paper disc featuring evenly spaced, thin radial slots and a series of sequential images. When the disc is rotated in front of a mirror, a single motion image is seen through the slits” . Source: <http://www.mhs.ox.ac.uk/exhibits/fancy-names-and-fun-toys/phenakistiscopes/>

²⁴ Device composed of “a cylinder and a strip of paper showing twelve frames for animation. As the cylinder rotates, stationary mirrors in the centre reveal a ‘single image’ in motion”. Source: <http://www.mhs.ox.ac.uk/exhibits/fancy-names-and-fun-toys/praxinoscope/>

²⁵ A device that “uses two discs, one with sequential images, the other with a single slot through which the user views the animation. Using a pulley and handle system, the two discs turn in contra-rotation, producing a motion picture on the screen”.

Source: <http://www.mhs.ox.ac.uk/exhibits/fancy-names-and-fun-toys/phenakistiscopes/>

²⁶ A device that “produces the illusion of movement by viewing individual images through narrow slits in a rotating cylinder”.

Source: <http://www.mhs.ox.ac.uk/exhibits/fancy-names-and-fun-toys/zoetrope/>

Despite the plurality and curious simultaneity of the optic experiments during this period, Edward Muybridge and Étienne-Jules Marey can be considered the two figures with the greatest impact on the history of the moving image. In 1879, Muybridge designed the *Zoöpraxiscope* as a combination of “photography, the zoetrope and the magic lantern”; its importance came from the fact that it combined “the animated illusion of movement from moving image toys (...) with the capacity for projection embodied in the magic lantern” and it is often referred to as “a missing link between slide projection and cinem”.²⁷ Yet, his greatest contribution is the *Locomotion Studies*. According to David Campany (2010), this study “changed things forever and have come to symbolise modernity’s seismic and irreversible shifts in the understanding of vision, the living body, nature, science and art”. As a study initially aimed at observing anatomy and physiology of movement and later embraced as one of the seminal works of the history of photography, it became one of the first crossovers between science and art. Furthermore, unlike the experimental devices based on optic illusion achieved with mechanical tactics, Muybridge’s work emerges as a time-based documentation of movement representing a philosophical questioning of the relationship between the still and the moving image. It is not only relevant for the history of film and video but also in relation to the early 20th century Avant-garde movements. In Edward Shanken’s words, “it took decades, in fact, for these *chronophotographic* discoveries (to say nothing of the advent of cinema) to penetrate painters’ and sculptors’ studios. And when they did, they infected art with both implied and explicit motion and duration, as in the work of Duchamp, Gabo,

²⁷ http://www.edwardmuybridge.co.uk/muybridge_image_and_context/zoopraxography/

Wilfred, Boccioni, and Moholy-Nagy in the 1910s and 1920s, subsequently influencing time-based art including New Media Art” (2016, p. 469). Marey’s work developed on a similar path but it was more scientifically motivated than Muybridge’s; as Meier says (2015), Marey was more genuinely focused on anatomy and physiology compared to Muybridge. He designed a gun-like instrument²⁸ that allowed him to take pictures with much higher frequency and precision; moreover, unlike Muybridge, he composited these serial motion phases within the same photographic image. According to several scholars, Marey’s work inspired “the phased movement of Marcel Duchamp’s *Nude Descending a Staircase, No. 2* (1912) and the frenetic action embodied in Futurism” (Ibid.).

This growing interest in the relationship between light and movement marking the cultural spirit of the 18th and 19th centuries gave rise to another crucial development: the birth of film. Thanks to these experiments that relied on the persistence of vision²⁹ and the phi phenomenon³⁰, photography’s static image burnt with light onto a single surface at a time now turned into an assembly line of images bombarded with light at unprecedentedly high frequencies.

²⁸ “Marey’s photographic gun had a revolving cylinder with photographic plates, so he could take aim and shoot through 12 frames a second. The 1882 invention influenced the motion picture camera, and the 1930s’ motion studies of Harold Edgerton” (Meier, 2015).

²⁹ Persistence of vision “causes the brain to retain images cast upon the retina of the eye for a fraction of a second beyond their disappearance from the field of sight”. Source: <https://www.britannica.com/art/history-of-the-motion-picture>

³⁰ The phi phenomenon “creates apparent movement between images when they succeed one another rapidly”. Source: <https://www.britannica.com/art/history-of-the-motion-picture>

2.2.2 Film: The Reign of the Motion Picture

Photography caused a shift in media hierarchies as it changed painting's function. Before photography, painting was the main medium of two-dimensional representation and documentation. Photography initially took over some of these functions, so the painter and the photographer had to make a new division of labor. As photography was now in charge of documenting reality as it was, painting no longer had the obligation to mimic reality. This, in turn, triggered the emergence of a new series of artistic movements that questioned the essence of painting as a medium, also reflecting the impact of the Industrial Revolution. The latter is manifest in the works of the Impressionists, whose use of light implied movement and the passage of time in an open composition. Moreover, by destroying painting's seamlessness using color transitions and visible brush strokes, they revealed the units making up the whole, underlining the fact that a painting is actually a two-dimensional surface composed of shapes and colors. This was a source of motivation in Cubism as well; the Cubists added yet one more layer of dynamism to the composition by defining plural viewpoints in it. They implied the movement of not only the painted object but also of the artist/subject; the artist now looked at the same object from plural angles and performed a sort of a 'mental collage' of his impressions, a sum of parts chaotically summoned after the whole's initial deconstruction, with no aspiration for coherence, proportion or seamlessness. In short, as photography took over the mission of replicating the real world, the painters dedicated themselves to reflecting the dominant cultural changes of their historical period by questioning their medium. Photography underwent a similar

transformation as its stylistic vocabulary thickened during the 20th century thanks to additional technological developments³¹, and its relationship to other art forms became more complex and multi-faceted.

The emergence of film added yet another complexity to the artistic media ecosystem. Barthes (1980) makes an interesting comparison between photography and film, claiming superiority for the former; he argues that film does not allow time for the spectator to focus on one single frame and exercise “pensiveness” before it like he does before a photograph (p. 55). In other words, “in the cinema, whose raw material is photographic, the image does not, however, have this completeness, [...] because the photograph, taken in flux, is impelled, ceaselessly drawn toward other views” (p. 89). Consequently, “the Photograph’s *noeme*³² deteriorates when this Photograph is animated and becomes cinema” (p. 78), and the emergence of photography is a more groundbreaking development compared to the emergence of cinema (p. 88). This is debatable, for film is much more than the sum of its frames, and requires a different aesthetic evaluation. Furthermore, when comparing photography with theatre, Barthes does not identify a similar problem with the latter’s constant flow and the impossibility of exercising pensiveness before each theatrical moment. Despite writing in the 1980s, Barthes’s attitude towards cinema is highly reminiscent of the traditional art historians’ attitude towards photography treating the latter as inferior to painting and sculpture.

³¹ The invention of color film, smaller cameras, digital photography, etc.

³² Essence, nature.

Just as photography initially took over some of the painting's documentary functions but then developed its own variety of commercial and artistic genres including self-reflexive practices, cinematic language developed its own stylistic variations throughout the 20th century. Like photography, the emergence of film³³ had a lot to do with scientific curiosity and was not artistically driven, at least in the beginning; it was, in a sense, an accidental byproduct of studies in medicine and physiology, and yet it had much greater cultural consequences. Lisa Cartwright observes that "Lumière's historical elision of his own popular invention from the history of science and medicine is symptomatic of a broader disregard for the cultural implications of the technological interdependency of science and forms of popular culture" (p. 200). Similarly, Benjamin argues that the impact of such technological changes are not properly understood at first, and that theoreticians focus so much energy on deciding whether a new medium can be considered a form of art or not that the understanding of the impact of this new medium on the nature of art itself is left lagging behind (1969, p. 227)³⁴. In fact, the impact of film on artistic practices was only addressed in the second half of the 20th century when cinema was already an established cultural territory with a variety of mainstream

³³ The invention of cinema is generally attributed to the Lumière Brothers and their invention of the *cinématographe* in 1895. Edison's invention of the *kinetoscope* in 1892 is equally important, but the advantage of the *cinématographe* was its small size and mobility, a crucial element of its commercial appeal. Sources: <http://collection.sciencemuseum.org.uk/objects/co8090140/lumiere-cinematographe-35mm-motion-picture-camera-printer-projector> and <https://www.loc.gov/collections/edison-company-motion-pictures-and-sound-recordings/articles-and-essays/history-of-edison-motion-pictures/origins-of-motion-pictures/>

³⁴ This passage also addresses a key set of questions that remain problematic even to this day: What is the relationship between art and medium? What is the medium? Is it the technology used in producing the art? Is it the artwork's carrier? Or means of distribution and/or exhibition? How about its role in the relationship between form and content? Some of these issues have already been addressed briefly in the previous subsection and will be discussed in more detail from an art history point of view in the coming sections.

and independent genres. As Cartwright says, we owe “the consideration of the cinema as a cultural technology” to theoreticians like Christian Metz, Jean-Louis Baudry and Jean-Louis Comolli writing in the 1960s and 70s (1998, p. 203). All this implies that technology’s impact on the 20th century art was not properly understood until it was possible to look at it in retrospect. This is not only valid for film, but for all media. Yet, it appears that the more time a medium spends within the artistic realm, the better are its chances of denoting an established artistic genre.

The RAND report states that the history of film can be examined under two main disciplinary lines: commercial³⁵ and experimental³⁶. The authors add that the early period of film was marked by “innovations in technology (e.g. the invention of sound films) and artistic techniques (e.g., slow motion, montage, close-ups, and editing)” appearing within both disciplinary spheres. But as Hollywood became a commercial giant and established the industry standards, narrative films became the mainstream commercial genre. Consequently, the Avant-garde filmmakers began to shift their focus towards experiments with the medium (2002, p. 25). Here, it is necessary to evoke the work of three pioneers, Lev Kuleshov (1899-1970), Sergei Eisenstein (1898-1948) and Dziga Vertov. The first two had a great influence on the evolution of the cinematic language, and the third was one of the first to address the medium self-reflexively and to explore its non-linear narrative possibilities. Filmmaker and theorist Lev Kuleshov’s most important contribution to the language

³⁵ The RAND report offers “works like D. W. Griffith’s *Birth of a Nation*, Mack Sennett’s comedies, and the short films of Georges Melies in France” as examples of commercial narrative films.

³⁶ Here the RAND report mentions “works by European visual artists like Fernand Leger, Salvador Dali, and Man Ray and early filmmakers like Fritz Lang, Luis Buñuel, Dziga Vertov, and Sergei Eisenstein”.

of film is his discovery of the effect of editing on meaning. The experiment on viewer perception that made Kuleshov earn his title as the forefather of the Soviet Montage School was based on his hypothesis that film's meaning did not originate from its content but from how its parts were sequenced³⁷. This paved the way for the work of one of his disciples, Sergey Eisenstein; in 1929, he formulated a theory of montage still used by contemporary filmmakers and that became a user's manual for the mainstream narrative cinema.³⁸ Finally, Dziga Vertov's (1896-1954) *Man with a Movie Camera* (1929) can be considered one of the milestones not only in the history of cinema but also in the history of New Media Art. Manovich (2001) refers to him as "a major 'database filmmaker' of the twentieth century" (p. 239), as he was able to transcend film's indexical nature using the element of montage (p. 149), and experimented with almost every single film technique technologically available to him at the time (p. 241-242). Through this work, not only did he actually build a database of film effects, but he also problematized representation and brought it into the territory of film. As already briefly addressed in relation to Painting, his problematization was to be one of the defining elements of the Avant-garde.

2.2.3 Early 20th Century Avant-garde

The 19th century technological changes had a considerable effect on the early 20th century Avant-garde movements, which, in turn, influenced the art of the mid-

³⁷ For more information: <http://www.curatormagazine.com/michaeltoscano/kuleshovs-effect-the-man-behind-soviet-montage/>

³⁸ For more information: Eisenstein, S. (1969). *Film form: Essays in film theory* (Jay Leyda, Ed.). New York and London: Harcourt Brace Jovanovich.

century and beyond. Returning to the Cubists and their deconstructivist approach to the object of art, Picasso's collages where he assembled found materials for the first time are worthy of mention. Some of these materials represented themselves, whereas others referred to the world outside of the picture frame. This way, Picasso not only enacted the "artist as selector" role of the contemporary artist, but he also brought the object and its representation to the same hierarchical position within one single composition. In this sense, he and Braque laid the foundations of the object-based art forms and paved the way for the use of the ready-mades³⁹. Meanwhile, Italian Futurists borrowed stylistic elements from Cubism, but their philosophical drive was a passion for technology, a kind of fetishism for the machine (Huxley & Witts, 2002, p. 289-294). Following Marey's and Muybridge's footsteps, they continued to study movement through painting and *chrono-photography*, a great example for the former being Giacomo Balla's *Dynamism of a Dog on a Leash* (1912). On the other hand, with *Unique Forms of Continuity in Space* (1913), Umberto Boccioni offered a three-dimensional study of a robot-like figure in movement. These works mimicked photographic reality in a new way, and the new reality was the reality of the machine marked by rhythm and movement. The Cubists' and the Futurists' experiments reflected the long-term effects of the Industrial Revolution on man's perceptual vocabulary, and they prepared him for the next round of aesthetic possibilities the moving image was about to offer.

³⁹ "Early in the century, Braque's and Picasso's determination to incorporate everyday material in their paintings, such as newsprint, tablecloth fringe, or rope, was expressive of their struggle to extend the content of the canvas beyond paint" (Rush, 2014, p. 7).

In an atmosphere in which Cubists were trying to liberate art from the flat surface of the canvas and the Futurists were advocating the abandonment of old aesthetic values in favor of the industrial machine aesthetic, Duchamp's work soon followed, and his *Fountain*⁴⁰ was perhaps the most decisive point in the break with the traditional artistic apparatus. With *Fountain*, or with the very act of proposing its exhibition in an artistic context under another person's signature in 1917, Duchamp opened art's nature and value into question, as well as the relationship between the artist, the artwork and the viewer. Rush (2014) argues that, thanks to Duchamp's move, "the artist was free to express any concept through whatever means possible" (p. 8). As several New Media Art discourses are based on ideas similar to those evoked by Duchamp⁴¹, his work might even be considered the functional, if not technical or technological, beginning point of the history of New Media Art, well before the emergence of digital technology. The environment was ready for Duchamp's act as well: photography and film already existed; WWI was taking Europe by storm, and technology came with its machinery of mass murder condemned by the Cubists but highly praised by the Futurists. The imperial powers were collapsing, giving rise to nation-states fighting wars of independence and

⁴⁰ John Higgs has recently claimed in his new book that Duchamp was not the creator of this seminal work, and attributed *Fountain*'s authorship to Baroness Elsa von Freytag-Loringhoven, making headlines all over the world in July 2018. Source: <https://www.independent.co.uk/arts-entertainment/art/features/was-marcel-duchamps-fountain-actually-created-by-a-long-forgotten-pioneering-feminist-10491953.html>

⁴¹ Similar to Duchamp, many New Media artists challenge the systems of authorship by making their algorithm available as open-source. They use found materials (images, numerical data, etc.), they collage them with newly created interfaces, and their works are generally difficult to sell or buy; so, like Duchamp and other Avant-garde artists, they challenge the modernist aesthetic values attributed to the artwork as a singular object. Furthermore, like New Media Art and most Avant-garde movements preceding the emergence of digital technology, Duchamp believed in the completion of his work through the spectator. As Hopkins (2002) says, "Duchamp voiced a desire to detach his work both from his own aesthetic likes and dislikes, and from determinate interpretations on the part of spectators, on several occasions" (p. 258) .

revolution; in other words, the old, established value systems now symbolized disappointment, and so did the art born in those systems. This spirit eventually entered the artists' universe of thought and this marked the beginning of Dada.

Dada is undoubtedly one of the most influential Avant-garde movements in the history of New Media Art.⁴² Tribe and Jana (2007) agree that “the conceptual and aesthetic roots of New Media Art extend back to the second decade of the 20th century when the Dada movement emerged in several European cities” (p. 7). For Benjamin, “Dadaism attempted to create by pictorial – and literary– means the effects which the public today seeks in the film”⁴³ (1969, p. 237). Dadaists paved the way for the Conceptual Art of the 1950s and beyond by breaking the link between the act of making art and the physical object of art. In Benjamin's words, “the Dadaists attached much less importance to the sales value of their work than to its uselessness for contemplative immersion” (1969, p. 237). They purposefully destroyed the aura of their own work, and the high perceptual pace of the moving image they began to involve in their practices guaranteed that the spectator could not indulge in contemplative action like he did with paintings (Benjamin, 1969, p.

⁴² Huhtamo observes that “Dadaists, surrealists, and related hard-to-classify figures such as Marcel Duchamp and Frederick Kiesler may well have been the first to have developed conversational relationships with technology. Francis Picabia's Dadaist paintings of machines are early examples (Pontus Hultén 1968, 82–95). The surrealists, in particular, plundered the archives of the past, using them as repositories for ideas to s(t)imulate the operations of the unconscious mind. [...] Bachelor machines, or *machines célibataires*, are a perfect example of such explorations. Imagined by writers and artists like Alfred Jarry, Raymond Roussel, Franz Kafka, Marcel Duchamp, Francis Picabia, and others, they were discursive engines, psychomechanisms that evoked industrial machinery and engineering applications stripped of rational purpose. They embodied erotic fantasies, language games, nightmares and obsessions, as well as pataphysical humor (Carrouges 1954, Clair and Szeemann 1975)” (2016, p. 73).

⁴³ Benjamin's “today” is of course today's yesterday. Here he refers to the “shock effect” in film as a medium-specific element of popular entertainment, and he argues that the Dadaists tried to add this shock effect into the vocabulary of art in the form of a “moral shock” (1969, p. 238).

238). Here, Barthes' ideas on photography and film come to mind once more, but unlike him, Benjamin presents this lack of contemplativeness as a positive development, allowing the artists to hack the established viewing regime. It is also necessary to note that the same destruction of aura and a genuine disregard for commodification can be found in the Video Art of the 1960s and 1970s, as well as the computer-based arts of the 1980s and the Internet-based arts of the 1990s and beyond. Here, we shall mention Vertov's *Man with a Movie Camera* once more as it was an ideal example of how far film could be from contemplative or commercial. Hans Richter's *Film Ist Rhythm: Rhythmus 21* (1921) is another crucial moment both in the history of Dadaism and film, for it is one of the first films completely based on abstraction; it illustrated the constantly shifting relationship between different geometric elements in a composition over time which is also one of the key elements in new media aesthetics. Similarly, Man Ray's *Return To Reason* (1923) is worthy of mention, since it represents a moment of transition between photography and the moving image; in this abstract surrealist film, Ray departs from the same principles he used in his *photograms* and *rayographs* (his medium-based experiments in photography), manipulating the very material of the film strip in unconventional ways⁴⁴.

In addition to destroying the art object's aura, Dadaism also questioned the notions of originality and authorship. In her seminal essay "The Originality of the Avant-garde and Other Modernist Myths" first written in 1981, Rosalind Krauss attacks the modernist reification of the concept of originality, arguing that the discourse of

⁴⁴ <https://www.moma.org/collection/works/309346>

originality is in itself a construct that has been around for so long that it has become almost a cultural habit (1986, p. 7). For Krauss, the modernist notion of originality was an invention of “the museum, the historian, and the maker of art”, so it allowed all of them to keep the monopoly of aesthetic authority in their hands through claims to expertise (1986, p. 11). The Avant-garde attacked this structure and it took art away from the hands of the academic artist and outside the controlled environment of the museums and galleries, and destroyed the artwork’s identity as a unique, original, physical object of contemplation and economic value meant to live forever, i.e. a bourgeois commodity. It replaced this unique and valuable material object with an object and/or non-object made by one individual or many, with or against their will, existing anywhere in the world, placed in the midst of life itself, ephemeral, momentary, perishable. Today, the same drive motivates the New Media artists to use the Internet to bypass the art market dynamics and the institutional apparatuses of the museums and galleries. Whether they truly succeed at it is currently an ardent issue of debate we will return to in the chapters on data analysis.

Another relevant area in New Media Art’s evolution is the Russian Avant-garde, and particularly Constructivism within the framework of the Soviet Revolution that took place in the same year with Duchamp’s proposal of the *Fountain*. Unlike the Suprematists that tried to initiate social change using basic and sublime geometric forms, the Constructivists created functional objects. Their admiration for machinery was reminiscent of the Futurists, although their political motivations were exactly their opposite. They emerged immediately prior to the Soviet Revolution, when the Russian rural and working classes disappointed with the

Tsarist regime were experiencing the trauma of the Industrial Revolution and WWI. The movement's forefather, Vladimir Tatlin's (1885-1953) design ⁴⁵ of the *Monument to the Third International* (1920) is one of the most famous examples in the history of the 20th century Soviet art (Gough, 2014, p. 9). Tatlin is also important for the history of New Media Art since, alongside the Futurists, he was one of the first to adopt a utopian attitude towards technology, and to use technology itself to express it. However, his approach differed radically from that of the Futurists; Tatlin dreamt of a better society marked by equality and justice that he believed was possible thanks to the industry and technology, while the latter were ardent nationalists admiring the war machine. Moreover, his crossing back and forth between the spheres of art and architecture/design and the criticisms he had to face for it are reminiscent of the criticism some New Media artists face in relation to their oeuvre⁴⁶. Finally, Tatlin's work and some examples of New Media Art are similar in their links with political activism. Tatlin was the President of the Federation of the Left-Wing Artists of Moscow during the year of the October Revolution (Kovtun, 2014, p. 193); he was so deeply involved with the revolutionary movement that the idea of his 'Monument' was based on Lenin's *Plan for Monumental Propaganda*⁴⁷ (Gough, 2014, p. 12).

⁴⁵ We may refer to Constructivists' works as 'designs', since they generally conceptualized them as functioning machinic systems. The actual artwork never reached completion but its design/mock up has been exhibited throughout the 20th century.

⁴⁶ New Media Artists are often criticized for referring to their practice as 'art'. Examples could be: Is it 'Software Art' or 'Software Design'? Are video games works of art or entertainment?

⁴⁷ As explained by Gough, Lenin wanted to replace the monuments of the imperial period with fifty new monuments paying tribute to the leading artists and scientists of the Soviet revolution (p. 12).

Alexander Rodchenko (1891-1956) was one of the leading figures in Constructivism that emerged after the revolution; he was very influential with his experiments with the line⁴⁸ and his photomontages where he used the compositional values of graphic design as a reaction to painting's standard forms. He served the Soviet regime by designing posters combining photography, typography and geometric forms.⁴⁹ Similarly, despite his oeuvre being based on geometric abstraction, El Lissitzky's (1890–1941) art was also far from being apolitical. His rapprochement with Constructivism following his involvement with Suprematism alongside Malevich came later in his life, but his utopian view of the revolution and his political activism were reflected in the posters he designed for revolutionary propaganda and workers' groups. What makes him even more relevant for today is his approach to the medium; he used the textual and visual elements on the same hybrid platform. He referred to cinema as “an intangible technology” that allowed transcending the limits of human perception, and he adopted a similar montage-like approach ranging from *Prouns* to multi-layer photographs. He embraced the uncategorizability of his works as he referred to the *Prouns* as “waystations between painting and architecture”.⁵⁰ His works as well as Rodchenko's also bring to mind the hybrid aesthetics of the Internet and the HTML format where texts, graphic elements and images coexist and communicate information.

⁴⁸ For more information: <http://www.tate.org.uk/research/publications/tate-papers/12/aleksandr-rodchenkos-lines-of-force>

⁴⁹ <https://theculturetrip.com/europe/russia/articles/alexander-rodchenko-a-profile-of-russia-s-pioneering-modernist-artist/>

⁵⁰ For more information: <https://www.architectural-review.com/essays/reputations-pen-portraits-/el-lissitzky-1890-1941/10023705.article>

The multimedia artist László Moholy-Nagy (1895-1946)⁵¹ can be regarded as an intellectual link between Constructivism and the Bauhaus movement. As an immense source of inspiration for the New Media artists of today, his oeuvre has recently been revisited through grandiose retrospectives by leading museums worldwide, including the Guggenheim and LACMA.⁵² He experimented with painting, photography, sculpture, film and applied arts, and his importance lies in his approach to the relationship between art and technology, particularly his experimentations with alternative materials and techniques, even praised by *The New Scientist*⁵³. In his article from 2016, Jonathon Keats focuses on the retrospective at the Guggenheim and expresses his amazement at Moholy-Nagy's painterly experiments with silberit, a type of aluminum designed for the aviation industry, and of plastics like rhodoid, galalith and trolit as well as plexiglas. His photograms and *Space Modulators*, on the other hand, expressed his genuine interest in understanding light as an essential artistic raw material (Ibid.). Finally, during his teaching career at the Bauhaus School, Moholy-Nagy made his electrically powered kinetic sculpture *Light Prop for an Electric Stage* (1930), revolutionary not only for the history of sculpture but also with its interaction with space through changing lighting conditions, exploring the boundaries between art and design.⁵⁴

⁵¹ For more information: <http://moholy-nagy.org>

⁵² <http://moholy-nagy.org/exhibitions-archive/>

⁵³ <https://www.newscientist.com/article/2097752-laszlo-moholy-nagy-transmuting-technology-into-art/>

⁵⁴ <https://www.harvardartmuseums.org/collections/object/299819?q=light+prop>

The Bauhaus that moved to its Dessau Building designed by Walter Gropius⁵⁵ developed a similar standpoint, combining arts, crafts and architecture under one roof. Its curriculum combined several technical workshops and aimed at familiarizing its students with a variety of materials. Particular emphasis was placed on architecture and industrial design and designing objects for everyday life. Although Paul Klee and Wassily Kandinsky, two artists also teaching there, demanded the addition of painting classes to the program, the school's focus remained in technical subjects (Droste, 2006). What makes this school relevant for the history of New Media Art is its effort to reconcile art with design and aesthetics with function. A parallel can also be drawn between the Bauhaus curriculum and the Media Arts departments established in the last twenty years at universities worldwide, where subject areas like Interaction Design and User Experience Design are offered alongside courses in Art History and Painting.

2.2.4 The Second Half of the 20th Century: Neo-Dada and Beyond

The emergence of Abstract Expressionism marked the beginning of an era of non-representational art in the USA. With its close ties with Surrealism based on the artist's subconscious mental processes, the movement was apparently devoid of social motivations. At first sight, it was similar to Soviet Avant-garde movements like Suprematism with its reliance on pure form, color and geometry; however, while the Soviet Avant-garde was on the pursuit of a higher form of social justice

⁵⁵ <https://www.bauhaus-dessau.de/en/architecture/bauhaus-building.html>

through these elements, American Abstract Expressionism had more subjective motivations; the act of painting served the artists to spontaneously release their individual emotions. Meanwhile, the Stalinist regime in the Soviets suppressed the Avant-garde abstraction in favor of the propagandistic figurative painting of Social Realism to educate the masses. We may argue that thanks to the Cold War atmosphere, art became purely abstract in the USA and forcefully pro-regime in the USSR, marking an interruption in the early 20th century Avant-garde spirit that had flourished during the chaos of WWI.

Neo-Dada was born in the USA in the late 1950s as a reaction to the Abstract Expressionists' introvertedness. Its artists operating under the shadow of the Cold War and the McCarthyist witch-hunt had to invent humorous tactics for political critique, and they returned to Dada's hybrid media without stylistically distinguishing between abstraction and figuration. Composer John Cage and his *4'33''* (1952) has a particular place in this context; A. L. Rees (2009) describes Cage's multidisciplinary oeuvre as "Zen anarchism", and adds that his anti-art performances paved the way for the Fluxus (p. 52). Eamon (2009), on the other hand, observes that the element of silence in Cage's seminal piece emphasized the natural sounds in the environment and created "a lack of hierarchy between musician and audience" (p. 68). Furthermore, here Cage allowed the "element of 'chance'" to play a role in the work's creation (Rush, 2014, p. 24). This is a very Duchampian act in several respects; the artwork is no more a singular, fixed physical object, but an unrepeatable experience whose infinite variations can be performed *ad infinitum*. This is one of the basic forms in the New Media Art of

today, especially in generative art. Cage is also important for his experiments in electronic sounds with synthesisers and magnetic tapes which date back to the mid-1940s (Eamon, 2009, p. 68); thus, he may be considered as one of the first to introduce electronic media into the realm of art.

Nouveau Réalisme in Europe and Pop Art in the UK and the USA emerged around the same period, and like Neo-Dada, they borrowed elements from popular culture to criticize the consumerist society. One of the leading examples for the former is Jean Tinguely (1925-1991), whose *Homage to New York* (1960) mocked the modern worship of industrial mechanization through a machine designed for self-destruction (Quaranta, 2013, p. 53). His *Metamatic sculptures*, on the other hand, were mechanical structures automating the process of art making (Ravaglia, 2015, p. 107), attacking the older systems of authorship and ownership like his Avant-garde predecessors. Pop Art has conceptual affiliations with New Media Art as well; both target popular culture using that culture's visual vocabulary (Tribe & Jana, 2007, p. 8). In American Pop Art, Andy Warhol's anti-film experiments deserve particular attention as, like Cage's *4'33''*, they explore alternative temporalities using time-based media. For example, *Sleep* (1963) records Warhol's boyfriend John Giorno for five hours while he is asleep. Here, Warhol questions the squeezing of time as a cinematic instrument, extends time and spatializes it, almost treating the film as a photograph or sculpture depicting the passage of time⁵⁶. In *Empire* (1964), he takes this experiment to the next level, presenting an eight-hour footage of the Empire State Building; Greg Shapley (2011) refers to both films as "the minimization of

⁵⁶ Again, this brings to mind Barthes and his comparison of photography and film discussed earlier.

movement within a format that demanded action” and “photos that go for hours, movies that should exist in single moments” (p. 9). These are important in New Media Art history as studies of the dialectic between the still and the moving image.

Conceptual Art⁵⁷ is another key component in the history of New Media Art, as it privileges ideas over physical objects and embarks on a self-reflexive enquiry on art’s scope. Although Edward Lucie-Smith (2000) observes that “the Neo-Classical movement of the late eighteenth century was perhaps the first art movement in which general intellectual concerns preceded actual artistic practice” and thus sees it as “the true ancestor of the twentieth-century Conceptual art” (p. 14), the latter’s emergence is associated with the developments in the mid-60s. One of the leading figures of this period is Joseph Kosuth (1945-); his *One and Three Chairs* (1965) investigated the relationship between the object, its representation and verbal explanation (Lucie-Smith, 2000, p. 157), and expressed his interest in language. Meanwhile, the British artist group Art & Language produced theoretical material on art as a form of art in itself (Godfrey, 1998, p. 428) and they referred to Conceptual Art as “Modernism’s Nervous Breakdown” (Godfrey, 1998, p. 14). Conceptual artists’ ideas on language culminated in the exhibition “Conceptual Art and Conceptual Aspects” (1970) at the New York Cultural Center, with its presentation of works nearly exclusively based on language (Godfrey, 1998, p. 207). On the other hand, Sol LeWitt⁵⁸ (1928-2007), an artist initially associated with Minimalism, emerged as one of the key figures of Conceptual Art with his seminal essays on the subject; he argued that the execution of an artwork was secondary to

⁵⁷ For more information: <https://www.britannica.com/art/conceptual-art>

⁵⁸ For more information: <https://www.britannica.com/biography/Sol-LeWitt>

its conception and planning, and the work could even be presented as a set of manual instructions that anyone could perform (Godfrey, 1998, p. 68). The impact of Conceptualism on the evolution of New Media Art in the 60s and 70s, however, is most evident in two exhibitions, namely “Software” at the Jewish Museum in New York and “Information” at the MoMA, both taking place in 1970 (Quaranta, 2013, p. 56). “Software”⁵⁹ involved the collaboration of artists and computers, while “Information”⁶⁰ examined the effects of the changes in communication systems and increased mobility on culture through political and participatory artistic approaches.

Before embarking on an overview of the history of Video Art, it is necessary to evoke Manovich’s observations on how photography and film related to each other before and after the emergence of digital technology. Unlike Barthes who regards photography as a discovery with a much higher impact on media hierarchies than film, in Manovich’s view, the emergence of photography and film did not upset the media categorizations of the pre-digital era for each had its own technological apparatus and viewing mechanisms. However, with the emergence of television, the systems used by the Video artists and television broadcasters began to coincide; these two spheres could now be distinguished only on the basis of audience profiles and distribution channels (Manovich, 2001, p. 1-2). In a parallel discussion, Krauss (2000) observes that Video Art rendered media taxonomies much more complex “as it also inhabited the sphere of television and broadcast, itself a highly heterogeneous field that can hardly be coherently defined as a medium” (p. 30-32). In other words,

⁵⁹ For further information: [https://monoskop.org/Software_\(exhibition\)](https://monoskop.org/Software_(exhibition))

⁶⁰ For further information:
https://www.moma.org/documents/moma_catalogue_2686_300337616.pdf

television marked the beginning of two key developments: first, media hierarchies began to dissolve until computers made these distinctions even more obsolete; second, the boundaries between artistic media and communication or mass media became much less clear.

2.2.5 Video Art: Fluxus and Performance Art

For Martin (2006), “video differs from its two closest relatives, film and television, in one essential point: it directly translates the audio-visual material into analogue or digital code. Thereby, recording and storage take place synchronously” (p. 6). Although Video Art borrowed technical strategies and narrative styles from both, it developed its own language thanks to the Avant-garde spirit that used it in unprecedented ways. In fact, artists were embracing ‘intermediality’⁶¹ as the new approach to art-making in the 1960s (Martin, 2006, p. 7); they often combined music, theater, happening and dance. Sylvia Martin (2006) mentions two events, Allan Kaprow’s *18 Happenings in 6 Parts* (1959) in New York and the *Fluxus Festspiele Neuester Musik* (1962) in Wiesbaden, Germany as the beginning of this new artistic spirit that would give rise to the Fluxus. The birth of the PortaPak as an affordable video recording apparatus in the late 1960s (Tribe & Jana, 2007, p. 9) was in fact a turning point in the availability of the medium, so it became one of the artists’ main instruments of expression and documentation for their performative

⁶¹ Regarding this, Quaranta observes that “for the first and only time in the history of art, the implicit perspective in the most generic interpretation of the expression New Media Art became a mass strategy, common to all the avantgarde art of the period”. But he adds that this did not last long as some techniques were assimilated by the art market mechanisms, while others lost momentum altogether (2010, p. 48).

actions. This was meaningful in a period marked by political instability and civil uprisings⁶² (Eamon, 2009, p. 72), during which art became an instrument to disrupt daily life and to call for a new understanding of human existence.

The first use of the television set in art is generally attributed to Nam June Paik (1932-2006) but it is an act by Wolf Vostell (1932-1998). In 1958, he presented an assemblage involving a television set at the first European Happening in Paris (Eamon, 2009, p. 72). His most pioneering contribution, however, was his application of the idea of *Dé-collage*⁶³ to television images, based on which he produced a series of works involving plural television sets, and where Vostell appropriated the TV set as a sculptural element (Rush, 2014, p. 91); he presented the images in a collage mentality similar to that of Pop Art (Rush, 2014, p. 58). Nam June Paik, on the other hand, did his famous *Exposition of Music-Electronic Television Show* in 1963, where he exhibited “twelve prepared television sets with four pianos, record players, tape recorders, mechanical sound objects, and the head of a freshly slaughtered ox” (Martin, 2006, p. 8). Here, we must note that both Vostell’s and Paik’s works described here involved live television broadcast and not videotape (Eamon, 2009, p. 73). Some of these artists also did interventions in real-time television broadcasts with or without the TV channels’ legal consent. For instance, 1969 saw the public television airing of works by Allan Kaprow, Nam June Paik, Otto Piene and Aldo Tambellini on the American WHGB-TV in the program “The Medium Is the Medium”. In 1970s, Guerilla Television movement

⁶² Here Eamon refers to the political atmosphere marked by the disappointment of the Vietnam War, the public demand for peace and student movements all over the world.

⁶³ For more information: <http://www.tate.org.uk/art/art-terms/d/decollage>

was born, and the artists' attacks on mainstream TV in the form of random interruptions in the broadcast found two striking examples in David Hall's *TV Interruptions* (1971) and Chris Burden's *Promo* (1976) (p. 9). These acts in line with the Dadaist/Situationist tradition are also reminiscent of the pirate radios and hacker activists in today's New Media Art.

Although the video footage of the Pope that Nam June Paik took in New York in 1965 is considered the beginning of Video Art by many (Rush, 2014, p. 85), Paik's oeuvre should be addressed within the framework of the Fluxus, a loosely defined cross-disciplinary movement of art, music and literature with close ties to Situationism⁶⁴ in Europe and Happening Art⁶⁵ in the USA (Archer, 2010, p. 36). The Fluxus artists' interest in the link between art and everyday life was reflected in their simultaneous use of various materials (Rush, 2014, p. 27). Paik was originally trained in composition and when he relocated to Germany, he joined other Fluxus artists like Vostell, Joseph Beuys and Yoko Ono (Archer, 2010, p. 100). One of his most important works implying an intellectual bond to Cage's minimalism was *Zen for Film* (1962-1964), where he used an empty projection screen running for half an hour, to attack the viewing regime of the commercial cinematic apparatus (Rush, 2014, p. 25). Michael Snow's *Wavelength* is another work with similar meditative characteristics (Rush, 2014, p. 27); however, Snow's work dated 1967 has a different contribution. With its unending zoom of a loft in Soho, it manifests a Structuralist approach (Eamon, 2009, p. 74), and defines a crucial moment in the

⁶⁴ <https://www.britannica.com/topic/Situationist-International>

⁶⁵ <https://www.britannica.com/art/Happening>

history of New Media Art with its formalist exploration of unit and scale within the medium specificity of the moving image. We shall also remember that the American Happenings and the German Fluxus had two main differences; first, the former was less politically driven compared to the latter, and second, unlike the Happenings involving many components, the Fluxus artists organized more unified acts (Archer, 2010, p. 108). The equal importance of both, however, lies in their dissolution of the interdisciplinary boundaries in art and their replacement of the static object with ephemeral, performative action (Eamon, 2009, p. 85).

In addition to its role in installations featuring television sets or self-reflexive explorations of the medium, video was also used by various artists in the 1960s and 70s to document their own performances in front of the camera and for the camera. These include Vito Acconci (1940-2017), Bruce Nauman (1941-), Chris Burden (1946-2015), Marina Abramovic (1946-) and Valie Export (1940-). Acconci's *Following Piece* (1969) consists of the footage the artist took during his pursuit of ordinary people in public spaces, and explores the act of surveillance that became one of the main conceptual threads in today's New Media Art (Martin, 2006, p. 13-14). Looking at Acconci and Nauman's private studio performances for the camera, on the other hand, we see action for the sake of action, where the work of art is the artist's bodily presence (Rush, 2014, p. 47-48). Burden's infliction of pain on his own body found its most striking expression in *Shoot* (1971), where the artist was deliberately shot at by his friend and his arm was injured (Martin, 2006, p. 14). Similarly, Abramovic engaged in risky behavior in *Rhythm 10* (1973), and Export challenged moral values in her *Touch Cinema* (1968). All these works dealt either

with the fear of death or moral punishment; this was appropriate for the *zeitgeist* marked by paranoia, conspiracies, political scandals, assassinations and mass protests. The public's resentment found its expression on the streets while the peaceful and prosperous days of the post-WWII era were left behind. Women, racial minorities and students risked their lives for freedom and equality all over the globe, and art came in support of their cause in its various forms.

As Video Art became an established artistic form, exhibitions focusing around it began to appear in museums and galleries as well. In 1969, Howard Wise Gallery in New York hosted the exhibition "Television as a Creative Medium", followed by "Circuit: A Video Invitational" at the Everson Museum of Art in New York in 1971 and "Video Recording" at the Museo Civico in Bologna, Italy in 1972 (Martin, 2006, p. 12-13). Video also became a collectible art form, where Howard Wise again acted as a pioneer with his creation of the Electronic Arts Intermix in 1971; in 1972, the Neuer Berliner Kunstverein began to collect video works for the first time as well (Martin, 2006, p. 13). The 1980s saw the emergence of video artists like Bill Viola and Gary Hill as the stars of this genre (Martin, 20096, p. 18). Viola's works combined a poetic presentation of spiritual symbols with very high technical standards close to those in Hollywood. Hill's *Crux (1983-1987)* stood out as a great video installation, a genre that made innovative use of video as a sculptural element and that had its heydays starting from the 80s (Martin, 2006, p. 19-20). This work can also be considered performative, as Hill realized it by attaching cameras to the

edges of his limbs to mimic a crucifixion⁶⁶. An artist with an even more sculptural approach emerging in this period was Tony Oursler who combined physical materials with screens and projections to create fictional characters. Finally, the birth of MTV introduced the genre of music video into the cultural realm, a form that soon became widely used among video artists as well (Martin, 2006, p. 20).

During the 1990s, digital technology rendered mechanical film and magnetic tape obsolete. The Internet turned the transfer of video files into standard procedure. As Martin (2006) observes, “regardless of their original storage format, many things such as images from the global flow of data, ‘hand-made’ recordings, and historical material have been integrated into the inter-media artistic practice”, and these elements could now be combined seamlessly within one artwork (p. 23). The relationship between video and cinema now had a more symbiotic nature, with cinema borrowing experimental techniques from video artists (Martin, 2006, p. 20). And video artists made use of the cinematographic elements more extensively; since the image quality produced with a technical infrastructure available to the commercial cinematic apparatus became less expensive and accessible, several artists like Douglas Gordon, Doug Aitken, Rodney Graham and Steve McQueen were able to produce technically very high-quality video works (Martin, 2006, p. 21). As digital technologies developed further, the difference, especially in terms of realism, between an image captured on camera and a computer-created image began to decrease, if not disappear. In his *Language of New Media* (2001), Manovich observes that with the development of computer-based techniques, new media and

⁶⁶ http://garyhill.com/work/mixed_media_installation/crux.html

cinema began to borrow elements from each other, giving rise to hybrid forms including interactive cinema, games and 3D animation (p. 286-333). This is why it is necessary to overview the history of the computer technology and its impact on the 20th and 21st century art to understand New Media Art's more recent history.

2.2.6 Computer Technology and the Internet: Software, Database and Algorithm

The Industrial Revolution making time the main unit of value pushed in several pioneering men the urge to design systems adding further speed to all kinds of operations. Machines operated by human workers were neither sufficiently efficient, nor profitable; leaving certain automated procedures to the hands of pre-programmed machines meant more time could be allocated for other, more important deeds. It also meant hiring fewer workers for the factory owners and more leisure time for the workers, and the latter now welcomed television into their lives. The emergence of personal computers followed by the Internet's birth not only added a gigantic new technological sphere into the media ecosystem, but changed the structure of the ecosystem itself, which, in turn, caused a cultural shift. This shift added further momentum to the developments in digital media, and the latter accelerated cultural change even further. In other words, digital technology's strength lies in its ability to trigger a chain reaction bringing the overall cultural transformation's scale and speed to unprecedented levels. For this reason, Manovich (2001) calls the digital computer a "meta-medium" (p. 6), adding that "the visual culture of a computer age is cinematographic in its appearance, digital on the level

of its material, and computational (i.e. software-driven) in its logic” (p. 180). Consequently, “the computerization of culture not only leads to the emergence of new cultural forms such as computer games and virtual worlds; it redefines existing ones such as photography and cinema” (p. 9).

An area with a considerable impact on computer technology deserves particular attention in the history of New Media Art: cybernetics, or “the comparative study of different communication and control systems, such as the computer and the human brain” (Paul, 2015, p. 9). In its most basic form, it involves a monitor collecting information on a system’s functioning, a controller that receives this information or “feedback” and that, according to the information received, optimizes the entire system’s performance.⁶⁷ The term was used by mathematician Norbert Wiener in 1947, who defined it as “the science of control and communication in the animal and machine” (Manovich, 2001, p. 251). Its effects in art had its beginnings in 1950s, when Ben F. Laposky’s *Electronic Abstractions* emerged as photographs documenting the visual manifestation of mathematics in nature (Ursyn, 2015, p. 210). During this decade, the art object already began to lose its supremacy to the concept, idea, or information, a phenomenon parallel with the first wave of cybernetics (Ilfeld, 2012, p. 58). The results of this rapprochement were reflected in a series of exhibitions like “Cybernetic Serendipity” in 1968 at the Institute for Contemporary Art in London and the already mentioned “Information” in 1970 (Ibid.). The former, curated by Jasia Reichardt and described by Quaranta (2010) as “a multidisciplinary event that explored the impact of information technology and

⁶⁷ <https://www.britannica.com/science/cybernetics>

cybernetic theory on life and contemporary creativity” is extremely important, since it owes its emergence to the curator’s exchange of ideas with Max Bense⁶⁸, the father of the term “information aesthetics” (p. 50).

The period from 1970 to 1995 witnessed a second wave of cybernetics⁶⁹ that would have a considerable impact on experimental video art (Ilfeld, 2012, p. 59); this second wave studied the “interactions between the observer and the system” and not only the system itself (Mitchell & Hansen, 2010, p. 149). The collection of essays *Cybernetics, Art, and Ideas* (1971) explored the relationship between art and technology at that time; edited by Reichardt after the groundbreaking exhibition that she curated, the volume contained articles by important figures from the field.⁷⁰ During the 1980s, computers’ parts were miniaturized enough to enter the domestic sphere, and from then on, they always got smaller in size and greater in efficiency. Thus, the mission of the automation systems invented during the Industrial Revolution was still alive (Ursyn, 2015, p. 210), and the third wave of cybernetics emerged in the mid-1980s as a response to this fast digitization process (Ilfeld, 2012, p. 60) to study the observer’s evolution within his or her broader social environment (Mitchell & Hansen, 2010, p. 149). This wave was also closely related with semiotics and language studies. Finally, the discussions on the fourth wave of cybernetics were born within the context of cyborg culture and post-humanism, focusing on the study of higher cognition, or “information processing mechanisms

⁶⁸ We will examine Bense’s theories in more detail in relation to Data Art.

⁶⁹ “Second-order cybernetics studies how observers construct models of other cybernetic systems”. In other words, a system is no more the observed but the observer of other systems being observed.

Source: <http://pespmc1.vub.ac.be/Papers/Cybernetics-EPST.pdf>

⁷⁰ <http://dada.compart-bremen.de/item/publication/233>

of the high order that has their basis within the neural network of human beings” (Mancilla, 2011, p. 35-36). Donna Haraway’s “Cyborg Manifesto” (1985) became a seminal text in this line of thought, whereas *How we became posthuman: Virtual bodies in cybernetics, literature, and informatics*” (1999) by N. Katherine Hayles studied how information lost its materiality. Cybernetics is important in New Media Art’s history for two reasons: first, it lies at the basis of a computer’s working principle. Second, according to Ilfeld, contemporary artists often turn to “cybernetics concepts such as dematerialization, reflexivity and digitization” for a conceptual framework (2012, p. 63). Cybernetics is even more relevant in today’s art as it is used in information processing and artificial intelligence research (Ilfeld, 2012, p. 57).

The computer is basically a calculator with very high and automated performance. Throughout history, various calculation devices had been invented, but unsurprisingly, the computer’s basis began to develop in the 19th century. Methods of automated calculation and the punched cards of the Jacquard loom⁷¹ were already available, and Charles Babbage only had to summon these systems to build the first so-called “Difference Engine”, primarily to assist the scientists in their astronomic calculations and the sailors in achieving precision in their navigational routes. It could also store information and perform complex operations, but it could handle only one operation at a time; so Babbage came up with the more advanced idea of the “Analytical Engine”, or “a general-purpose, fully program-controlled, automatic

⁷¹ Joseph-Marie Jacquard invented this device in 1804-1805; it automated the weaving processes of textile machines and thus can be considered the first attempt at programming a machine. Source: <https://www.britannica.com/technology/computer/History-of-computing>

mechanical digital computer”. The components of this device correspond perfectly to the components of the contemporary computer: “The mill was the calculating unit, analogous to the central processing unit (CPU) in a modern computer; the store was where data were held prior to processing, exactly analogous to memory and storage in today’s computers; and the reader and printer were the input and output devices”. Meanwhile, Herman Hollerith’s tabulator⁷² was used in the 1870 US census for data processing. Babbage himself never had the chance to build a complete prototype of the analytical engine before his death in 1871, but the basic principles of his design have remained relevant to this day⁷³. During the 20th century, Vannevar Bush’s “Differential Analyzer”, considered “the first modern analog computer” designed in 1930s, became particularly useful in physics and engineering. Almost a decade later, Howard Aiken built the “Harvard Mark I”, a gigantic “electromechanical computer” gradually improved into the fully electronic “Mark IV”. In the 1930s, around the same time with Bush’s invention, Alan Turing designed the “Turing Machine”⁷⁴. According to Fazi and Fuller (2016), his experiment mechanized the principle of computing in a way that could universally be repeated by any Turing Machine. It provided a standard format and “the foundation of present-day computing devices, which are in fact general-purpose and can be programmed to emulate each other” (p. 287).

Our contemporary computer technology owes its speedy progress to the developments in military and aviation industries. Both sectors made serious

⁷² Ibid.

⁷³ Ibid.

⁷⁴ A mathematical model of a hypothetical machine that can function as a universal computer (Ibid.).

investments into the upgrading of computerized systems, with motivations that were, in a way, similar to Babbage's: the military industry needed to perform complex calculations in a short period of time to preemptively respond to the enemy and to hit targets with accuracy, whereas the aviation industry, just like the sailors, needed more precise navigation systems. Turing himself was the cracker of the Enigma Code during WWII and a war hero.⁷⁵ Bush, on the other hand, was a military scientist and engineer considered one of the founders of the U.S. military-industrial complex⁷⁶. The military's contributions did not only remain in the practical realm either. In 1945, Bush's article "As We May Think" in which he described an imaginary device named "Memex" with a striking resemblance to contemporary personal computers and the Internet, appeared on *Atlantic Monthly* (Paul, 2015, p. 8-9). Following Bush's footsteps, universities dedicated research centers to the development of technologies useful for military purposes; 1946 saw the emergence of ENIAC (Electronic Numerical Integrator and Computer) invented at the University of Pennsylvania, followed by the invention of UNIVAC in 1951, "the first computer to hit the market, capable of processing both numerical data and text", although the use of such machinery was to remain in the hands of "research centers and universities" for at least a few more decades (Quaranta, 2013, p. 48). Meanwhile, ENIAC's designers left the university and started their own company; their independent project, UNIVAC, was born as a more commercial product with a

⁷⁵ For more information: <https://www.iwm.org.uk/history/how-alan-turing-cracked-the-enigma-code>

⁷⁶ Source: <https://www.britannica.com/technology/computer/History-of-computing>

structure different from ENIAC⁷⁷, and “capable of processing numerical as well as textual data” (Paul, 2015, p. 9).

The 1960s saw the emergence of algorithm and software research at the world’s leading universities and research centers; Bell Laboratories became the site for “the first studies in algorithmic production of text, music and images” (Quaranta, 2013, p. 48). The same decade witnessed some of the earliest artist-engineer collaborations involving video and sound, one of the most historic of which came from Robert Rauschenberg, John Cage and Billy Klüver as a series of collective performances (Ursyn, 2015, p. 210). Klüver (1927-2004), an electronic engineer working for Bell Laboratories with a genuine interest in art collaborated with several artists throughout the 1960s and 70s, providing them with technical solutions and setting a model for the future artist-scientist/engineer collaborations.⁷⁸

In the theoretical realm, philosopher Theodor Nelson’s contribution of the concepts of “hypertext” and “hypermedia” in 1961 and Douglas Engelbart’s introduction of “bitmapping” in 1968 (Paul, 2015, p. 10) can be regarded as the early signs that the world was ready for the personal computer and the Internet. Very interestingly, the RAND Corporation mentioned earlier with its report on New Media Art, was highly active during the Cold War era; in 1964, it went to ARPA or the Advanced Research Projects Agency of the Department of Defense with a proposal to build the Internet

⁷⁷ <https://www.britannica.com/technology/UNIVAC>

⁷⁸ Klüver’s collaborations include Tinguely and his *Homage to New York* (1960), Rauschenberg and his *Oracle* (1962 – 1965) as well as *9 Evenings: Theatre and Engineering* (1966) that involved the collaboration of ten artists and Bell Laboratories’ thirty scientists and engineers. This event paved the way, in Klüver’s leadership, for the emergence of an association named Experiments in Arts and Technology (E.A.T.) that encouraged the continuation of such interdisciplinary collaborations. The Brooklyn Museum in New York hosted their first exhibition project “Some More Beginnings” in 1968, and works by some members of the association were featured in the exhibition “The Machine as Seen at the End of the Mechanical Age” of the same year (Quaranta, 2013, p. 53-54).

as a decentralized communication platform that would survive a nuclear assault (Paul, 2015, p. 10). ARPA responded by creating ARPANET in 1969, a smaller network connecting four universities with some of the highest performing computer infrastructures (Ibid.). In 1971, the Internet followed, not in its worldwide web format but as a network connecting several universities and corporations (Quaranta, 2013, p. 57).

Once computer graphics became widespread after their use in aircraft simulation, Computer Art emerged as an artistic field (Ursyn, 2015, p. 210). In fact, the first example of computer art was born in a military context; in 1956, a pin-up girl was drawn by an anonymous IBM staff member on the SAGE system screen⁷⁹. The first use of the term “Computer Art”, however, appeared in 1963 on the *Computers and Automation Magazine*’s announcement of the first “Computer Art Contest”, with an image of an “electronic surrealist” by Ebram Arazi, a technician working at the MIT⁸⁰, the latter being also the birthplace of the first videogame in 1961 (Quaranta, 2013, p. 66). The Bell Lab is another key place, as A. Michael Noll, an electronic engineer working there like Klüver, became one of the early pioneers with his “abstract images generated by algorithms and mathematical functions” in 1962, paying homage to Mondrian and the Cubists (Quaranta, 2013, p. 48-49). Computer art exhibitions began to take place all over the world, and in 1965, Noll’s works were featured in an exhibition organized by Howard Wise Gallery alongside works by Bela Julesz (Ibid.). Meanwhile, interactive picture processing systems began to

⁷⁹ Source: <https://www.theatlantic.com/technology/archive/2013/01/the-never-before-told-story-of-the-worlds-first-computer-art-its-a-sexy-dame/267439/>

⁸⁰ <https://www.theverge.com/2015/7/13/8919677/early-computer-art-computers-and-automat>

emerge, with one of the earliest experiments being Ivan Sutherland's *Sketchpad*⁸¹ of 1961; Kenneth C. Knowlton and Leon D. Harmon's *Reclining Nude* of 1967 is also worthy of mention (Ursyn, 2015, p. 210). It is necessary to note that Sutherland was a Ph.D. student at the MIT, and Knowlton and Harmon were engineers working at the Bell Laboratories.

In late 60s and throughout the 70s, a variety of “minicomputers”, “microcomputers” and “home computers” emerged⁸² (Quaranta, 2013, p. 57). The 1970s was a particularly dynamic decade thanks to the developments in computer technology research, marked by the launching of the Palo Alto Research Centre (PARC) as a Xerox Corporation initiative in 1971 at Stanford University⁸³, soon to be followed by the introduction of the “Genographics”⁸⁴ system by General Electric. In 1973, the AARON project was initiated by Harold Cohen at the University of California San Diego, the purpose of which was to teach an artificial intelligent entity how to paint, and it was a success (Quaranta, 2013, p. 59). In 1974, the first conference on computer art took place thanks to SIGGRAPH, a group founded in 1973 and operating under the ACM (Association for Computing Machinery). Finally, the introduction of fractals in 1975 by Benoît Mandelbrot from IBM opened up new horizons in algorithm research (Quaranta, 2013, p. 58).

⁸¹ <https://www.britannica.com/technology/Sketchpad>

⁸² Quaranta mentions PDP-8, Altair 8800 and Apple II as an example for each category (2010, p. 57).

⁸³ Paul (2015) explains that this “resulted in the creation of the Graphic User Interface (GUI) and the ‘desktop’ metaphor” (p. 11) that dominated the language of personal computer starting from the early 80s.

⁸⁴ The former employees of this company and of other companies that used the system founded a social platform where they keep the system's aesthetic style alive: <http://www.ge-genographics.org/>

An important thematic thread in New Media Art the development of which gained momentum with computer technology is interactivity. According to Rush (2014), “‘interactive’ has emerged as the most inclusive term to describe the type of art of the digital age” (p. 183). Similarly, for Paul (2015), interactivity in digital art involves “different forms of navigating, assembling, or contributing to an artwork”, and “possibilities of remote and immediate intervention that are unique to the digital medium” (p. 67). The artists of the late 1970s and early 80s including Douglas Davis, Kit Galloway and Sherrie Rabinowitz expressed a genuine interest in the exploration of telecommunications and especially satellite technology involving live broadcasts of art and dance performances (Quaranta, 2013, p. 59), similar to the television broadcasts of the early video artists. Paul (2015) argues that these “anticipated the interactions now taking place on the Internet”, including teleconferencing (p. 18). Their enthusiasm was reflected in Documenta 6’s curatorial theme, within the context of which performances by artists including Davis himself, Nam June Paik and Joseph Beuys were aired on television (Quaranta, 2013, p. 60). In 1977, an interactive transmission between New York and San Francisco involving a group of artists took place under the name *Send/Receive Satellite Network*. This tendency continued well into the 80s, as seen in Robert Adrian’s project *The World in 24 Hours* involving the collaboration of multimedia artists from sixteen cities who established distance collaborations for the realization of various works (Paul, 2015, p. 21).

John Whitney, Georg Nees, Charles Csuri, Nicholas Schoffer, Frieder Nake, Vera Molnar, Nancy Burson, Lillian Schwartz and Manfred Mohr are among the most

important names from Computer Art's early days. A leading figure in computer graphics, Whitney created his seminal piece *Catalog* (1961) as an inventory of the visual effects he invented at his company, Motion Graphics Incorporated. Just like Vertov's *Man with a Movie Camera* can be regarded as a database of cinematic film effects of its time, this work can be considered a database of animation techniques available at that time. Georg Nees was one of the first to exhibit his computer-based art at the exhibition "Generative Computergrafik" in 1965 (Paul, 2016, p. 5). The film *Hummingbird* (1967) by Csuri stands out as one of the earliest examples of figurative computer animation⁸⁵, while in his *CineScape* from the same year he generated an abstract composition out of a linear landscape using mathematical functions (Paul, 2015, p. 28). Nicolas Schöffer's "machine sculptures, responsive cybernetic towers, and writings about technology" (Huhtamo, 2016, p. 75) and especially his "*Le Lumino* (1968) and *Varetra* (1975)" (Huhtamo, 2016, p. 77) were influential examples of cybernetic art. Frieder Nake "identified a similarity between computer and conceptual art on the level of 'separation of head and hand,' and discussed that separation as a production structure following the logic of capitalism" (Fritz, 2016, p. 58). Computer Art was not only animated, however; starting from its early days, it also produced a rich body of still imagery. Originally a painter, Vera Molnar began producing computer-generated drawings printed as ink on paper in the late 60s. In the 80s, *Beauty Composites* (1982) by Nancy Burson and *Mona/Leo* (1987) by Lillian Schwartz became seminal works as composite images (Paul, 2015, p. 29). Finally, Manfred Mohr deserves particular attention with his algorithmic art;

⁸⁵ <https://www.moma.org/calendar/exhibitions/3903>

since 1969, he has been writing algorithms producing self-generating paintings; Mohr says that in doing this, his “artistic goal is reached when a finished work can dissociate itself from its logical content and stand convincingly as an independent abstract entity”.⁸⁶

Quaranta refers to the 1980s as “the decade of hackers, cyberpunk, basic telematics, virtual reality and the start of the free software movement” (2010, p. 67). While the early 80s were marked by the neoliberal policies of Reagan and Thatcher administrations and a growing tension in the Middle East, the late 80s and the early 90s saw the demolition of the Berlin Wall, the collapse of the Iron Curtain and a tendency towards globalization in a unipolar world under American domination, all of which had a considerable impact on the New Media Art scene of that time and beyond. The most important developments include the emergence of regularly held conferences on computer graphics and its introduction into art education curricula at the graduate level (Ursyn, 2015, p. 210). Meanwhile, the Ars Electronica Festival in Linz initiated in 1979 was providing New Media artists with an even more enhanced visibility and exchange platform with the introduction of the Prix Arts Electronica in 1987 and the establishment of the Ars Electronica Center in 1995 (Quaranta, 2013, p. 64-65). The late 80s also saw the emergence of several new media centers including the ZKM (Zentrum für Kunst und Medientechnologie) of Karlsruhe, Germany in 1989, still considered one of the most influential institutions (Quaranta, 2013, p. 68-69). We shall also remember that Contemporary Art became increasingly market-driven during the 80s also thanks to the neoliberal economic

⁸⁶ <https://www.emohr.com/>

atmosphere, and New Media Art began to evolve as a more autonomous field with its own organizational infrastructure as a genre relatively independent from these market dynamics.

New Media Art entered the 1990s with thematic focuses including “immersive systems and virtual reality, telepresence and interactivity (...), technological prostheses and robotics (...), and 3D graphics and generative algorithms” (Quaranta, 2013, p. 74). The RAND Report explains that the effect of the computers on art increased around the same time with “the switch from batch to interactive processing and the introduction of the Internet” (p. 27-28). The emergence of Net Art is one of the defining moments in the history of New Media Art that set the tone for today’s media practices. In 1995, Vuk Ćosić used the term ‘Net.Art’ for the first time (Ilfeld, 2012, p. 62), and in 1997, it became one of the thematic subsections at Documenta (Quaranta, 2013, p. 75). The early Internet was not heavily regulated, and it became an environment where a variety of “textual and audio-visual projects”, “netactivism”, and “performative projects” flourished (Paul, 2015, p. 112). Among these, *My Boyfriend Came Back from the War* by Olia Lialina (1996); Vuk Ćosić’s works in ASCII art; the art collective jodi’s revolutionary website; Jon Ippolito, Keith Frank and Janet Cohen’s information recycling project *The Unreliable Archivist* (1998); I/O/D’s *WebStalker* (1997-); Maciej Wisniewski’s *netomat*TM (1999-) and Mark Napier’s *Riot* (1999) as alternative web browsers; Rafaël Rozendaal’s web sites; Lisa Brenneis and Adriene Jenik’s avatar-based chatroom performances; the artist collective tsunamii.net’s *alpha 3.0* based on the GPS data of walkers (2002) are worthy of mention (Paul, 2015, p. 113-123).

Jodi.org (1995) has an important place in Net Art, for it questioned the relationship between the code and the interface through the use of an abstract page structure with no narrative coherence (Quaranta, 2013, p. 106).

Considering the developments taking place in the last two to three decades, it appears that the computer and the Internet had an enormous impact on our media ecosystem and that they radically transformed art's media hierarchies that had already been challenged by the 20th century Avant-garde practices. The next section embarks on an overview of the most influential theories in New Media Art, which are either borrowed from earlier scholars and thinkers or proposed by specialists currently dominant in the field.

2.3 New Media Art Theory

As illustrated in the overview above, computer technology has radically transformed our media ecosystem. Today, it is even more difficult to offer a static definition for New Media Art, since new technologies continue to emerge at an outstanding speed and older media continue to migrate into the digital realm either for the purposes of documentation or reproduction. In this Computer Age, it is increasingly difficult to distinguish the medium as the artwork's production material and/or technology from the medium as its distribution or presentation channel; they are all intertwined, if not overlapping. In the past, a painting was a painting, made with oil paint on canvas and exhibited at the gallery space as an object in its own right. A sculpture was made in marble, wood or fiberglass and installed in a public space. Nowadays, a

sculpture can be composed of marble, artificial intelligence, robotics and video screen at the same time, or can be made in a digital software environment and 3D printed, and so on. And how about the motion picture? It is partly made at the physical movie set, partly in virtual environments, presented in movie theaters alongside special versions produced for television screens, computer monitors and mobile devices, enhancing customized distribution. How shall we refer to these media objects? Based on what grounds do we place them under a specific media category? Under these circumstances, the term “New Media Art” is only capable of indicating a set of practices existing within a specific moment in history. This is exactly why the two contemporary theoretical approaches presented below, media ecologies and the post-media perspective, offer a better alternative to the earlier taxonomies that are unable to address all these complexities. But before embarking on that enquiry, we shall overview the work of three thinkers whose ideas have been extremely influential in New Media Art theory.

2.3.1 Benjamin, Debord and Baudrillard: Three Key Figures

Throughout the 20th century, different artist groups responded to technological progress in different ways; the Futurists and the Constructivists found poetry in it, while others such as the Cubists and Dadaists condemned its central role in warfare and mass-destruction. Likewise, different theorists offered differing interpretations of technology’s impact on society depending on the period they lived in and the political developments that they witnessed. Walter Benjamin, Guy Debord and Jean

Baudrillard are three such figures, all of whom still have a strong presence in today's art theory. However, while Benjamin found potential for political freedom in new technologies, Debord and Baudrillard saw the newest and most dangerous instruments of social control in them. Their viewpoints are important in New Media Art theory, for artists and specialists in the field often turn to their ideas to better understand the effects of the double-edged sword called technology on society.

The developments in the early decades of the 20th century found a meaningful evaluation in art history for the first time thanks to Walter Benjamin's seminal essay, "The Work of Art in the Age of Mechanical Reproduction" (1936). In this text with a highly Marxist tone, Benjamin agrees that in the age of mechanical reproduction the artwork's aura has faded away, but he regards it as a positive phenomenon. He identifies a parallel between the desire for reproducibility and mass social movements; as the artwork's uniqueness dissolves, what it represents becomes accessible for everyone at every distance from its origin, and thus politically and socially functional⁸⁷ (1969, p. 223). Moreover, returning to the discussion on originality and the Dadaist attack against it, Benjamin observes that mechanical reproduction "substitutes a plurality of copies for a unique existence" (1969, p. 221). Put differently, it creates a universe filled with copies without

⁸⁷As a contemporary scholar, Lev Manovich, on the other hand, looks at the role of mechanical reproduction in art from a daringly practical viewpoint. He sees it as a natural consequence of the industrialized and automatized society where manual labor remains too slow, and he even criticizes the 20th century fine art as it "continued to insist on the artisan model" (2001, p. 125). Moreover, although Benjamin sees potential for sociopolitical change in these new technologies, Manovich observes exactly the opposite direction of causality: that change in the culture of production calls for a parallel change in the ways of making art. Yet, the two authors have something else in common: they both try to make sense of the relationship between the changes in production mechanisms and the dominant cultural and aesthetic paradigm.

originals⁸⁸. This automatically brings to mind Jean Baudrillard (1988) and his notions of *simulation* and *simulacra*⁸⁹; the idea of a map without a territory, or a simulation without a reality to be based upon is similar to Benjamin's copy without an original. But their approaches are extremely different from each other. Benjamin sees in art's mechanical reproduction a potential alternative against the unified voice of the ruling elite who build the museums and write the histories of art to create a perceptual monopoly based on the artwork's ritualistic aura. In Baudrillard's world, however, the masses are foolishly cooperative, playing by the rules of the simulacra, and are easily deceived into believing what the ruling power wants them to believe. This difference of thought is understandable considering the historical periods in which the two figures produced their works. Benjamin wrote in the inter-war years of the Nazi rule when the technologies of mechanical reproduction appeared as potential instruments of popular resistance, and the utopian promises of the Soviet revolution were still alive. Baudrillard, however, witnessed another reality; the atomic bomb in Hiroshima showed that technology could have devastating effects. The Cold War era, the conflict between the two world powers escalating from time to time relied completely on this chronic fear and was surrounded by traumatic

⁸⁸ "even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be. This unique existence of the work of art determined the history to which it was subject throughout the time of its existence" (Benjamin, 1969, p. 220). Krauss similarly argues that "authenticity empties out as a notion as one approaches those mediums which are inherently multiple" (1986, p. 2). Krauss refers to this phenomenon as "irreducible plurality" or "a multiple without an original" (Krauss, 1986, p. 35).

⁸⁹ "Abstraction today is no longer that of the map, the double, the mirror or the concept. Simulation is no longer that of a territory, a referential being or a substance. It is the generation by models of a real without origin or reality: a hyperreal. The territory no longer precedes the map, nor survives it. Henceforth, it is the map that precedes the territory — *precession of simulacra* — it is the map that engenders the territory and if we were to revive the fable today, it would be the territory whose shreds are slowly rotting across the map. It is the real, and not the map, whose vestiges subsist here and there, in the deserts which are no longer those of the Empire, but our own. *The desert of the real itself*" (Baudrillard, 1988, p. 166).

events: the long-term wars in Vietnam, Korea and the Middle East, the student movements of the 1960s, the Civil Rights Movement, Feminist uprisings, J.F. Kennedy's assassination, the Watergate scandal, the eventual decline of the Soviet bloc, the rise of the Neoliberal right-wing with Reagan in the USA and Thatcher in the UK in the 1980s and their effective use of mass media to control public opinion. Baudrillard's pessimism is thus highly justified, and he also had a great predecessor to draw inspiration from: Guy Debord.

Debord's groundbreaking work *The Society of the Spectacle* was published in 1967, preceding the 1968 Student Movements. As the leading figure of the Situationist International, Debord advocates the disruption of everyday life through "situationist" actions so that the pseudo-logic behind the society's functioning which is merely an appearance can be exposed and defeated. Debord calls this appearance *the spectacle*, and describes it as "both the outcome and the goal of the dominant mode of production", in this case, Capitalism, that justifies why things are the way they are (1995, p. 13). The "dominant organization of production" uses "signs" so that our society takes this appearance for granted, and the spectacle and the system exist in a continuous feedback loop (Ibid.). Debord maintains a Marxist tone throughout his text: "as the perfect image of the ruling economic order", the spectacle operates through the tireless repetition of these signs to guarantee "passive acceptance" (p. 15). These signs are often commodities the author refers to as "image-objects", and the idea of a high quality of life is based on the consumption of these products that are no more about themselves but about their images (p. 16). These perceived necessities create an endless pursuit of happiness based on

possessions, replacing religion as an instrument for controlling the masses (p. 18). Most importantly, for Debord, the spectacle is not a natural consequence of the technological developments but it is the other way round: The spectacle dictates how those technologies evolve especially in telecommunication, generating a monologue to justify the position of the ruling classes (p. 19). All this results in the isolation of individuals who continue to live as members of the working class without a class awareness (p. 21). In this picture, technology is perceived as a tool rendering this isolation possible (p. 22). In this sense, Debord's view is the opposite of Benjamin's; for Debord, technology reinforces the worker's alienation from the other members of his class, whereas for Benjamin, it has the potential to increase class solidarity. Baudrillard's approach to telecommunication is similar to Debord's. While Benjamin hoped that a more effective distribution of information would enlighten and empower the masses against authoritarian propaganda, Baudrillard witnessed these channels become the very instruments of psychological manipulation. And one of these instruments is particularly important, as it became the most ideologically loaded medium of the 20th century: the television.

Television represented a one-way form of communication, allowing the voice of the political mainstream and the consumerist language of advertising to enter people's homes. All the elements of the domestic sphere from furniture to lighting, were rearranged according to the television set's physical presence and the viewing regime it imposed on the spectator. The leisure time spent at the movie theatres was now spent at home. The working man who went to the pub for a drink and discussed politics with his friends and colleagues, now went straight back home to catch the

evening news. The television brought the whole world into his living room, but it detached him and his family from his neighbor next door. The television became the manifestation of a cultural atmosphere in which public squares lost their vigor to diners and shopping malls. The ordinary individual became numb, hypnotized, led to believe everything was alright as long as he could afford the goods he saw on TV commercials. The television turned the public into an aggregate of private individuals or families with separate, even conflicting interests. Here, Benjamin's optimism leaves the stage; Debord's spectacle and Baudrillard's simulation are in full action. In understanding the phenomenon of television, we shall also consider the historical developments preceding its birth: The WWII trauma, the defeat of the Nazi Germany, a devastated Russia, and the start of an age of prosperity in the USA. The profits and surpluses needed to be channeled somewhere, and television emerged in an environment where the distribution of advertising messages and a lack of political awareness were both indispensable for the sustainment of a consumerist society. One may argue that the same cycle of hope followed by disappointment repeated itself in relation to the Internet. Writing in the late 1990s, Manovich had an optimistic view on the Internet's potential. During the post-Cold War era the Internet was still relatively independent, whereas nowadays it is highly regulated and monopolized by corporations, and under the surveillance of a new, algorithmic form of the *panopticon*⁹⁰ that, from a Baudrillard's viewpoint, we as users help sustain unintentionally.

⁹⁰ Foucault, M. (1977). *Discipline and punish: the birth of the prison*. New York: Pantheon Books.

The Internet's impact on contemporary society is analyzed in detail in the section about data, but the direction towards which the artistic media hierarchies have recently been evolving are to be found in the two theoretical threads presented below.

2.3.2 Media Ecologies: A Rhizomatic Approach

In his *Media Ecologies: Materialist Energies in Art and Technoculture* (2005), Matthew Fuller offers a media research approach more suitable for the current state of our media ecosystem. Joel Slayton, the Chair of the Leonardo Book Series, explains in the book's foreword that "the cultural convergence of art, science and technology" endow the artists with new instruments to redefine what art is and its overall production mechanisms (p. vii). He adds that Fuller's combination of "Manuel de Landa's reading of the *phase space* model and Gilles Deleuze and Félix Guattari's poetics of the *machinic phylum*" provides us with a new model of media systems based on multiple layers and relationships (p. x).

Fuller sees media systems as "ecologies", i.e. fluid assemblages of self-sufficient material and immaterial units generating a phenomenon only once they interact; trying to isolate a process for analysis is hardly feasible as the structures and relationships giving rise to it are in constant motion and only observable while in action (2005, p. 15). Fuller's oeuvre is partly based on Deleuze and Guattari's idea of the "machinic phylum" from their work *A Thousand Plateaus* (1987), in reference to which Fuller says: "Deleuze and Guattari's introduction of the term

‘machinic phylum’ makes possible its mobilization as a conceptual resource in addressing the process of innovation and constitution within conflict, that is, within historical time, of technologies and of media” (p. 23). For Fuller, the term allows us to comprehend the media systems’ ability to generate phenomena that go beyond the sum of their components (p. 24). He criticizes the “split between representation and materiality posited by humanist scholars” and focuses his analysis on the discourse formation practices around media (p. 61). This way, he also offers a solution to the problem of media as material vs. media as carrier already addressed earlier. He sees technology as a “political-economic entity” (p. 65) because of its ability to generate “new forms of alliance and transmutation between the social and what has been abstracted from the social into the machined” (p. 69), which result in “the proliferation of hybrid forms” (p. 70). He also adds that his model does not intend to suggest a shapeless aggregate of entities that cannot be studied, nor does he ignore the “rules, procedures, and (...) objects”, or units that compose a media apparatus (p. 82). Moreover, it should not be surprising to see that, evoking Robert Flusser’s work, Fuller elaborates on the idea that media systems are similar to languages; their components form temporary assemblages that render communication feasible: language is “something produced in every actuation” and “constantly subject to transformations” as well (p. 96).

The “Rhizome”, a concept coined by Deleuze and Guattari in their *A Thousand Plateaus* that also inspired Fuller, offers an ideal approach to the study of the contemporary media ecosystem, and thus deserves particular attention. The authors define rhizome as an “anti-genealogy” (1987, p. 11) in contrast to the tree form that

dominates the Western systems of thought with dichotomies and center-periphery hierarchies ⁹¹ . They list a rhizome's main characteristics as connection, heterogeneity, multiplicity, asignifying rupture, cartography and decalcomania (p. 7-12). Connection and heterogeneity mean that "any point of a rhizome can be connected to anything other, and must be" (p. 7). On the other hand, "a multiplicity has neither subject nor object, only determinations, magnitudes, and dimensions that cannot increase in number without the multiplicity changing in nature" (p. 8). According to the principle of asignifying rupture, "a rhizome may be broken, shattered at a given spot, but it will start up again on one of its old lines, or on new lines" (p. 9). Finally, with regard to cartography and decalcomania, the authors say that "a rhizome is not amenable to any structural or generative model", and "the rhizome is altogether different, *a map and not a tracing*" (p. 12). Just as the existence of media objects depends on temporary and fluid conjunctions in Fuller's work, an assemblage in a Rhizome is represented by "an increase in the dimensions of a multiplicity that necessarily changes in nature as it expands its connections" (1987, p. 8). Consequently, it is "composed not of units but of dimensions, or rather directions in motion" (p. 21). This vectorial approach liberates us from trying to define artworks as finished objects, and from the taxonomic criteria based on

⁹¹For Deleuze and Guattari, "In contrast to centered (even polycentric) systems with hierarchical modes of communication and preestablished paths, the rhizome is an acentered, nonhierarchical, nonsignifying system without a General and without an organizing memory or central automaton, defined solely by a circulation of states" (p. 21). This description is reminiscent of the dichotomy between the media taxonomies of modernism within the art and museum context, and Fuller's view of contemporary media ecologies based on dynamic connections identifiable only while in action. Moreover, the modernist genealogy of media prioritized certain art forms like painting and sculpture, and treated the other techniques as secondary to them for a long time. This model is against such a hierarchical standpoint as well as to a linear development model inherited from modernism. In short, this is a Postmodernist way of approaching the media.

materiality. This is not to say Fuller's approach is not materialistic; it is very much so, but the material element is only one of the components, and just like the semiotic units in a language, they are units that produce meaning only in relation to other units. Deleuze and Guattari agree, but they also add that these connections are not always semiotic, or not necessarily between similar kinds of units: these can be "semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles" and can produce non-linguistic acts that are "perceptive, mimetic, gestural, and cognitive" (p. 7). The rhizome "connects any point to any other point, and its traits are not necessarily linked to traits of the same nature" (p. 21). The resulting acts give rise to "semiotic flows, material flows, and social flows" and "a field of reality (the world)", "a field of representation (the book)" and "a field of subjectivity (the author)" are no longer distinguishable from each other (p. 22-23).

Regarding the relationship between art and technology, Fuller evokes "McLuhan's notion of the rear-view mirror, in which the first wave of every new media develops following the norms of the media that preceded it" (p. 81). However, he finds this view problematic for it has a linear, Darwinist approach to the evolution of media. Fuller also touches upon the issue of migration between media, and argues that the migration itself modifies the content as an important part of the ecological processes: "Technology never receives the signals offering potential aggregation sent by the conceptual and technical framework of other technologies without that signal being translated, and hence filtered, noised, and interpreted by other configurations. Technico-aesthetic turbulence among media technologies and

between media and their conceptualizations or precursors is one such form of translation” (p. 42). Once again, he appeals to rhizome’s structure that refuses to be historicized, and, in a sense, supports the argument that the term “New Media Art” refers to the photograph of the media ecosystem taken at a specific point in time. Like Deleuze and Guattari say: “the map is open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group, or social formation” (p. 12). But what makes the concept of rhizome so valuable is “that it always has multiple entryways” (Ibid.). Here, it is also necessary to evoke Bruno Latour’s Actor-Network theory; like Fuller, Latour gives equal agency to the human and non-human actants, and approaches the relationships between them from a rhizomatic point of view. His work is very influential in the field and it offers a practical observation method that a researcher with Fuller’s theoretical approach can use effectively.

Finally, Fuller compares the capitalistic processes of mechanization with its successor, numericalization based on calculus, and adds that the enormous increase of scale at which calculations can be made in the digital age surpasses the capacities of the industrial period (p. 78-79). In relation to this radical increase in the speed and quantity of operations in the computer age, he observes that “the truly productive capacities of the machinic, of the computer, of networks” manifest themselves when the machine’s ability to liberate man from labor combines with the computer’s urge to push the limits of rationality (p. 79-80). In this regard, he supports the argument that the shift in media hierarchies following the birth of

digital technology is more about speed and scale and less about the essence of the processes themselves.

2.3.3 The Post-Media Perspective: A Database Approach

As a response to the taxonomy and terminology crisis in New Media Art, some theoreticians propose an alternative approach towards the current media ecosystem: “Post-media”, a term describing an era marked by the dissolution of the boundaries between artistic disciplines and a non-hierarchical approach to the medium. As one of the leading scholars in this line of thought, Manovich (2001) interprets this medium crisis as a consequence of the modern artistic taxonomies’ death (p. 1) and of the digital revolution (p. 2), and he proposes the term “post-media aesthetics” to denote a set of aesthetic principles not based on the medium (p. 5). Similarly, Christiane Paul (2015) observes that “many artists, curators, and theorists have already pronounced an age of post-media and post-Internet that finds its artistic expression in works both deeply informed and shaped by digital technologies, yet crossing boundaries between media in their final form” (p. 8).

The Post-media perspective has its origins in the theory of communication and mass media. With his essay “Postmodern Deadlock and Post-Media Transition” featured in the volume *Soft Subversions: Texts and Interviews 1977-1985* (2007), the French philosopher Félix Guattari is one of the first to use the term. Although he approaches the concept from a political and mass-media viewpoint, his arguments are also relevant here as New Media Art relies on similar communication channels.

In this later moment in his life, Guattari heavily criticizes postmodernism, describing it as “nothing more than the final spasms of modernism, [...] a mirror of the formalist and reductionist abuses of the latter, from which it ultimately isn’t different” (2007, p. 292). He particularly attacks structuralism, asking, “but where, by the way, did they get the idea that the socius can in this way be reduced to facts of languages and these, in turn, to binarisable or ‘digitisable’ signifying chains?” (p. 295). In a tone reminiscent of Benjamin, he claims that technological developments with new semiotic potentials (very ‘rhizomatic’) signaling the arrival of the “Post-Media Era” can only be positive if they encourage collective and democratic action, a return to personalized mediation through miniaturization, and “the multiplication to infinity of ‘existential operators’, permitting access to mutant creative universes” (p. 299-300). In short, he focuses on the liberating aspects of new technologies, and treats their arrival and the resulting “post-media transition” almost as a political revolution, and he highlights their potential to destroy the hegemonic narratives put forward by the mass media. The Internet’s earlier state resonates with Guattari’s description, but it is not possible to say the same about its current state, considering the media giants’ power extending well into the digital realm.

With regards to the concept of Post-media in an artistic context, Rosalind Krauss stands out as one of the key figures in the discourse with her essay “A Voyage on the North Sea: Art in the Age of the Post-Medium Condition” (2000), based on a lecture she gave at the National Gallery in London in 1999. Here, she takes Clement Greenberg’s ideas as a departure point to criticize the modernist approach to medium based on the purity of art forms. For Krauss, media taxonomies have

always been problematic, but we are only just realizing it as new technologies render these artificial categories obsolete. However, while Krauss is pleased with the dissolution of such categories, Guattari is more cautious about it and reminds the reader of Baudrillard's distrust towards any version of reality presented in mass media. Within the context of the Post-media discourse, it is also necessary to evoke the work of Nicolas Bourriaud and his *Relational Aesthetics* (1998). He describes relational aesthetics as "a set of artistic practices which take as their theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space" (p. 113). Bourriaud advocates an aesthetic approach that addresses as art the exchange of information taking place between the artist and the audience, and not the art object. His perspective is highly reminiscent of the collective and performative practices in Dada, Fluxus and Situationism as well as the New Media Art practices relying on the emergence of online networks and communities, and collective and open-source data art practices.

Another work of Bourriaud's, *Radicant* (2009), is more relevant within the context of the Post-media condition. Here, his tone is similar to Baudrillard's, and he examines the negative effects of globalization on aesthetics (p. 7): "For thirty years, the global cultural landscape has been shaped, on the one hand, by the pressure of overproduction of objects and information, and, on the other, by the rampant standardization of cultures and languages" (p. 19). The author finds the modernist world "radical" (p. 21), for it accentuated cultural schisms, pushed for the standardization of identities and was associated with Colonialism, and he responds

to it with the concept of the “radicant”⁹², explaining the adjective’s connotations as “an organism that grows its roots and adds new ones as it advances” (p. 22). This description is highly reminiscent of Deleuze and Guattari’s rhizome, but it is applied to the art world as a new understanding of aesthetics that takes art’s cultural context into consideration, and that avoids a linear Western art historical canon while also criticizing the idea of multiculturalism as promoted by the postmodern literature. He adopts a similar position in his “Altermodernity”, which appeared in 2009 in the manifesto of the Tate Triennial and slightly before the publication of the *Radicant*. Here, he argues that the postmodernist paradigm has come to an end as well, and what we are facing can be referred to as a different kind of modernism in which “today’s art explores the bonds that text and image, time and space, weave between themselves”. In this new world, “artists are responding to a new globalised perception”, as “they traverse a cultural landscape saturated with signs and create new pathways between multiple formats of expression and communication”⁹³. This description is highly reminiscent of the Post-media condition, but not only; it also resonates with New Media Art’s networked nature.

Similar to Benjamin and Guattari, Bourriaud envisions the possibility of a more democratic society after the dissolution of the modernist structures; yet, unlike Benjamin and Guattari who find hope in the new means of communication, he identifies the most evident manifestation of this democratization in the artistic

⁹² He adds that “to be radicant means setting one’s roots in motion, staging them in heterogeneous contexts and formats, denying them the power to completely define one’s identity, translating ideas, transcoding images, transplanting behaviors, exchanging rather than imposing” (p. 22).

⁹³ <https://www.tate.org.uk/whats-on/tate-britain/exhibition/altermodern/altermodern-explain-altermodern/altermodern-explained>

nomad and his “domain of journey-form” plus “the ethical mode of translation” (Ibid.). In the author’s words, “radicant art implies the end of the medium-specific, the abandonment of any tendency to exclude certain fields from the realm of art” (p. 53), implying a tendency towards interdisciplinarity. This emphasis on the dissolution of disciplinary schisms also has important repercussions in the New Media Art sphere. In reference to his work, Domenico Quaranta says: “The idea of Radicant, if interpreted correctly, not only enables us to rescue New Media Art from its position on the margins, but even translates the post-media perspective, still bound to a century of ‘post’ phenomena, into a valuable indication for 21st century art” (2013, p. 204-205).

The Post-media theories examined so far either have a broad cultural scope that art is only one part of, or discuss aesthetics from a more generic artistic viewpoint. But there also exist theories that take the digital realm as their primary concern. The two most influential figures in this domain are Lev Manovich and Peter Weibel. They both work as artist and researcher at the same time, and they are considered among today’s leading theorists in the field. In his article titled “Post-Media Aesthetics” (2001), Manovich points at the crisis of the medium, arguing that “in the last third of the twentieth century, various cultural and technological developments have together rendered meaningless one of the key concepts of modern art – that of a medium. However, no new topology of art practice came to replace media-based typology which divides art into painting, works on paper, sculpture, film, video, and so on” (p. 1). He adds that this crisis was brought about by two crucial developments: first, the emergence of the installation art and conceptual art

followed by photography and film (Ibid.); second, the digital revolution in the 1980s and 1990s (p. 3).

One of Manovich's key observations is about the change these media caused in the ways in which artworks are distributed: "Gradually, this sociological difference in the distribution mechanisms, along with other sociological differences already mentioned (the size of an audience and the space of reception/exhibition), became more important criteria in distinguishing between mediums than the distinctions in material used or conditions of perception" (p. 2 -3). Distribution mechanisms become particularly important in relation to the digital technologies in between which artworks can migrate; as the same artwork can now appear in various formats, "the traditional strong link between the identity of an art object and its medium becomes broken" (p. 3-4). Manovich refers to this phenomenon as "post-digital" and "post-net culture", and warns against the oversimplified nature of the generic media categories like Net art or interactive art (p. 4). Here, we shall return to the medium vs. function-based classification approaches summarized earlier, for Manovich's article puts this problem into perspective and warns the reader against a terminological confusion: does the term "medium" refer to the technological and/or material nature of an art object, or does it refer to its distribution channel? What these categories actually refer to will always be confusing for the artists and the audiences alike, and this is why Manovich proposes the "post-media aesthetics" as the ultimate solution (p. 5).

Peter Weibel's article titled "The Post-Media Condition" (2012) explores how the understanding of media hierarchies evolved throughout history since the time of the Ancient Greek philosophers, and he describes the current situation as "The Post-Media Condition" (p. 2). He attributes the hierarchical equalization of artistic materials and genres to the early 20th century Avant-garde movements followed by the Bauhaus. He interprets the recognition of photography and film as legitimate artistic media as the first stage of a parallel transformation within media arts, and he adds that "the same contest between the arts has also taken place with the new media of video and digital art, because media works are attracting more attention than ever before at major international exhibitions" (p. 4). However, Weibel's description of the Post-Media condition has a pro-New Media tone⁹⁴. His approach is based on a simple schism between the old (non-technological) and the new (technological), the former referring to painting and sculpture and the latter featuring two subgroups: the old technological media, i.e. photography and film, and the new media based on video and computer technology. Weibel defends the position that New Media Art can also help us look at the old media in a reformist way, and he goes as far as arguing that "the effects of the new media on the old media have actually been more successful than the works of the new media themselves" (Ibid.). Weibel also claims that the current configuration "does not render the idiosyncratic worlds in the world of devices or the intrinsic properties of the media world superfluous. On the contrary, the specificity and idiosyncratic

⁹⁴ "Just like the case of the old technical media of photography and film, the pivotal successes of the new technical media consisting of video and computer are not just that they launched new movements in art and created new media for expression but that they also exerted a decisive influence on historical media such as painting and sculpture. To this extent the new media were not only a new branch on the tree of art but actually transformed the tree of art itself" (p. 4).

worlds of the media are becoming increasingly differentiated” (p. 5). In other words, he apparently observes a Post-media condition where the media he classifies as new can dominate, redefine and even assimilate the older media. He says that once all media have an equal position in the hierarchy, they can be used in different combinations for various experimentations (p. 5-6). Finally, although Weibel focuses on the artistic sphere, he evidently believes in the new technologies’ potential of to trigger democratization like do Benjamin, Guattari and Bourriaud, and he thinks an optimum condition can only be reached through a collaboration between arts and sciences: “The intention is for our fields of knowledge to be extended and driven forward through an alliance of the mechanical media arts with the natural sciences, and hence for platforms and practices of democratic processes to be created with the aid of new technologies and methods” (p. 2).

In *Beyond New Media Art* (2013) published as a revised edition of *Media, New Media, Post Media* (2010), Domenico Quaranta offers a comprehensive account of New Media Art’s place in relation to the broader sphere of Contemporary Art. In the book’s prologue, he summarizes his observations that also constitute the departure point of this thesis: “The expression ‘New Media Art’, which is deemed inadequate even by those who use it, has turned out to be a particularly resistant one, just like the point of view it embodies” (p. 17). To understand why, Quaranta begins his research by questioning the medium-based approaches that he thinks are dominant in the field⁹⁵. He evokes the works of Krauss, Manovich and Weibel in his

⁹⁵ “The only fact that seems to garner pretty much unanimous accord is the point we started out from: New Media Art is defined in relation to the media it uses, and it sets out to draw forth the social, political and cultural implications of those media. It would be easy to infer from this that the concept

discussion of the Post-media condition, and he also emphasizes some artists' discontent with the term "New Media Art", "a growing number of artists feel imprisoned by and wish to break out of" (p. 34). Quaranta is also aware of the problems that might arise from the term "Post-media" although his ideas evidently belong to the theoretical universe the term points at: "Obviously I'm not suggesting we use the term 'postmedia' to describe the art of the present. This term has its own flaws, firstly because the prefix 'post' has been abused in art criticism, and secondly because, as used by Rosalind Krauss, it is predominantly associated with the art of the twentieth century, and not up to the challenge of describing the art of the information age" (p. 202). In other words, for Quaranta, the term defines a beginning and not a closure; digital technology's effects are only beginning to be truly felt, and the changing artistic practices require "new values, new economies, new structures" (Ibid.).

2.4 Data Art: Origins, Theories and Concepts

2.4.1 Information Theory and Information Aesthetics

The terms "data" and "information" are often used interchangeably, yet they are essentially different. In the more generic sense, data is the raw material that necessitates processing to produce meaning, at which point it becomes information.

of New Media Art is based on the aforementioned question of formalism. Indeed this is something that both its detractors and supporters for once appear to agree on. For the former it is patently obvious that we entered a post-media phase in the sixties, with art no longer focusing on the specific characteristics of a medium but taking an open, nomadic approach. For contemporary art criticism, this makes New Media Art's claim to focus on a medium absurd, naive and obsolete" (p. 31).

At a more theoretical level, however, the difference is more complex. Even the term “information” has no single meaning, and Fuller (2005) explains how it is used in two different contexts: “In the strict sense of information theory⁹⁶, information is measured on a scale of relative improbability where the state of maximum probability is that of entropy⁹⁷. The information carried linearly, from one point to another, by a message is the negative of its entropy. In the term’s more common use, information is simply ‘meaning’—what something ‘says’ parsed by how it is ‘read’” (p. 36). Here, Fuller underlines the difference between information as the act of communication and information as the content of that communication, and how the same term is used for both. He also adds that this distinction disappears during a “hype”, or “that moment when the transmission of information in the strict sense reflexively incorporates information about the fact of its transmission as part of that transmission” (2005, p. 36-37). Fuller’s description brings into mind McLuhan and Fiore (1967) once more, who argue that the nature of the communication channels used by a society reveal as much information about that society as the content transmitted. According to this assumption, all acts of communication can be taken as moments of hype. This idea of information transmission where the channel

⁹⁶ The term generally refers to the modern version of the theory as proposed by Claude Shannon in his essay “A Mathematical Theory of Communication” published in 1948. Again a figure from Bell Laboratories, Shannon made a distinction between a communication signal and its content or meaning; he focused on the transmission mechanisms as, he argued, semantic aspects could not be addressed properly before this process became clearly understood. For this purpose, he quantified the concept of noise and its effect on communication. Source:

<https://www.britannica.com/science/information-theory>

⁹⁷ Shannon defined information entropy as “the limit on average encoding efficiency”, and he expressed it with a mathematical equation using probability distribution.

Source: <https://www.britannica.com/science/information-theory/Some-practical-encoding-decoding-questions#ref214949>

becomes part of the content sits at the heart of the debates surrounding media-specificity.

Another key area related to data visualization is information aesthetics, a theoretical field established by Max Bense and Abraham A. Moles in the 1950s and 60s. Bense's work produced some concepts related to semantics and cybernetics still relevant for today's interactive and participatory digital art forms. He used the term "programming" in relation to aesthetics and "generative aesthetics" (1965) in reference to art made with algorithm. He became one of the first to introduce computer art into the vocabulary of aesthetics not only through theoretical work but also through practice: he arranged the exhibition of works in computer art at philosophical gatherings and art galleries; he collaborated with artists like Georg Nees and Frieder Nake, and encouraged Reichardt to curate the exhibition "Cybernetic Serendipity". Most importantly, he advocated an analytical approach towards aesthetics with a methodology applicable to any object, artistic or not; he used the same mathematical approach towards both realms since he considered both as a "complex sign that functioned in a process of communication".⁹⁸ Furthermore, Bense's background was highly multidisciplinary, involving physics, philosophy and semantics; along with that of Moles, his work "tried to bridge philosophy, psychology, aesthetics, social sciences, and art theory", which makes him all the more relevant for the field. He based his oeuvre on several theories including "David Birkhoff's mathematical theory of aesthetics (1928-33)", information theory, cybernetics and Peirce's pragmatic semiotics. He borrowed the idea of entropy from

⁹⁸ <http://dada.compart-bremen.de/item/agent/209>

Shannon, arguing that art tended towards order. He advocated that the “macro-aesthetic rules” of this tendency that derived from micro-aesthetic sign repertoires could be expressed as algorithms.⁹⁹ In short, Bense wanted to build a model of aesthetics based on purely scientific premises, and his attempt to bring the computer into the artistic realm paved the way for the artist-scientist collaborations. However, although Bense’s attempt to quantify aesthetics was influential on figures like McLuhan and Umberto Eco, it was short-lived due to criticisms about its disregard for unmeasurable sociocultural and psychological factors in the formation of aesthetic experience.¹⁰⁰

Not all theoreticians search for a quantitative theoretization like Bense. The majority of the contemporary approaches to information aesthetics and data art can be addressed under the following generic categories:

- Theories aimed at assessing data art’s aesthetic value using philosophical concepts from social sciences and humanities;
- Theories historicizing data visualization as a practice in itself focusing on its technical vocabulary, with no interest in philosophical or artistic discussions;
- Theories taking artistic intent and acceptance in the artistic community as the main criterion of aesthetic value.

⁹⁹ https://monoskop.org/Max_Bense

¹⁰⁰ <http://dada.compart-bremen.de/item/article/6>

All three approaches offer valuable insights into the variety of data art practices taking place in different professional contexts, and how the professionals practicing data art position themselves in relation to different disciplinary territories.

2.4.2 Philosophical Approaches

For some theoreticians, data aesthetics needs to be addressed within a philosophical framework inviting theories from social sciences and humanities into the discourse, and one of the most important works in this realm belongs to Manovich. In his *Info-aesthetics* first published on his website as a semi-open source book in 2000, Manovich delineates his basic principles of contemporary aesthetics. His work is primarily based on the idea of informationalism, a concept developed by Manuel Castells in his massive trilogy *The Information Age: Economy, Society and Culture* composed of *The Rise of the Network Society* (1996), *The Power of Identity* (1997) and *End of Millennium* (1998)¹⁰¹. Castells observes that industrial economy is being replaced by the information economy and the two are based on similar dynamics; but with the emergence of the information technologies, industrial economy became increasingly globalized (2010, p. 99). He refers to the new economy as “informational” and not “information-based”, for it entails a sociocultural transformation at large involving production, distribution and the entirety of social relationships (2010, p. 100). Manovich attributes so much importance to informationalism that he identifies it as the next breakthrough after modernism,

¹⁰¹ Castells himself notes that in discussing the concept of informationalism, he borrows several ideas from the work of Alain Touraine, Daniel Bell and Nicos Poulantzas (2010, p. 25).

postmodernism and new media. He attacks the 1980s' postmodernist view that discards the modernist ideas altogether and he suggests that new media has close affinities with the modernist spirit of the early Avant-garde. He adds that software and interfaces used every day emerge as the new aesthetic forms, whereas computer simulations, visualizations and databases used in the scientific and industrial realms emerge as the leading cultural forms. His key question is the following: "If the shift from modernism to informationalism (the term of Manuel Castells) has been accompanied by a shift from form to information, can we reduce information to forms, meaningful to a human?" As a response to this question, one of his most interesting arguments emerges around "form as distributed representation", where contemporary information/noise replaces the modern figure/ground, and the form is dynamic, fluid and unstable, distributed all over the Internet.¹⁰² In other words, Manovich describes a transition somewhat similar to the one generated by the 20th century Avant-garde artists who attempted at liberating art and the aesthetic experience from the confines of a singular, static object. This idea of an aesthetic experience scattered around a network is also in harmony with the rhizome and media ecologies approaches presented earlier, hinting at a shift taking place towards the same direction in a variety of contexts within our theoretical universe.

Info-aesthetics emerges as a daring statement on a broader paradigm shift in contemporary aesthetics, but Manovich's more specific thoughts about data art, and particularly data visualization in New Media Art and its artistic motivations can be found in his online essay "Data Visualization as New Abstraction and Anti-

¹⁰² <http://manovich.net/index.php/projects/info-aesthetics>

Sublime”¹⁰³ (2002). In this work, he defines data visualization as “a particular subset of mapping in which a data set is mapped into an image”, thanks to which data in quantified form becomes visually represented. He observes that data mapping has recently become a popular subgenre in New Media Art adopted by important artists. His key argument, however, is about the relationship between art and sublimeness¹⁰⁴ and how New Media artists using data visualization transform this relationship; according to Manovich, as artistic data visualization renders complicated phenomena accessible to human perception, data artists can be considered the opposite of the Romanticists. Put differently, data visualization can be described as an “anti-sublime” artistic practice closer to modern science in intent and the early 20th century modern art forms in subject matter. Here, any type of information that cannot be perceived at a human scale can be visualized and managed in a single frame. Consequently, data visualization becomes the new and abstract technique of portraying the human being. Yet, Manovich also admits that data visualization is not a straightforward process and involves several subjective decisions on the part of the artist regarding form, scale and content from an infinite set of options; he uses the term “politics of mapping” in reference to these decisions ranging from choosing interfaces to omitting certain data dimensions. He refers to this aspect of data visualization as “the ‘dark side’ of mapping and of computer media in general” and “the basic problem of the whole mapping paradigm”, for it

¹⁰³http://manovich.net/content/04-projects/040-data-visualisation-as-new-abstraction-and-anti-sublime/37_article_2002.pdf

¹⁰⁴ Here the author refers to the idea of the sublime in art in the late 18th and early 19th centuries, a concept deeply associated with Romanticism. Romanticists valued subjective experiences and emotions over the Classical ideals of reason and equilibrium highly regarded by the advocates of the Enlightenment. Sources: <https://www.britannica.com/art/sublime> and <https://www.britannica.com/art/Romanticism>

adds too much arbitrariness to the supposedly anti-sublime visualization process. It is often unclear why the artist chooses one interface over another, and the data does not always become visualized in the most comprehensible fashion. In response to such cases, Manovich evokes the works of the 20th century Surrealists and Situationists; he turns to them to defend the position that the way to overcome this problem is to accept these choices as arbitrary and the resulting work does not have to be rational¹⁰⁵. He says that data art's true potential lies in its depiction of "the personal subjective experience of a person living in a data society", while also admitting that some forms of data visualization may only have the purpose of offering a self-reflexive critique on the practice itself. He suggests that artists working with data shall not try to achieve anti-sublimeness at all costs, but they shall also consider generating subjective portraits on the state of the human being surrounded by data in all spheres of life. In sum, Manovich argues that the New Media artists working with data can differentiate themselves from artists working with more romantic ideas by clarifying phenomena through "abstraction" and "anti-sublimeness", whereas they also need to differentiate themselves from the scientific and business-related practices by using data more subjectively than do the latter. With this inherent paradox, Manovich's account on data visualization appears more as a rhetorical speech than a theoretical investigation, and offers us clues about the complexity of the professional territory occupied by data art practices.

¹⁰⁵ Manovich refers to this element as "the kind of poetry and conceptual elegance I find missing from mapping projects in new media art" (2002).

Software designer and media theorist Warren Sack disagrees with Manovich, and instead of ideas like sublimeness and abstraction, he bases his arguments on socio-political concepts from outside the realm of traditional aesthetics. In his chapter “Aesthetics of Information Visualization” (2010), he investigates how to evaluate information visualization from an artistic point of view and hints at the context-dependent nature of the possible answers. Sack is highly critical of Manovich’s discussion of the anti-sublime¹⁰⁶ as many examples of data visualization are far from being anti-sublime and offer ground for critical reflections on broader, “sublime” issues. This line of thinking is somehow convergent with Manovich’s views on data art’s larger purpose of questioning human subjectivity. Moreover, referring to Freud’s ideas, Sack identifies an element of “uncanny” aesthetics in several data visualizations, especially in those about surveillance¹⁰⁷. These works do not try to clarify a scientific fact but they pose disturbing questions around subjects like privacy, identity and security. Sacks argues that a traditional approach to aesthetics is not useful in relation to information visualization. Instead, he proposes to turn to Conceptual Art and Benjamin Buchloh’s idea of the “aesthetics of administration”¹⁰⁸. Here, his ideas partially converge once more with Manovich’s, as Manovich’s art historical perspective on New Media Art’s ancestral origins also

¹⁰⁶ “I have nothing against the idea of ‘user friendly’ information, but I think that this understanding of artistic information visualization as the ‘anti-sublime’ is only a small corner of a much bigger picture. In this sense, the ‘anti-sublime’ is the project of only a small group of artist-designers who are usually referred to as scientific illustrators” (Sack, 2010).

¹⁰⁷ The concept of the “uncanny” was developed by Sigmund Freud in his essay “The Uncanny”, first published in German as “Das Unheimliche” in 1919. Here, Freud discusses the uncanny effect in relation to ambiguities that remind us of our infantile anxieties and threaten our ego.

¹⁰⁸ Buchloh’s article “Conceptual Art 1962-1969: From the Aesthetic of Administration to the Critique of Institutions” was published in 1990. Here, he argues that Conceptual Art substituted the physical object with linguistic definition, which, in turn, completely transformed the way it was distributed (p. 107).

includes the “anti-capitalist and anti-authoritarian” art of the early 20th century. According to Sack, both Conceptual Art and today’s data visualizations challenge the existing bureaucratic structures, expressing a drive for a more egalitarian and democratic world. Within this framework, the computer emerges as a metaphor for the bureaucratic data structures the contemporary systems of governance are based on; this is why, for Sack, computer-based data visualizations should be evaluated on the basis of “the sorts of governance they support or reflect”, i.e. “an aesthetics of governance”. He explains that the latter differs from the traditional approach since the body it takes into account is the “body politic”, or “a collective, a Leviathan constituted from a group of people articulated together through a diverse set of social and technical means”. Like Manovich discusses the portrait’s transformation into an abstract data set, Sack discusses the body’s decentralization and dematerialization as a result of the developments in information technology; for him, data visualizations shall aim at giving the body, now the collective body or the Body Politic, its political agency back. He concludes that “the history of information visualization is the history of art and design created to gather together, reflect and represent the Body Politic”.¹⁰⁹ Sack’s work evokes several theories: cybernetics and its investigation of political systems of governance involving both human beings and things, also calling into mind Latour’s Actor-Network Theory; Castells and his idea of network society where art is more about networks and less about territories; and the concept of “intimate bureaucracy” by Craig J. Saper¹¹⁰ describing artist

¹⁰⁹ https://www.researchgate.net/publication/228636081_Aesthetics_of_information_visualization

¹¹⁰ Saper introduces this concept in his book titled *Intimate Bureaucracies: A Manifesto* (2012) published by Punctum Books.

collectives and their motivations challenging the political and economic establishments in contemporary societies. In short, Sack's rhetoric makes a clear distinction between scientific and artistic forms of information visualization, attributing a politically activist drive to the latter that is also a determining factor in its aesthetic value.

2.4.3 Historical Approaches

Other accounts on data visualization aesthetics have a historical approach and they focus on the evolution of the field's technical and narrative vocabulary. The article "Speak to the Eyes: The History and Practice of Information Visualization" (2014) by Jefferson Bailey and Lily Pregill summarizes the evolution of information visualization practices starting with the statistical graphics of the mid-18th century, and its implications in cultural and art historical contexts. The authors state that contemporary information visualization emerged as a discipline thanks to the work of Edward Tufte, a professor from Yale University. His book "The Visual Display of Quantitative Information" (1983) became a seminal guide on information design and visualization, on which Bailey and Pregill base their reading of "the ongoing evolution of aesthetic practice within the field". The authors refer to engineer and political scientist William Playfair (1759 –1823) as the earliest influential figure with his invention of "line graphs, bar charts, and pie graphs". They consider engineer Charles Joseph Minard (1781–1870) as the father of visual storytelling, for his *Carte Figurative* included six different data dimensions about Napoleon's

military campaign of 1812 that allowed the user to compare six variables through time and space. The 1920s saw the invention of the International System of Typographic Picture Education (ISOTYPE) by Otto Neurath (1882-1945), developed via collaborative work by professionals from different fields; and in 1970s, thanks to the work of Nigel Holmes inventing the “explanation graphics” for Time Magazine, infographics became part of the mainstream cultural vocabulary. Starting from the 1990s, the authors focus on the examples of data visualization employing digital technology, a period marked by the use of “dynamic query sliders, fish-eye views, hyperbolic trees, perspective walls, and treemaps”, allowing the dynamic visualization of vast amounts of data; examples include Ben Shneiderman’s treemaps and “Visualization Information-Seeking Mantra,” and Lev Manovich’s direct visualizations and cultural analytics. According to the authors, these innovations rendered three new mental exercises possible, namely “pattern analysis, narrative modelling, and collection analysis”. Pattern analysis is most evident in network diagrams, while narrative modelling encourages the user to interact with the data “in a way that is layered, progressive, and akin to discursive exposition”. Finally, they emphasize collection analysis as one of the practices rendered possible by new technologies with the capacity to improve collection management procedures. In short, they consider data visualization as a powerful technique generating knowledge and challenging old assumptions.¹¹¹ They express interest neither in the contexts these techniques are executed in, nor in the aesthetic criteria on the basis of which they are evaluated.

¹¹¹Available at: <http://www.jeffersonbailey.com/speak-to-the-eyes-the-history-and-practice-of-information-visualization/>

Another interesting work on the history of data visualization from a more business-oriented context offers valuable insight on how business circles perceive the territory. The company iDashboards, a firm designing data management solutions, published on its website an essay by the company's Sr. Digital Marketing Coordinator, Jennifer Horne; titled "The History of the History of Data Visualization", the essay traces the roots of storytelling through data "as far back to the invention of the seismograph, the collapse of the Han Dynasty, and the rise of Buddhism", and identifies the earliest example of data tables in the 2nd-century Egyptian astrological records. The overview continues with the 17th century, mentioning the Cartesian system as the earliest form of data visualization in history, followed by some 20th century developments such as the Iowa State University's introduction of graphic data courses in their curricula in 1913 and the emergence of exploratory data analysis as an academic discipline in 1977. Like Bailey and Pregill, Horne sees Tufte's book as a turning point, and she presents her selection of "The 5 Best 'History of Data Visualization' Posts" available online.¹¹² These consist of an interactive map on the history of infographics¹¹³, a Smithsonian version of the subject based on political history¹¹⁴, Stephen Few's essay titled "Data Visualization: Past, Present, and Future"¹¹⁵ (2007), a data visualization project by Anna Vital on Google users' data visualization tool preferences¹¹⁶, and the book "A Brief History of Data Visualization" (2006) by Michael Friendly¹¹⁷. Finally, she adds to this list

¹¹² <https://www.idashboards.com/blog/2017/11/29/the-history-of-the-history-of-data-visualization/>

¹¹³ <http://infowetrust.com/scroll/>

¹¹⁴ <https://www.smithsonianmag.com/history/surprising-history-infographic-180959563/>

¹¹⁵ https://www.perceptualedge.com/articles/Whitepapers/Data_Visualization.pdf

¹¹⁶ <http://visualizationuniverse.com/>

¹¹⁷ <http://www.datavis.ca/papers/hbook.pdf>

an essay titled “Key Figures in the History of Data Visualization”¹¹⁸. Like Bailey and Pregill, Horne focuses on data visualization’s technical evolution and tries to identify the steps through which various inventions converged into a coherent field of practice. However, unlike Bailey and Pregill, she turns to a plurality of online sources to investigate the history of the field’s history, presenting a vast array of historicization efforts.

In his Master’s thesis titled “New Media for Scientific Data Visualization” (2016), Andrea Fasolo Rao approaches the subject differently both in terms of categorization and historicization. Rao identifies three types of data visualization, scientific, design-driven and artistic, and considers the artistic as the most important since its aesthetic contributions to scientific visualizations give impetus to the popularization of science (p. 7). In his view, “Scientific visualization, or SciViz” was born in the last thirty years in addition to the data visualization practices from design and art contexts. Interestingly, while several overviews take science as the original context in which data visualization was born, Rao presents data visualization as a design subfield that later became useful also in the scientific context thanks to the technological developments, the open data movement and the contemporary visual preferences in journalism. He refers to scientific visualization as a computer-based practice aiming at illustrating a variety of “three-dimensional phenomena”, prioritizing informative function, devoid of “design knowledge” and incomprehensible for those from outside the scientific discipline. He adds that this is currently under transformation thanks to the open data revolution, as a result of

¹¹⁸ <https://medium.com/@Infogram/key-figures-in-the-history-of-data-visualization-30486681844c>

which artists and designers became interested in visualizing the data previously accessible to academic circles only (p. 12). He advocates that these endeavors, in turn, would compel the scientists to invent better data visualizations with an appeal to the general public (Rao, 2016, p. 13). Furthermore, Rao makes a sharp distinction between scientific visualization and data visualization: while scientific visualizations carry the actual spatio-temporal data within themselves, information and data visualizations are based on abstract forms of data, and their spatio-temporal relationship depends on the designers' subjective preferences (2016, p. 16). Rao makes one more distinction between scientific and artistic visualizations; while the former concentrate on the functional aspects of the visualization and target experts in a field, the latter emphasize aesthetic value and target a wider public. Even more interestingly, the author attributes the lack of aesthetic concerns in the former to the absence of objective aesthetic criteria. Design evaluation criteria like utility and soundness are measurable, but attractiveness remains problematic; this is because in addition to appeal and beauty, it depends on other traits like originality and novelty. The objective evaluation of such a multi-faceted concept is difficult, and specialists working with scientific visualizations do not pursue this kind of questioning either (Rao, 2016, p. 46-47). Rao argues that criteria like perceived usability and the use of metaphors are already used in the evaluation of interfaces, so a similar approach can be employed in evaluating scientific visualizations as well. He refers to two works as good examples to such efforts: Lau and Van De Moere's work focusing on engagement and communication identifies design quality, data focus and user interaction as three main evaluation criteria, while David ChekLing Ngo builds a

system of metrics based on fourteen quantifiable criteria (2016, p. 48-49). Finally, Rao addresses the role the artists may have in the emergence of more appealing scientific visualizations. In reference to a study by Daniel F. Keefe, David B. Karelitz, Eileen L. Vote and David H. Laidlaw, he defends the position that multidisciplinary teams involving artists, designers, programmers and scientists provide an ideal environment for the design of high-quality visualizations, and artists' biggest contribution takes place in the conceptualization phase; in turn, artists can benefit from the technical assistance of the rest of the team (2016, p. 50-51). His understanding of the data artist's professional identity is obviously different from Manovich's or Sack's, where data becomes the artist's raw material for philosophical questioning or political activism.

In terms of historicization, Rao mentions several examples of pre-digital scientific visualizations in tracing the field's origins; he considers the digital revolution of the 1980s and the 1987 SIGGRAPH report "Visualization in Scientific Computing" as the turning points in the history of scientific visualization (2016, p. 18-23). He then turns to an overview of the history of computer graphics starting from the 1960s, describing the evolution of the technology behind computer-generated visualizations (Rao, 2016, p. 24-31). Most importantly, he agrees with the SIGGRAPH report's approach to visualization as a multidisciplinary field involving computer-aided technologies and with a need for engineers, scientists, artists and even psychologists in its territory to develop better systems (Rao, 2016, p. 28-29). Rao ties this story with the open data revolution and the birth of the Internet that, in addition to the already existing technologies, made data more widely available (Rao, 2016, p. 34-

42). Again, Rao sees the involvement of the artists in the scientific field as a relatively recent phenomenon. This also makes it unclear why he formulates the three-partite distinction between scientific, design-driven and artistic visualizations in the first place. He places the purely scientific and artistic projects at the two extremes of a continuum, with a “buffer zone” in between with fewer examples which he defines as the zone for design, a territory with the potential to bring the two extremities together and to generate an optimum balance between the aesthetic and functional characteristics of both (2016, p. 49). Then the following questions remain: where does the boundary stand between a purely scientific data visualization and an artistic one? Is a balance between aesthetics and function always necessary or even desirable? It is realistic to approach this issue over a continuum, but that continuum does not emerge in purely technical or functional terms either. While some artists work with data in a more metaphorical way and do not necessarily long for an accurate representation of the scientific information, others collaborate with the scientists so that their projects perfectly reflect the scientific conclusions. Does that make the latter less artistic? Similarly, scientific visualizations carry their own biases, and while being extremely accurate they can also be aesthetically appealing and comprehensible to a wider public. Do these become less scientific? Furthermore, design decisions are involved in all types of data visualizations, scientific or artistic, and it is unclear which projects can be categorized as “design” visualizations, and if so, what their purpose or function would be other than setting a theoretical example for an idealized form of visualization that would seldom be useful in real life. Most importantly, this

discussion does not explain what distinguishes the work of certain professionals from others as artistic, so it is necessary to turn to another approach defining the data visualization's characteristics on the basis of a different criterion: artistic intent.

2.4.4 Approaches Based on Artistic Intent

The majority of the theoretical work focusing on the artistic intent comes from the artists already active in the field. In their essay “Artistic Data Visualization: Beyond Visual Analytics” (2007), Fernanda B. Viégas and Martin Wattenberg focus on a “second and very different type of information visualization” that emerged in the late 90s as a practice with visibility in museums and using techniques similar to those in the scientific sphere but with different motivations (p. 183). They admit to the difficulty of defining this territory based on its essential characteristics and propose a pragmatic solution: “Defining what constitutes ‘artistic’ visualizations is hard, if only because defining art itself is hard. To sidestep that philosophical question, our working definition in this paper is that artistic visualizations are visualizations of data done by artists with the intent of making art. This definition may seem like a tautology, but in fact it specifies a coherent and interesting class of work” (Ibid.). This approach has two aspects different from those overviewed so far. First, it expresses no interest in philosophical evaluation criteria like those offered by Manovich (sublimeness/subjectivity) or Sack (Body Politic/Aesthetics of Administration). Second, it does not delve into the discussion of technical vocabulary and historical evolution as Bailey and Pregill or Horne, and avoids

pursuing case-dependent categorizations like does Rao. Yet, this approach has its shortcomings as well. To begin with, who is the artist here? Can the work of any individual or group using a data visualization software to illustrate a data set and claiming the title of artist, be considered an artwork? The answer becomes even more complicated once the authors provide two additional criteria later in the text to delineate their boundaries more precisely: “First, the artworks must be based on actual data, rather than the metaphors or surface appearance of visualization”. In other words, they want to see “an underlying mapping between data and image” (2007, p. 184), in line with Manovich’s description of the current data visualization practices as the new anti-sublime. But if we turn to Manovich’s description of effective data art addressing the human condition immersed in a world of data, and if the artistic intent is the main decisive factor here, then how are we to approach an artwork whose creator intends to criticize this current human condition by purposefully breaking that very relationship? Is it going to be considered an example of Conceptual Art? The second criterion suggested by the authors, on the other hand, is more in line with their initial premises: “A second point is that our definition avoids the issue of beauty: we do not contend that beautiful scientific visualizations are automatically artistic, or that visualization art must be pretty” (Ibid.). Again, as they express no interest in surface aesthetics, their perspective is closer to that of a conceptual artist. In this case, can we conclude that they see data art as a genre within the realm of Conceptual Art? As the authors proceed with a series of actual artwork examples, however, they reveal their essential criterion: “projects that have been successful in the artistic community” (2007, p. 184). It is

actually the artistic community to decide what is eligible as art and what is not, and the authors' earlier hypothesis on artistic intent loses its effectiveness. And how does this selection process take place? Through evaluative articles and critical presentations such as their own where some works are validated by their inclusion in the text? Considering that this article's authors as well as scholars like Manovich or Sack are also artists producing and exhibiting data art, how shall we approach their selection of artists? Yet another criterion emerges in the article's conclusion, where the authors turn to yet another common denominator they identify in the examples presented throughout the text: "All these projects share one characteristic that distinguishes them from traditional visualization tools: Each embodies a forceful point of view" (2007, p. 190). Persuasion becomes their new eligibility criterion as they position artistic data visualization in opposition to the "neutral" data visualizations in the scientific context. But this approach is also problematic; it ignores the fact that in some cases like funding applications, academicians and scientists might be motivated by persuasion as well, and since data visualization is not devoid of subjective decision-making on the part of the designer, this element can be accommodated in the presentation without compromising scientific accuracy. All these boundaries are far from being clear-cut and the authors admit, perhaps unwillingly, that the majority are in fact negotiated through the rhetorical tactics employed by the members of the artistic community, including themselves.

Some figures writing about data art are even more explicit about the subjective nature of their practice. In her article "A Chronology of tactics: Art tackles Big Data and the environment" (2016), Brooke Singer explores the practice of data art in

relation to her own artistic practice. Singer refers to data art as a “full-fledged and maturing artistic practice” lying “at the intersection of art, design and activism”, admitting that the category is nebulous for it involves a wide range of media, the data’s provenances are highly varied and the artists may have a diversity of motivations. Her analysis evokes examples from the pre-digital era including Haacke’s *MoMA Poll* discussed earlier (2016, p. 1) and does not delve into the technical history of data visualization practices. Yet, she recognizes that data art in the contemporary world is usually thought of as “digital, algorithmic, and interactive” (2016, p. 2). In trying to offer an aesthetic evaluation criterion, on the other hand, she favors the type that either reveals hidden phenomena or generates new political attitudes, adding that this kind of work is also relevant for collaborating with experts from other disciplines (Ibid.). Similar to Sack’s position in several ways, Singer’s approach shows no interest in surface aesthetics, and focuses on the ability of the work to trigger social change. Although her approach to the field is highly subjective and centered around her own projects, her effort illustrates that the practice evolves primarily through what artists do, how they do it, and how they present it to each other and to the public rather than through a theoretical, historical or medium-based discourse.

As evident in the discussions above, no consensus exists on the defining characteristics and the aesthetic value of data visualization as an artistic practice, and the boundaries distinguishing scientific, business-related and artistic data visualizations are blurry and context-dependent. Manovich differentiates the data artists from the artists with romantic motivations by capitalizing on the idea of anti-

sublimeness, while he differentiates them from the scientists by capitalizing on their potential for subjective critique. Sack offers a model based on a political theory on the aesthetics of administration with close ties to Conceptual Art. Bailey and Pregill's historicization effort focuses on how technical and narrative vocabularies developed over time in relation to the developments in technology, and yet it does not express interest in offering aesthetic criteria. Horne evokes a plurality of sources tracing the field's origins and leaves the work of drawing the conclusions to the reader. In trying to categorize visualizations on the basis of their function and from a predominantly designer's point of view, Rao makes the definitions' vagueness even more evident, but his key contribution lies in his approach to visualization as a necessarily multidisciplinary practice. Viégas and Wattenberg's work brings to the foreground the role of the artistic community in addition to artistic intent in deciding which works are eligible in the art world, but it also underlines persuasiveness as an indication of a visualization's artistic drive. Finally, Singer's account is partly similar to Sack's as it values potential for political change over aesthetic experience, but remains dependent on the artist/author's subjective viewpoint. All these approaches address only certain aspects of the issue and remain short of providing a satisfactory answer. This is exactly what makes data art a particularly useful subject in our analysis of how professional identities are constructed. The following subsection summarizes some popular subject areas and concepts which New Media artists use in creating their data-based artworks, followed by some actual examples of artworks from around the world.

2.4.5 The Quantified Self and the Next Internet

Data visualization in its static forms emerged centuries ago, but we owe the emergence of its dynamic versions that transformed our relationship to space to the digital technologies and the Internet. Navigable digital databases redefined the spatial nature of our relationship with information. Paul (2015) describes a physical “dataspace” as “an architectural structure that contains information”, and adds that “a dynamic dataspace in the digital environment has a more fluid, unfixed quality based on a plurality of semantic connections”, thanks to which information can assume a variety of forms (p. 174-175). Manovich observes that the power of new media lies in its ability to turn space into a “media type” in itself (2001, p. 251), which allows the representation of both physical spaces and numerical data within the same computerized environment (2001, p. 249). He refers to databases as “the center of the creative process” in our contemporary society (2001, p. 227) and the new cultural form from which different sets of data can be extracted and utilized in the creation of interactive objects (2001, p. 37). Moreover, in contemporary databases, linear narrative is considered to be only one of the alternatives in an environment of “hypernarratives”, or narratives generated by user interaction (2001, p. 227). In this new environment, the database functions as the new spatial reality the user or “the virtual flâneur” can navigate through and establish his or her own personalized route to explore the information (Manovich, 2001, p. 274).

Another consequence of the emergence of the digital database as a dominant cultural form is the transformation of the idea of subjectivity. With our growing

presence in the digital environment thanks to the efficient collection, transfer and storage of information on our online activities, not only did our data universe become richer and more navigable, but our identities became dispersed, fluid and hybrid as well. In their chapter “The Web, Digital Prostheses, and Augmented Subjectivity” (2014), PJ Rey and Whitney Erin Boesel refer to this phenomenon as “augmented subjectivity” (p. 173). They argue that our subjectivity’s embodiment is in constant change depending on the historical period, and with the digital age, we are able to enact our agency across multiple forms of digital media without being confined to the limits of our physical bodies, a phenomenon defined as “disembodied agency” (2014, p. 177). This observation becomes crucial in relation to data, for a considerable part of this subjectivity is produced, reproduced and enacted through it. In fact, for Fuller (2005), a subject’s profile as depicted through his or her “data-body” is considered to be more reliable than his or her own testimony (p. 151), and he defines this new understanding of the body as “energetic” (p. 91). Thanks to the contemporary technology, several components of this energetic body including physical parameters, dieting and sleeping habits, movement and consumption patterns and stress levels can be measured and represented in numbers, and they can give rise to a numerically depicted portrait¹¹⁹ of our individual identities: the resulting portrait is defined as “the Quantified Self”, and the process is referred to as “datafication”¹²⁰. The term “Quantified Self” was

¹¹⁹ Remember Manovich’s approach to data artists as the painters of the “anti-sublime” portraits.

¹²⁰ The authors Kenneth Cukier and Viktor Mayer-Schoenberg used the term “datafication” for the first time in their work “The Rise of Big Data: How It’s Changing The Way We Think About the World” published in the May/June 2013 issue of *Foreign Affairs*: “Given this massive scale, it is tempting to understand big data solely in terms of size. But that would be misleading. Big data is also

coined by Gary Wolf and Kevin Kelly who started a movement with a community of individuals collecting data about themselves and sharing them with each other at social gatherings. They founded a company of the same name and declared their mission as “to support new discoveries about ourselves and our communities that are grounded in accurate observation and enlivened by a spirit of friendship”.¹²¹ They try to achieve this first and foremost by promoting the culture of “self-tracking”¹²². In her book *The Quantified Self: A Sociology of Self-Tracking* (2016), Deborah Lupton analyses this phenomenon, overviewing the practices and the problems related to data politics. While wearable computing devices are generally used to collect data on the individual’s physical state through a process known as “lifelogging”, data collected from people’s interactions with computers such as money transactions or search engine records are known as “personal analytics” or “personal informatics” (Lupton, 2016, p. 2-3). Lupton observes that self-tracking practices already existent in other forms became digitalized starting from the 1990s; Wolf and Kelly’s project involving conferences and lab sessions which culminated in the birth of the Quantified Self Institute in collaboration with the Hanze University of Applied Science further contributed to the growing popularity of this phenomenon (Lupton, 2016, p. 12). Just as our subjectivities now exist in both the physical and the digital states, self-tracking systems are based on a hardware and a software component. The former is a sensor collecting the data, while the latter is a mobile application allowing the user to interact with the data as well as to send it to

characterized by the ability to render into data many aspects of the world that have never been quantified before; call it ‘datafication’” (p. 29).

¹²¹ <http://quantifiedself.com/>

¹²² “Self-tracking practices are directed at regularly monitoring and recording, and often measuring, elements of an individual’s behaviours or bodily functions” (Lupton, 2016, p. 2).

a database where it is managed, stored and analysed for a variety of purposes (Lupton, 2016, p. 16-17). Although self-tracking is useful in healthcare, security, education and the management of cities (Lupton, 2016, p. 18-28), it also brings about serious problems such as the expansion of panoptic surveillance mechanisms and cases of social injustice related to data's use by the third parties (Lupton, 2016, p. 86). With these technologies' growth, individuals began to willingly contribute their personal data into these systems without fully comprehending who this data belongs to once submitted and how it can be used and by whom from then on. Put differently, digital technologies not only facilitated our access to big amounts of data but also its collection and storage by centralized corporate or governmental authorities. Fuller refers to the database as one of the leading tools in surveillance systems¹²³, arguing that digital seamlessness contributed to the expansion of these systems by triggering the emergence of a predominantly private data market (2005, p. 148-150). This turned data into a form of currency, a phenomenon he refers to as the "digitalization and the capitalization of data" (Ibid.).

There is a growing body of critical work focusing on the social, political, economic and ecological problems associated with big data. In his book *Becoming Digital: Toward a Post-Internet Society* (2017), Vincent Mosco describes the structures these technologies have given rise to, and his predictions about the future are not

¹²³ "Dataveillance" is a term coined by Roger Clarke in 1988 in reference to "the systematic use of personal data systems in the investigation or monitoring of the actions or communications of one or more persons". Source: <http://www.rogerclarke.com/DV/Intro.html>. Lupton discusses this concept as well and explains its meaning in the digital environment: "Dataveillance need not involve digital technologies, but one form of it occurs when digital data are collected on any interaction that people may have with internet-connected activities that generate information—either automatically, for instance when people use search engines, or intentionally, when they upload images or texts to internet sites such as social media platforms" (2016, p. 60).

optimistic. He identifies the three main components of the emerging post-Internet culture as “Cloud Computing, Big Data Analytics and the Internet of Things”, and their convergence builds what Mosco calls the “Next Internet”: “Put simply, the Cloud stores and processes information in data centers; Big Data Analytics provides the tools to analyze and make use of it; and the Internet of Things connects sensor-equipped devices to electronic communication networks” (p. 4). The author warns that these networks have serious consequences like increased domination of corporate oligarchies and their governmental allies, excessive militarization, ecological crises¹²⁴, and loss of basic citizenship rights due to surveillance networks¹²⁵ combined with automated systems replacing entire job fields¹²⁶ (2017, p. 6). He predicts that we are transitioning towards a trans-human world (2017, p. 10) in which we will witness a complete integration of humans and machines (2017, p. 12). As a consequence of computerization in all areas of life, “we would begin to see society as a self-regulating cybernetic mechanism, institutions and organizations as software programs, and the building blocks of life as pieces of code” (2017, p. 116); but if we do not invent solutions, this process will be at the mercy of some omnipotent systems that intend to commodify the individual as a source of data

¹²⁴ Mosco observes that large data centers overheat and need extensive cooling systems that consume huge amounts of water and energy, which, in turn, contribute to the overall ecological crisis and climate change (2017, p. 21, p. 148-156).

¹²⁵ Mosco describes how surveillance systems commodify rights to privacy, referring to its corporate element as “surveillance capitalism” and the governmental element as “surveillance state” (2017, p. 156-167). He also suggests that “citizenship should include the right to own and control our own data”, which would not only allow us more control over our privacy but also work against the increasing monopolization of communication industries, thus protecting our economic rights as customers as well (2017, p. 194-195).

¹²⁶ Automation triggers unemployment and neo-liberal labor policies leave the workers with little or no say in this process (Mosco, 2017, p. 205-206). This is most evident in the collapse of the retail industries and its impact will also be felt by the knowledge workers in the nearest future (2017, p. 168-173).

(2017, p. 117). Instead of enacting their agency through digital platforms thanks to their dispersed subjectivities, Fuller's "energetic bodies" will become subjects of meticulous inspection, with their various elements being quantified, stored and kept under check by a handful of companies in collaboration with some governmental agencies. Finally, although the author says that democratization appears less feasible in the short run (2017, p. 177), he does not refrain from investigating the possibilities for an alternative post-Internet society (2017, p. 118). In his view, a better system is possible if our society manages to enhance public control over matters of citizenship (2017, p. 181) by resisting the corporate monopolization of communication and data mining systems (2017, p. 186). Acts of civil disobedience (2017, p. 189) taking place in the online environment can also be effective (2017, p. 192), and civil society should pressure governmental authorities to address cyber warfare, e-pollution and the right to basic income to combat the hazardous effects of these data networks (2017, p. 198-208).

Young artist and researcher James Bridle addresses similar issues in his book *New Dark Age: Technology and the End of the Future* (2018). At several moments throughout his work, he expresses anxiety about the effects of datafication on the sustainability of our civilization. First, evoking Chris Anderson's article "The End of Theory" (2008), he warns the readers against the overabundance of data rendering scientific methodologies inapplicable and reducing the scientific quest to a simple search for correlation (2018, p. 83-86). Second, he identifies a dangerous similarity between the impact of oil and that of data on global politics; the former was the main reason for conflict throughout the Industrial Era, whereas the latter is

the new main source of political dominance in the Information Age. Bridle observes that there is a close relationship between information and violence, and new technologies transform information almost into a kind of weapon finding its expression in the alliance between the military, governmental and corporate actors. In his view, “our thirst for data, like our thirst for oil, is historically imperialist and colonialist, and tightly tied to capitalist networks of exploitation”. He adds that data harvesting is an ecological hazard just like the extraction, processing and consumption of oil, but oil reserves are finite whereas data is not, and the latter is more similar to atomic power; ironically, infinite amounts of data do not necessarily mean a better understanding of the world (2018, p. 245-248). In fact, Bridle finds this information inflation threatening for our consensus on reality, which results in our surrender to more simplistic explanations and speculations not based on facts (2018, p. 10-11)¹²⁷. Finally, Bridle’s depiction of the effects of technology is predominantly dark as the book’s title suggests, but he insists he is not against technological advancement per se, or that we completely lack ways to get out of this hopeless place: “We are not powerless, not without agency, and not limited by darkness. We only have to think, and think again, and keep thinking. The network—us and our machines and the things we think and discover together—demands it” (2018, p. 252).

The theoretical concepts and models presented in this section are relevant for this study as New Media artists working with data present their works as attempts at

¹²⁷ Here we cannot help but remember Baudrillard’s idea of the simulacra. Could datafication be the ultimate form of simulacra enacting its agency over our society?

questioning these subject matters that also enrich the rhetoric around their professional identities.

2.5 Data Art in the World

2.5.1 Contemporary Examples of Data Art

The main schism in the New Media Art sphere exists between data visualizations¹²⁸ where numerical or textual data is mapped onto a graph or a diagram, vs. the type of art where one form of data, numerical, textual or sensory, is translated into another sensory form with the result being loosely related to the original content, generating an alternative aesthetic experience with minimum interest in the presentation of information. The former already addressed in detail is widely used in scientific and business-related contexts, whereas the latter is often found in artistic contexts. The second main schism exists between works based on finite data sets and those that evolve dynamically as users feed data into them or where sensor-based technologies regularly collect real-time data from the physical environment or the Internet. Again, the former is the mainstream form found in business and scientific contexts, whereas the latter is more widely used for artistic purposes and often discussed

¹²⁸ Here it is necessary to note that data visualizations shall not be confused with infographics. The former present the raw data at a glance while the latter make a subjective point based on a certain data set. Moreover, infographics can include data visualizations but data visualizations cannot contain infographics. (Source: <https://blog.prototypr.io/getting-it-right-why-infographics-are-not-the-same-as-data-visualizations-a23da7de745e>). Furthermore, the majority of the New Media Art forms addressed here rely on data visualizations, while infographics are more widely used in mass media, education and business, although this should not be understood as if infographics are never used for artistic purposes.

within the framework of Net Art¹²⁹. It is necessary to add that all the examples provided in this subsection have been taken from the theoretical sources cited earlier. Moreover, not all the examples fit neatly into one of these four categories. Some works use both fixed data sets and real-time data flow, whereas others involve combinations of different visualization techniques or are composed of plural stages involving multiple data translation processes. We will still refer to these four categories as a practical tool for understanding the basic forms: data visualizations with a fixed data set, sensory translations with a fixed data set, data visualizations with a real-time data flow, and sensory translations with a real-time data flow.

Data visualizations with a fixed data set are generally created to make the content more comprehensible and to facilitate its exploration. The artwork can assume various forms including maps, diagrams and dynamic networks. Torolab's performative project *The Region of the Transborder Trousers* (2005) dynamically maps the daily movements of a group of volunteers in the border zone between Tijuana and San Diego (Tribe & Jana, 2007, p. 92). Torolab is a multidisciplinary artist collective from Tijuana declaring its mission as improving the standards of living in the trans-border region between Mexico and the USA through the implementation of innovative design ideas. This particular project uses GPS technology to track the trans-border movements and the amounts of fuel

¹²⁹ Net Art emerged as a specific artistic genre in mid-1990s (Quaranta, 2010, p. 75), consisting of works "produced, distributed and discussed" over the Internet (Quaranta, 2010, p. 105). According to Quaranta, Net Art is an exceptional area because it neither fits neatly into the Contemporary Art market nor into the New Media Art world (Ibid.). Nowadays, most data-driven New Media artworks are accessible online or extract data from the Internet, but not all of them can be categorized as examples of Net Art. Similarly, some works of Net Art engage with databases and question the state of the online information flow, but others investigate different issues related to the Internet culture and social media.

consumption of a group of volunteers for a period of five days, and these two data sets are combined into a topographic visualization.¹³⁰ On the other hand, the majority of the artists working with a fixed data set design data visualizations based on an interactive database model allowing the users to interact with the content and to build their own narratives with it. In *TextArc* (2002), W. Bradford Paley offers a mapping model for a novel's content analysis (Paul, 2015, p. 178). Here, a custom-designed software scans and visualizes the semantic relationships in a book, graphically emphasizing the most frequently used words and depicting the relationships between characters.¹³¹ In *Copernica* (2002), on the other hand, Martin Wattenberg uses planetary symbolism to illustrate the inventory data of NASA's art collection (Tribe & Jana, 2007, p. 32). In reference to this project he calls "stellar cartography", Jon Ippolito writes the following: "Wattenberg's interfaces are the shape of things to come, for instead of grafting pre-conceived taxonomies onto his databases he often derives the interface from the database itself".¹³² This project's authenticity lies in the way it uses the nature of its content as a metaphor for its mapping and interface design. Another example for data visualization, this time based on big data and cultural analytics, comes from Lev Manovich, Nadav Hochman and Jay Chow; *The Aggregate Eye* (2013) consists of a collection of millions of photos published on social media in different parts of the world and builds urban profiles out of them (Paul, 2015, p. 189). Exhibited at Amelie A. Wallace Gallery in New York in late 2013, the project is an investigation of the

¹³⁰ <http://articles.latimes.com/2001/jul/19/news/cl-23974> and <http://www.artemil.org/projects/torovestimenta/>

¹³¹ <http://news.bbc.co.uk/2/hi/technology/2512369.stm>

¹³² <http://rhizome.org/community/18257/>

main patterns of our cultural production in the form of photographs and videos published by ordinary citizens, also allowing for a comparative analysis of such patterns in terms of geography¹³³. Bailey and Pregill (2014) dedicate a section in their article to this particular line of work for it represents a great example of direct visualization that, instead of using “graphical primitives” to illustrate objects, uses the objects themselves. On a similar fashion, Jennifer and Kevin McCoy’s *Every Shot/Every Episode* (2000) separates the entire show *Starsky and Hutch*¹³⁴ into its scenes, generates a database out of them and categorizes them under critical themes (Tribe & Jana, 2007, p. 64). The work is exhibited at the gallery in the form of a CD-ROM archive the user can explore on a screen-player set.¹³⁵ Like in the case of *The Aggregate Eye*, the data points presented as video footage directly represent themselves and are not translated into abstract data points represented by shapes or icons. Most importantly, the interface element generally experienced in the form of digital maps or graphs is replaced by the actual library or archive installed in the physical space. Although the content is available in digital format, the database is presented as an analogue structure.

The second type of data visualization is not based on a fixed data set but on a real-time collection of data through the participation of individual users, network-scanning software or sensor-based technologies, so its content is in constant flux. In *Valence* (1999), Benjamin Fry creates a software illustrating the relationships between different data sets and their transformations over time that are not

¹³³ <http://phototrails.net/exhibition/>

¹³⁴ A crime series that aired on TV in 1975-1979 involving the adventures of two cops. Source: <https://www.imdb.com/title/tt0072567/>

¹³⁵ <http://www.mccoyspace.com/project/51/>

noticeable at first sight (Paul, 2015, p. 177). In relation to Fry's master thesis titled "Organic Information Design", this work was first realized at the MIT Media Lab where he tried to invent a more efficient design approach to dynamic data visualizations that could both contain static and changing data values. Although Christiane Paul presents this project in an art historical context, it is also reminiscent of Rao's description of design-driven data visualizations, where the purpose is to investigate new technical possibilities for data visualization practice at large. ART+COM's *TerraVision* (1994-), on the other hand, tries to represent all the information layers about our planet on one single interface (Paul, 2015, p. 185). Its networked structure integrates different types and scales of information in a way that can be seamlessly accessed, and allows the users to navigate both through time and space.¹³⁶ Moreover, the same data set can be visualized in infinite ways (Paul, 2015, p. 175), and some artists design works in which the user can select not only the content but also the interface from a set of options. Alex Galloway and the artist group RSG (Radio Software Group) created *Carnivore* (2001-), a work inspired by FBI's wiretapping systems, where a packet sniffing software collects data from public networks which can be visualized in a variety of ways thanks to some applications that other artists contribute in an open-source manner (Paul, 2015, p. 179-181). Particularly this work attracted plenty of scholarly attention. In his "Data Visualization as New Abstraction and Anti-Sublime" (2002) overviewed earlier, Manovich analyses this project in detail. He describes *Carnivore* as something between "a non-distinct box for telephone surveillance such as the ones used in

¹³⁶ <https://artcom.de/en/project/terravision/>

GDR, and a modernist sculpture”; according to Manovich, what makes *Carnivore* an art project is not the way it intercepts data but the open-source nature of its interface encouraging artists to invent their own interface designs. Mark Tribe (2007) refers to this work as an ideological move thanks to which “new media artists challenge the romantic notion of the artist as a solitary genius”¹³⁷, whereas Sack (2010) mentions it as a good example for the Freudian aesthetics of the uncanny. Similarly, Lisa Jevbratt’s *website 1:1* (1999-2001) presents an analysis of the web in various forms of data visualizations (Paul, 2015, p. 181-182). As “a database that would eventually contain the addresses of every Web site in the world and interfaces through which to view and use the database”, the work offers a navigation model alternative to the conventional search engines, and functions as “a snapshot of the Web” at a specific moment in time.¹³⁸ *Conversation Map* (2001-) by Warren Sack, on the other hand, traces and represents the routes of newsgroup communications (Paul, 2015, p. 187). Referred to on MIT’s project page as “a content-based Usenet newsgroup browser”, the work analyzes the newsgroups’ interaction patterns. Sack himself presents it as “a new kind of content-based browser” where documents and messages can be examined in ways that focus on the message’s content as well.¹³⁹ However, not all works based on open-source interface designs or real-time data intend challenging the browsing conventions of the Internet. Projects like Josh On’s *They Rule* (2001) have a more activist agenda aimed at exposing global ruling structures. It is an interactive map of the American

¹³⁷<https://bit.ly/2f9ADgz>

¹³⁸ http://128.111.69.4/~jevbratt/1_to_1/index_ng.html

¹³⁹ <http://web.media.mit.edu/~lieber/IUI/Sack/Sack.html>

corporate power networks where visitors can submit new information, interact with the graph and discover the relationships between actors (Wands, 2006, p. 165). The artist makes it clear that they do not guarantee a 100% data accuracy; but he credits LittleSis.org, a data miners' community, as one of the contributors sharing their data collection with them, and encourages the users to modify the data on both platforms if they are to identify any inaccuracies in them.¹⁴⁰

The third category that we may approach as “subjective” or even “Romantic” in Manovich's terms, establishes an indirect, almost poetic relationship between the content and its representation, still based on a fixed data set. Ryoji Ikeda whose oeuvre is based on the essential qualities of sound became a resident artist at CERN in 2014-15, and produced the work *Supersymmetry* with inspiration from the scientists working on the theory of the same name; the work did not mean to explain the scientific findings of the actual experiment, but used it for creative impetus (Rao, 2015, p. 56). Presented in two chapters, namely “experience” and “experiment”, the project can be regarded as the artist's own aesthetic interpretation of particle physics.¹⁴¹ Nathalie Miebach's *Weather Scores* (2009-) translates meteorological data into sculptural objects of basket weaving, which are then translated into musical scores in collaboration with a group of musicians (Rao, 2015, p. 60). The artist presents the project on her website as “a collaboration between science, data, musical performance and sculpture”, and collaborates with a different group of musicians for every performance.¹⁴² Finally, Lorenzo Pagliei's

¹⁴⁰ <http://www.theyrule.net/about>

¹⁴¹ <http://www.ryojiikeda.com/project/supersymmetry>

¹⁴² <http://nathaliemiebach.com/weatherscores.html>

Les Invisibles (2001/2015) is a scientific collaboration involving CNRS of France, where he made use of nuclear magnetic resonance data to compose music (Rao, 2015, p. 70).

As a fourth category, some works based on sensory translation involve dynamic data obtained through user participation, so they constantly evolve and often expand. Martin Wattenberg and Marek Walczak's *Apartment* (2001) is based on the metaphorical connection between space and language, paying tribute to the idea of memory palaces (Paul, 2015, p. 175). Here, the users generate the building floor plans by typing words into the system, and the system interprets those words, translates them into 2-D and 3-D architectural design projects, and groups them in accordance with their semantic affinities, creating apartments and entire cities out of them. The artists declare that they were inspired by Cicero's idea of a villa with an inscribed speech, and that the work "connects the written word with different forms of spatial configurations".¹⁴³ In George Legrady's *Pockets Full of Memories* (2001), instead of typing random words into the system, the viewers choose an object from their pockets and submit it to digital scanning along with some basic information about the object, and contribute to the emergence of an alternative classification based on counterintuitive relationship criteria (Paul, 2015, p. 178-179). Funded by Fondation Langlois, the project's purpose was to represent a portrait of the exhibition's visitors by placing their objects in a collection emerging in real time.¹⁴⁴ The database content is available online at <http://www.pocketsfullofmemories.com>,

¹⁴³ <http://turbulence.org/Works/apartment/>

¹⁴⁴ <http://www.fondation-langlois.org/html/e/page.php?NumPage=329>

where users can leave comments about the collection items.¹⁴⁵ In the example of Jonah Brucker-Cohen and Katherine Moriwaki's *Umbrella.net* (2005), on the other hand, human participants with interactive umbrellas that change color depending on their real-time network status, transform the public space into a medium for data visualization (Tribe & Jana, 2007, p. 32). In other words, they do not submit data into the system, but they contribute to its visualization, acting like an interface. The artists explore the theme of ad-hoc network formation by using the fluctuations in weather conditions, thus the artwork challenges the existing notions of stable network systems while the control factor is also replaced by coincidence.¹⁴⁶

In yet other artworks, the data is visualized through physical or digital objects, and they rely on a real-time, online data flow instead of user interaction. Some are also successful at illustrating simple correlations as they render real changes visible over time. *Stock Market Skirt*¹⁴⁷ (1998) by Nancy Paterson is an example with a physical object where an actual dress responds to real-time fluctuations in the stock exchange market through its moving skirt. Similarly, Aaron Koblin, Nik Hafermaas and Dan Goods produced the dynamic sculpture *eCLOUD* in 2010 as a public installation; the work in the shape of a cloud taking place thanks to NASA's cooperation is composed of panels responding to the changes in real-time meteorological data (Rao, 2015, p. 66). Installed at the San José International Airport, the sculpture received real-time weather data from different parts of the world and illustrated its

¹⁴⁵ <http://www.medienkunstnetz.de/works/pockets-full-of-memory/>

¹⁴⁶ <https://web.media.mit.edu/~stefan/hc/publications/BruckerCohen04UmbrellaUBICOMP.pdf>

¹⁴⁷ <http://www.vacuumwoman.com/MediaWorks/Stock/stock.html>

fluctuations by changing the opacity of the polycarbonate tiles it is composed of.¹⁴⁸ An example for the digital object, *Synthia*¹⁴⁹ (2001) by Lynn Hershman, functions as a virtual character whose moods change in accordance with the real-time stock market data (Paul, 2015, p. 182-183). Natalie Jeremijenko's *A-trees* (1999) measures the CO2 levels in its immediate vicinity, depicting it through a simulated tree living in the computer, whose wellbeing changes with the fluctuations in air quality (Tribe & Jana, 2007, p. 48).

As illustrated by this overview, practices within the New Media Art world involving data manifest great variety in terms of data or interface type, and the role of the interactive user in the work's form and content. The examples here were all published as artistic projects on their respective artists' websites, by the museums and/or galleries exhibiting them or in the theoretical accounts of the scholars in the field; in other words, they were somehow validated by the art world. Sensory translations do not have scientific or business-related counterparts and they use the data as raw material to generate a sensory experience. On the other hand, data visualizations have very similar scientific and business counterparts, so the artists working with data visualizations not only must offer arguments in favor of their artistic quality, but also distinguish their own role from that of other professionals such as designers, data analysts or data scientists. The next subsection explores the current debates on the identities of professionals working with data.

¹⁴⁸ <http://www.aaronkoblin.com/project/ecloud>; <http://www.ecloudproject.com>

¹⁴⁹ <http://www.lynnhershman.com/project/net-works/>

2.5.2 Data Artist in Science, Business and Journalism

In addition to the artist working with data and producing work that gets exhibited in museums and galleries, there is another type of data artist producing data visualizations and infographics for scientific projects, businesses and mass media, and he or she poses another challenge to the professional demarcation of the New Media artist using data. No consensus exists around this individual's expected skill set and job description; according to some specialists, "data artist" and "data scientist" have the same professional identity, while others see an essential, historical or even hierarchical difference between them. In their book "Big Data: The Essential Guide to Work, Life and Learning in the Age of Insight" (2017), authors Viktor Mayer-Schönberger and Kenneth Cukier observe that the "data scientist" is a new professional simultaneously carrying the traits of a "statistician, software programmer, infographics designer, and storyteller" (p. 125). However, others disagree, arguing that this new profession shall be referred to as "data artist" and not "data scientist", and that the former already includes the skills of the latter. Some experts argue that the role of the data scientist has become obsolete with the emergence of the data artist who has all the skills he or she has with additional creative abilities highly valued in marketing circles. In his article "Keep Your Data Scientist... Send Me a Data Artist", Bill Franks (2012) observes that job titles referred to as "data miner", "analyst" and "predictive modeler" used to accomplish the same tasks that the "data scientist" of our time is associated with, and it does not make a difference which terminology we use for all these professionals have the same job description and rely on similar skills. According to the author, to be able to

hire an analytic professional with creativity and intuition in addition to technical background is much more important, and he defines this professional as the “data artist”: “Two painters can paint the same scene using different types of paints and styles. Both paintings can be amazing, yet totally distinct and unique. Similarly, two great analytic professionals can use different approaches to the same problem and each have compelling results. That’s because there is artistry all through the analytics process”.¹⁵⁰ Simon Gratton (2013) is another author who believes that the position “data artist” will prevail in the long run: “Whilst data science will remain an integral foundation for our organizational ‘data health’ promoting insight and consistency of *the* corporate asset (namely data), data art is rapidly emerging as the ‘next best course of action’ in the field of big data”. He argues that data art makes the meaning in the data more comprehensible as it liberates it from irrelevant details, and immediately accessible within an interactive environment. He implies that in the near future, most of the data science part of the process will be automatized anyway, so the data artist will be the key actor able to make the biggest difference in terms of the storytelling quality.¹⁵¹ Similarly, in “Let’s go beyond the data scientist and usher in the data artist” (2015), Bill Simmons describes the data artist as one step ahead of the data scientist: “Where a data scientist is used to building intelligent systems with the machine learning and engineering skills necessary to process and analyse huge quantities of data, the data artist is focused on analytical consulting”. In his opinion, a data artist can be helpful for an entire

¹⁵⁰ <https://iianalytics.com/research/keep-your-data-scientistsend-me-a-data-artist>

¹⁵¹ <https://www.capgemini.com/2013/07/forget-data-science-data-art-is-next/#>

company in meaningfully managing its data, so he assigns this position almost the role of a company's marketing strategist¹⁵².

Other experts argue that the data scientist is already responsible for the creative part of the work, so it is not necessary to add another professional definition into the picture, and they interpret the efforts to do so as a job market strategy. Daniel Gutierrez (2013) discusses this issue in reference to a paper titled "From Data Scientist to Data Artist – Data Sculpting to Shape Business Insights" authored by Jim Sterne, the chairman of the Digital Analytics Association. He criticizes Sterne for associating part of the data scientist's functions with a new kind of professional he defines as the data artist who, according to Sterne, is expected to have a solid understanding of science as well as the ability to find creative ways of presenting information. Gutierrez argues that this combination of skills has been expected from the data scientist all along and he is willing to interpret Sterne's rather romanticized description of the data artist as "an attempt at differentiation in an increasingly crowded market".¹⁵³ On the other hand, Jason Li writing about the "5 Key Traits of a Data Artist that Every Data Scientist Needs" (2015) refers to Sterne's article as well but, unlike Gutierrez, he interprets Sterne's proposition more positively: "At a glance, Data Artists seem to do part of the job that Data Scientists always do. Both Data Scientists and Data Artists share the same goal: take some real-world data, explore it to create connection and pattern and show the insights in some creative way. However, their practices are affected by their cultural differences. Data Artists

¹⁵² <https://www.campaignlive.co.uk/article/lets-go-beyond-data-scientist-usher-data-artist/1347809>

¹⁵³ <https://insidebigdata.com/2013/11/27/data-scientist-vs-data-artist/>

not only create insights, they also create beauty to evoke people's emotion". He lists the profession's required skills as the ability to understand the nature of the data, a basic understanding of engineering, the capacity to create both beautiful and comprehensible presentations, and good knowledge of communication strategies and business dynamics. Yet he tries to avoid being understood as if suggesting that the data scientist's role is now obsolete; for him, the data artist does not completely push the data scientist out of the picture. Yet, to remain in place, the data scientist must learn from the creative approach of the data artist and develop himself professionally, especially regarding the presentation techniques that do not exclude the general public. Put differently, he suggests that the data scientists should acquire new skills to adapt themselves to the requirements of the digital marketing systems that rely heavily on visual appeal, so that they do not lose their professional relevance.¹⁵⁴ Similarly, in his article "Visualization: The Artist in the Data Scientist" Dr. J. (2013) argues that the data scientists should try to develop their creative skills by starting from infographics, as it is possible for them to easily access a variety of sources on this subject.¹⁵⁵

In sum, data visualization is practiced in a variety of disciplinary contexts for a variety of purposes, and its practitioners are still in the process of demarcating their professional territory based on their skill sets and the job market requirements. Their practices have some characteristics in common with the data visualizations produced within the New Media Art world. Therefore, when expressing their

¹⁵⁴ <https://icrunchdata.com/blog/404/5-key-traits-of-a-data-artist-that-every-data-scientist-needs/>

¹⁵⁵ <https://datascientistinsights.com/2013/05/19/visualization-the-artist-in-the-data-scientist/>

professional identities, the New Media Art professionals using data visualizations need to differentiate their work from these neighboring territories as well.

2.6 New Media Art in Turkey

The theoretical literature in New Media Art in Turkey is limited to the work of a handful of researchers/academicians the majority of whom are also curators active in the field. This section presents an overview of this literature to summarize the history of the field in Turkey as well as its main issues and debates.

2.6.1 Başak Şenova¹⁵⁶

Şenova's oeuvre is worthy of mention for, in 2002, she co-founded NOMAD¹⁵⁷ as an independent organization based in Istanbul aimed at facilitating local, regional and international multidisciplinary digital art experimentations. Her research focuses on art, technology and media, including issues related to data. In 2008, she published the catalogs "Congestion in the Data Flow" and "Unrecorded" for Akbank Sanat in relation to the exhibition project "Unrecorded". In 2017, she held the lecture "Translating and Curating Data" at the Academy of Fine Arts, University of the Arts, Helsinki. In the same year, she published the chapter "Generating

¹⁵⁶The internationally acclaimed curator and designer Başak Şenova has been active in the field since 1995. She is a graduate of the Bilkent University (TR) Department of Literature (B.A.), Graphic Design (M.F.A.) and Art, Design and Architecture (Ph.D.). She also participated in the 7th Curatorial Training Programme of Stichting De Appel in Amsterdam.

¹⁵⁷http://nomad-tv.net/info_09.html

Questions: Archives and Curating Data-Based Projects” in *Futures of Artistic Research – At the Intersection of Utopia, Academia and Power. Writings from the Academy of Fine Arts* edited by Jan Kaila, Anita Seppä, and Henk Slager”¹⁵⁸. However, Şenova’s most relevant work for the purposes of this study is her article titled “Digital-Minded Inquiry: On Digital Culture in Turkey”¹⁵⁹ (2013), for it traces the historical evolution of the local New Media Art scene in detail.

According to Şenova, during the 1980s, the political atmosphere in Turkey both accelerated the technological developments and brought about social problems associated with neoliberalism, contributing to the emergence of a “fragmented art scene” with a great variety of practices. She also observes that, within such a chaotic environment, “production in the digital milieu distinguishes itself with a unique self-sustained mode of production” (2013, p. 1). She traces the origins of the field in the early works of Teoman Madra from the mid-1960s, and she describes this decade as a period during which “only few people were experimenting in light and music”. She also sees Nil Yalter’s experimental projects from the 1970s as part of the same narrative that underwent a sharp “rupture” with the coup d’état of 1980. However, the 1990s saw the birth of the first privately owned media channels followed by the Internet, two developments that Şenova describes as “the turning point for the actors in the digital culture of Turkey” (Ibid.).

¹⁵⁸ <http://basaksenova.com>

¹⁵⁹ Source:

https://www.academia.edu/42927209/DIGITAL_MINDED_INQUIRY_ON_DIGITAL_CULTURE_IN_TURKEY

Şenova attributes a particular importance to the impact Bilkent University had on the field's evolution thanks to its interdisciplinary and innovative vision. She describes the period 1990-1995 as “the five golden years of Ankara”, for this was when the interdisciplinary Master's program at the Bilkent University's Department of Graphic Design became “the first hub for digital-minded people”, while the Middle East Technical University's GISAM (Audio-Visual Systems Research and Production Center) contributed to this atmosphere. Istanbul, on the other hand, had a vibrant scene of musical experiments combining ethnic and electronic vibes, and projects like the “Medias Res” exhibition under René Block's curation took place during the same decade. Şenova also observes that the 1990s witnessed the emergence of some key publications including *HAT* (Hybrid Arrested Translation) initiated by Fatih Aydoğdu¹⁶⁰ in 1998, and the July-August 1994 issue of *Arredamento Magazine* featuring the article “O*zon” by Erhan Muratoğlu, Emre Erkal, Başak Şenova, Özlem Özkal, Murad Ergiydiren, Elif Erdemir and Sepren Tansel. The cyber punk and science fiction influences coming from abroad also set the tone of the digital culture in Turkey during this decade (p. 2). One of the key observations in Şenova's essay, however, is the following: during the 2000s, several figures¹⁶¹ moved to other countries, and their encounters with interdisciplinary grounds pushed them “to investigate the interactivity between art and other fields through distributed networks” (p. 3).

¹⁶⁰ Aydoğdu is also one of the main collaborators of Ekmel Ertan.

¹⁶¹ Burak Arıkan, Emre Erkal, Erhan Muratoğlu, Hakan Topal, Genco Gülan and Elif Ayiter

In the early 2000s, NOMAD's projects generally took place online, and the team worked on building a network involving "designers, engineers, architects, curators and writers" for experimental and interdisciplinary collaborations; when the team members gathered back in Turkey in 2003, they organized "ctrl_alt_del", the first sound art festival in the country (p. 3-4). In 2004, NOMAD-TV.network emerged as a project "aimed to map a new generation of Turkish artists, their sources, domains, production and digital culture" while also giving them the opportunity for international networking (p. 4). The networked members were "individuals, groups and institutions" with different artistic practices that offered an alternative to the "ignorance and inefficiency of the mainstream trend" (p. 5). Another important event in NOMAD's repertoire was Upgrade!Istanbul, a series of regular meetings held for the professionals working in digital culture (p. 6). In later years, "archiving and publishing" became NOMAD's main priority, and it aspired to become "a local database that can function as a spine for a DIY social network with a DIY participatory consciousness" (Ibid.).

Finally, mapping the territory in the 21st century, Şenova mentions several independent initiatives such as the Kurye Video Organisation by the Arkmans and the Web Biennial initiated by Genco Gülan, and artists such as Ali Miharbi, Candaş Şişman, Ozan Türkkan and Şişman's NOHlab, but her observations on the territory's nature deserve particular attention. She argues that the definition of digital culture cannot be reduced to the medium or the technology, the latter often being the typical attitude of the mainstream contemporary art institutions and the artists and the curators working with them: "It is not only the modes of production,

but also the cognition of the actors of digital culture that draws a distinctive line between mainstream contemporary art production and accumulative digital production with tactical approaches. Yet this line has not been well-acknowledged, due to lack of comprehension, intellectual and material input, and sincere interest in the art scene". She adds that this problematic attitude marginalizes the actors of digital culture, pushing them to look to the international arena for exposure and funding; this might initially appear advantageous, but, in Şenova's opinion, it also prevents an internationally recognized local digital art scene from emerging. And the cultural scene at home presents yet another paradox: while these digital culture actors pursue "alternative economies, autonomy, different ways of networking, alternative modes of production, reacting as multitudes, and tactical approaches", their works continue to appear within the same, mainstream institutions of the Contemporary Art world except for the Internet (p. 7). Whether to continue to rely on this system, Şenova says, depends on the awareness in the choices made by the artists and the curators (p. 8).

2.6.2 Ekmel Ertan¹⁶²

Another seminal work on the history of New Media Art in Turkey belongs to Ekmel Ertan. "Histories of the Post-Digital: The Art of New Media in Turkey" (2014), is

¹⁶² Ertan studied Electronics and Communication Engineering at the Istanbul Technical University (TR) and Interactive Media Design at Yıldız Technical University (TR). He founded BIS (Body Process Arts) Association in Istanbul, which evolved into amber platform and organized the amber festivals, some of the leading New Media Art events of its kind in Turkey, starting from 2007. Source: <https://nesinartvillage.org/lecturer/ekmel-ertan>

an essay published in the catalog of the exhibition “Histories of the Post-Digital” taken place at Akbank Sanat and co-curated by Darko Fritz and Ertan himself¹⁶³. This text is partly based on Ertan’s study titled “Brief History of New Media Art in Turkey”¹⁶⁴ (2013), where he traces the origins of the professional territory in “the establishment of Visual Communication Design (VCD) departments at the Turkish universities, which goes back to the end of the 1990s” (p. 1). He particularly underlines the influence of Bilgi University’s VCD department on the field’s emergence and evolution, which, however, lost momentum after the university was sold to Lareate International Universities in 2008, and its museum and art collection under Santralistanbul were dissolved in 2013 (2013, p. 5). He observes that art schools began to regard the digital technologies as artistic media only recently, which prevented New Media Art from becoming a mainstream artistic practice and pushed the majority of the well-recognized Turkish New Media Artists to continue or finish their studies outside of Turkey (p. 1-2).

In this essay, Ertan also summarizes the key projects and events that he believes contributed to the emergence of the local professional territory, the first of which was the publication of *HAT* as an art and theory magazine specialized in New Media Art, also cited by Şenova as a publication important for the field. The first and only issue of this magazine included texts by “Paul Virilio, Vilém Flusser, Arthur Kroker, Hans Moravec and artists like Stelarc, Orlan, Aziz + Coucher” around the theme of “body in the information age” (p. 3). Ertan considers the foundation of

¹⁶³ https://www.academia.edu/25547701/Histories_of_the_Post_Digital_-_Exhibition_Catalog

¹⁶⁴ https://www.academia.edu/3683867/Brief_History_of_New_Media_Art_in_Turkey

NOMAD in 2002 by Başak Şenova, Emre Erkal and Erhan Muratoğlu as the second important development in the field's history, and adds that NOMAD's projects contributed to the emergence of a local art network (p. 3-4). He mentions the TECHNE Digital Performance Platform he organized in collaboration with Aylin Kalem in 2006 as "the first new media event of its kind in Turkey", which also triggered the founding of the Body Process Arts Association (BIS) a year later as "the first and only independent NGO in the field". In fact, in his view, "until 2007, there were only a few academics and some individuals in the developing Turkish new media field and the need for an independent institutional organization was clear". BIS began to organize the amberFestival¹⁶⁵ in 2007 (p. 4). Ertan also points at the museums' and galleries' growing interest in New Media Art¹⁶⁶, but adding that the financial support for this genre still remained minuscule compared to the one for the "conventional" art market, where cultural institutions funded by corporate capital were ready to fill the gap the state had never intended to fill to begin with (p. 6).

Ertan agrees with Şenova that these conditions pushed the artists working with new technologies to invent new ways to maintain their self-reliance. Among the most influential New Media artists "working in a niche" and insisting in their journey within such a market-driven environment, he mentions Burak Arıkan as the "best-known" and the "most productive artist in the field", in addition to Mahir Yavuz, Ebru Kurbak, Ali Miharbi and Onur Sönmez (p. 7-8). Yet, his following observation

¹⁶⁵ BIS actually created the amberPlatform, and amberFestival was organized under this research and production platform. For more information: <https://amberplatform.org/?language=tr>

¹⁶⁶ He also mentions the Kurye Video Festival whose program became more welcoming of New Media Art in those years.

is the most crucial one for this study, where he reveals his ideas on the nature of the professional territory most clearly: “Not all of these artists come from a digital background, but they are also not from conventional art education or practices. Of course there are many established artists in Turkey who use new technologies among other techniques and media. I did not mention them here as New Media Artists. Mainly because new media or technologies are not their main medium and even if they create such works, they do not shape their artistic repertoire. Although I believe that these artworks deserve the same merit as others, it is a completely different artistic approach and methodology which distinguish new media artists from the conventional ones” (p. 8-9).

2.6.3 Ebru Yetişkin¹⁶⁷

Ebru Yetişkin is another figure specialized in New Media Art both with her scholarly work and her curatorial practice. On her website, she declares her area of enquiry as “the interaction of science, technology and art”. In addition to her scholarly publications addressing a variety of issues in sociology, technology and media studies, Yetişkin has produced a series of articles on New Media Art, which appeared on Turkey’s mainstream art publications targeting the general public.

These texts introduce the average viewer to the field’s basic terms and concepts, and

¹⁶⁷ Yetişkin is a graduate of the Istanbul University (TR) Department of Radio-TV-Cinema (B.A.), followed by the Istanbul Technical University and Université Louis Pasteur (FR) Department of Science, Technology and Society (M.A.). She received her Ph.D. degree in Sociology from Mimar Sinan Fine Arts University (TR). She curated the 2015 edition of Plugin, the New Media Art section of the Contemporary Istanbul Art Fair. She also curated several New Media Art exhibitions including “Cacophony” (2013), “Code Unknown” (2014), “Waves” (2015), “X-CHANGE” (2015), “Illusionoscope” (2016) and “Interfaces” (2017).

they are illustrative of a professional demarcation process involving not only the fellow colleagues but general audiences as well. For instance, in her article “Sular Artık Tersine Akıyor: Yeni Medya Sanatı Nasıl Okunabilir?”¹⁶⁸ that appeared on *Art Unlimited* in 2012, Yetişkin points at the gradual disappearance of the modernistic boundaries between art, science and technology, and the resulting generation of a new ground available for experimental interdisciplinary collaborations. According to the author, New Media Art responds to these developments effectively, for what makes New Media Art “new” is not the medium, but the new ways of interaction and looking at the world that it is able to generate. New Media Art’s dynamism allows it to respond almost instantly to the contemporary socioeconomic changes, themselves happening at an extreme speed and deserving a critical approach. Even though Yetişkin does not deny that New Media Art has connections with the artistic practices of the past, she regards it as a territory based on real-time performance, due to which the established art historical perspectives remain short of addressing it properly. Finally, in terms of artists, Yetişkin mentions Burak Arıkan and Ali Miharbi’s oeuvre as examples of New Media Art addressing issues that social sciences and politics find difficult to address. She also touches upon the issue of form, and offers Candaş Şişman’s *Flux* (2010) inspired by a group of works by İlhan Koman as “one of the most creative examples in Turkey”. However, she also admits that New Media Art can sometimes become “almost indistinguishable from practices in design, management and entertainment”. This is an extremely important observation as it comes from one of

¹⁶⁸ <http://www.ebruyetiskin.com/sular-artik-tersine-akiyor/>

the professionals in the field whose theoretical work is predominantly about the territory's description and, thus, demarcation.

In another article that appeared on *Istanbul Art News* in 2013, titled “Yeni Medya Sanatı mı?”¹⁶⁹, Yetişkin refers to New Media Art as “Contemporary Art’s neighbor”, and presents the term as a label indicating “the works created with digital technologies and dealing with contemporary scientific and technological developments” since the late 1990s. More importantly, she argues that New Media Art builds its own institutions and audiences thanks to its “ability to propose alternative economic organizations”, thus differentiating it from the Contemporary Art sphere. Moreover, she defines its curatorial methodology as “distributed” and “multicentered”, within which specialists from various disciplines collaborate and share their know-how. In defining the artistic genre, Yetişkin appeals to the criteria offered by Graham and Cook in their book *Rethinking Curating: Art after New Media* (2001), namely interactivity, networks, and computation, but she adds that such definitions are nevertheless criticized with regards to their insufficiency in addressing areas like bio art and robotics. Her key observation in this essay, however, is that New Media Art has a “distant relationship” with art history, and stands closer to “basic sciences, history, sociology and philosophy of science and technology”. This is why she thinks “media literacy” is crucial in the appreciation of New Media Art and the ability to question its content, and she implies that art specialists tend to avoid the discussions around these alternative disciplines. Furthermore, Yetişkin makes a distinction between “digital natives” and “digital

¹⁶⁹ <http://www.ebruyetiskin.com/yeni-medya-sanati-mi/>

migrants”, claiming that the former have a higher level of media literacy and are more open to alternative ways of learning based on affective experiences. In other words, they represent a break with the 19th century art criticism and its “judgments of like and dislike”.

In 2016, Yetişkin published an article titled “Medya Sanatları: Bir Bilim, Sanat ve Teknoloji Arayüzü”.¹⁷⁰ Here, she builds a slightly different narrative from the previous two: she uses the term “Media Arts” instead of “New Media Art”, and although she refers to them as “an interface between science, art and technology”, she also traces their art historical origins in the 20th century, more specifically, Dada and Fluxus followed by the 1960s’ computer-based and robotic art experiments. Moreover, she places the emergence of the term “New Media Art” in the 1990s as a substitute for terms such as “computer art, electronic art, internet art, digital arts, multimedia art” used earlier. Today’s Media Arts, on the other hand, comprise a much wider array of practices extending beyond the digital domain and intertwined with other disciplines such as genetics, chemistry, architecture and economy. The dissolving boundaries between art and science, however, do not threaten the disciplinary autonomy of either. In this sense, Media Arts offer a platform for experimental research that enriches both territories, and artists give the existing technologies new and unexpected functions, consequently hacking the existing codes of the social, political and economic systems we live in. In this particular essay, Yetişkin focuses on Media Arts’ process-oriented and participatory characteristics. This is why her remark on Media Arts’ contributions to the creative

¹⁷⁰ <http://www.ebruyetiskin.com/medya-sanatlari-bir-bilim-sanat-ve-teknoloji-arayuzu/>

industries is not surprising. Furthermore, she expects three main results from an encounter with a Media artwork: “a transformative element, a creative intervention, and an innovative approach”, which also imply “rendering visible the invisible”. She appeals to Candaş Şişman’s work once more, as well as to Memo Akten and other examples from the international art scene to explain these concepts in more detail, touching upon the Media Arts’ additional characteristics such as an open-source approach to information and transdisciplinary structures allowing art-science collaborations.

In her later works, Yetişkin expresses a growing interest in the concept of “paratactic media” as a strategy to compensate for the “shortcomings of tactical media”, and further explores art’s potential to generate alternative forms of political resistance.¹⁷¹ Meanwhile, she initiated a series of talks and conferences where she introduced the term “Günümüz Sanatı”¹⁷², a term she coined as a third alternative to the two dominant terms¹⁷³ used for Contemporary Art in Turkish and with much deeper connotations within the professional territory, an issue explored in more detail in chapter 4.

2.6.4 Derya Yücel

Derya Yücel’s book titled *New Media Art and New Museology: Interpreting The Digital Art Practices Within Museological Context* (2012) published by Istanbul

¹⁷¹ <http://www.ebruyetiskin.com/paratactic-media-and-social-networks-emerging-forms-of-resistance-in-artistic-practice/?lang=en>

¹⁷² <http://www.buart.art/2018/08/oncu-ve-sra-ds-sanatsal-uretimlere.html>

¹⁷³ Çağdaş Sanat and Güncel Sanat.

Kültür University is one of the first systematic studies on the subject in Turkey. Yücel who is currently one of the most active curators in the Turkish Contemporary Art scene also produced the chapter “New Media Art and New Museology: Evaluating The Digital Art Practices in the Context of Museology” in the book *New Media And ...* (2012) edited by Deniz Yengin as well as the chapter “Art’s Networks: A New Communal Model” in the book *Uncommon Grounds: New Media and Critical Practices in North Africa and the Middle East* (2014) edited by Anthony Downey. In her book, Yücel discusses the problem of media categories, and her approach is in line with the Post-media perspective. While acknowledging that digital practices cannot be divided into strictly defined categories, she presents an overview of the various terminologies proposed so far, observing that terms such as “Digital Art”, “New Media Art”, “Virtual Art” and “Time-based Art” are often used interchangeably (p. 27). She refers to the present day as “a period of transition”, and she expects the distinction between traditional and digital artistic practices to eventually disappear, with digital art ceasing to be perceived as a subcategory of Contemporary Art and becoming a mainstream genre in its own right (2012, p. 28). Her art history overview is Western-oriented, and similar to this study, she traces the origins of the field in the 19th century scientific developments, with the emergence of computer as the most decisive moment in its beginnings (p. 30). She attributes a particular importance to the digital art exhibitions organized by the SFMoMA and the Whitney Museum of American Art in the early 2000s, arguing that they had a considerable role in attracting the art institutions’ and professionals’ interest to the field (p. 31).

Yücel suggests that a distinction between medium as an instrument for production and medium as a means of distribution is a necessity, and the greatest challenge is posed by the recent practices in the second category (p. 85). In her view, the most convenient taxonomic approach towards digital art would be to begin with “digital photography” followed by “video and internet (computer) art”, and to place all the other practices such as “digital sculpture, installation, virtual reality, performance-music-sound art, software, database and game art” under the category of “hybrid media” (p. 32). In fact, she regards these digital art practices as “hybrid media” within the broader sphere of Contemporary Art (p. 37). She adds that the ability to implement media taxonomies is still crucial for the institutions for curatorial reasons, and she offers some taxonomical models devised by Christiane Paul, Steve Dietz and Sarah Cook as closest to the ideal (p. 56). However, she also believes the institutions should take into account the artists’ own intents and strategies in categorizing their artworks (p. 57). In sum, Yücel touches upon the difficulties associated with building media taxonomies, and her research indicates a tendency towards the Post-media perspective.

2.6.5 Other Studies

In addition to the work of the theoreticians presented above, there are several studies on New Media Art/Digital Art in Turkey. A study titled “The Interaction Between Technology and Art: New Media Art Current Situation in Turkey and A Development Proposal” (2014) was conducted by Şafak Erkeyhan and Merve

Çaşkurlu Belgesay; they published an article based on Çaşkurlu Belgesay's Master's thesis which has a particular importance for the purposes of this study, since they manifest great similarities in terms of research objectives and methodologies. Both studies try to understand the status of the New Media Art scene in Turkey by using in-depth interviews with some of the field's leading actors. But while Erkeyhan and Belgesay aim at offering strategies for the field's development, this thesis aims at understanding the boundary-work processes in the field's formation. Furthermore, their study was conducted in 2014, so it is possible to observe in their findings the changes the New Media Art scene in Turkey underwent in the last six, seven years.

In tracing the history of the field, the authors appeal to McLuhan's and Manovich's scholarly work as well as Mark Poster's *The Second Media Age* (1995). They identify New Media Art's roots in Dada, and they address the history of computer technology as a parallel thread (p. 47). They identify the beginnings of New Media Art history in Turkey in the video works of Teoman Madra and Nil Yalter in the 1970s, followed by the exhibition "Concrete Visions" taking place at the BM Art Center in 1995 as part of the 4th Istanbul Biennial, and the interdisciplinary exhibition "XAMPLE" taking place at AKM (p. 50). But they also add that in the period 1996-2000, New Media Art in Turkey went through a relatively dormant stage, and they attribute this phenomenon to the political developments as well as the insufficient speed of the Internet (p. 50-51). Then they continue with an exploration of the institutional developments in the 2000s. They identify Santralistanbul's exhibition "Uncharted: User Frames in Media Arts" (2009), Borusan Contemporary's exhibition program, the exhibition "Lost Paradise" (2011)

at Istanbul Modern and some galleries like PG, Operation Room, Plato Art, Kasa, Pilot and Pilevneli Projects as the leading institutions supporting the field (p. 53). They add that festivals like TECHNE and amber as well as Kurye International Video and Digital Arts Festival organized by the Arkmans, ISEA's Istanbul edition¹⁷⁴ and events organized by NOMAD contributed to the internationalization of the Turkish New Media Art scene (p. 53-55). The authors also find that Turkish New Media Art initiatives had an important role in encouraging collaboration and democratization (p. 54).

The authors' most relevant contribution for this thesis is their analysis of the Turkish New Media Art scene based on in-depth interviews conducted with Ali Miharbi, Murat Germen, Beral Madra, Bager Akbay, Burak Arıkan, Ekmel Ertan and Genco Gülan (p. 49), some of whom are also interview subjects in this study. Their aim is to compare the Turkish experience with the field's global development and to offer solutions for its future (p. 49). They observe that the field necessitates better technological infrastructure, the creation of more specific education departments preferably in close proximity to fine arts departments, better institutional support and support for independent initiatives¹⁷⁵ and more academic research (p. 57-61).

Orton Akıncı's Ph.D. thesis titled "A Proposal for a New Model in Communicating Contemporary Art to the Masses: 'Digital Multiples'" (2011) offers an alternative approach to the relationship between the Contemporary Art world and digital

¹⁷⁴ <http://www.isea-web.org/>

¹⁷⁵ Here the authors point to a very important phenomenon: The lack of communication between professionals in the field (2014, p. 60).

technology. Here, inspired by the “multiples” of Joseph Beuys, Akıncı proposes a new distribution model for contemporary artworks based on “digital multiples”. He observes that particularly after 1960, the notion of copyright became problematic for the artists as their production methods began to rely on appropriation more heavily (p. 154). He argues that “copyleft”¹⁷⁶ can be “a more effective ‘method for using the system against itself’” (p. 137), reminiscent of Yetişkin’s description of the paratactic media. Akıncı’s study is not about New Media Art per se, but it addresses some of the characteristics the New Media Art professionals often highlight in describing their field as opposed to the Contemporary Art territory. Finally, another thesis worthy of mention belongs to Kerem Ozan Bayraktar, who is also one of the artists interviewed for this study. In his “Object of Art in the Context of Systems Theory and Mapping” (2017), Bayraktar explores the boundaries of the artistic territory and its evolution from a systems theory point of view. The theory does not exclusively belong into the artistic territory and Bayraktar proposes it as an alternative to the traditional formalist aesthetic approaches that prioritize the medium (p. 6-7). He takes the art object as an open system (p. 29), and he discusses the phenomenon of systems art using the concepts of “software” and “programming” (p. 37). According to this model, the hardware or the medium constitute the main focus of the formalists who remain short of addressing the complex nature of the current artistic practices (Ibid.). According to Bayraktar, “the inner complexity of the artworks themselves directly affects the the inner

¹⁷⁶ A form of licence allowing anyone to copy and distribute the content in question, prioritizing the public’s right to knowledge creation rather than private commercial interests. Source: <https://www.britannica.com/topic/copyleft>

complexity of the art system” (p. 48). This idea of transition from static models to complex systems as described by Bayraktar is also highly reminiscent of Deleuze and Guattari’s rhizomatic model. Bayraktar’s study is not about New Media Art per se either, but it offers a fruitful ground for discussing some of the key issues around New Media Art’s medium-based vs. function-based characteristics in an increasingly Post-media world.

Not all the influential publications regarding New Media Art belong to the academic realm. *Exhibist*, an internationally distributed periodic publication on Turkish Contemporary Art, dedicated its entire eleventh issue in January 2017 to the New Media Art scene in Turkey, and it is still a valuable source of information on the territory’s state during the mid-2010s. First of all, it has a section titled “Introducing Established New Media Artists from Turkey”, i.e. a map of the artistic territory made available to the international readers. This list features Ali Miharbi, Erdal İnci, NOHLab, Pınar Yoldaş, Burak Arıkan and Refik Anadol, followed by an article by Ceylan Önalp titled “A Journey through Time in Turkey’s New Media Art Scene”, where Ebru Kurbak, Ayşe Gül Süter, Can Büyükberber and Nihat Karataşlı are also highlighted as the emerging artists worthy of mention. Another section, “A Selection of Artists and Collectives from Turkey”, presents Memo Akten, Selçuk Artut, Buşra Tunç, Ouchhh, DECOL, İskele47, Osman Koç, Bager Akbay, Zeynep Nal Sezer, Uğur Engin Deniz, EPITOME and Ozan Türkkan. Finally, the volume features an interview with Ebru Yetişkin realized by Mine Kaplangı, where Yetişkin discusses her curatorial journey in detail and her vision of the field. At one point, Kaplangı asks her about “the shortcomings of this field”, and Yetişkin’s answer is in

line with her gradual abandonment of the term “New Media Art” explained earlier: “I think we really need to <force quit> and <escape> = [new media art.] Art and technology works, which are tagged as [new media art] are increasingly used to multiply the authority of existing knowledge, structures, perceptions and ways of doing things”. She complains that despite the territory’s essential characteristics based on peer-to-peer work and open source, the actors in it still try to maintain the “hierarchical star system” of the older art scene models. However, she also identifies a growing tendency in the Contemporary Art institutions to feature art and technology-based practices in their exhibitions and talk programs.

2.6.6 Conclusions

The overview presented above illustrates three main points regarding the history and theory of New Media Art in Turkey. First, the scholarly attempts at historicizing the field have several references in common, but they are heavily based on the authors’ individual experiences as the very actors making that history. Their selection of individuals and events to present as the defining moments in the field’s history is often based on their own networks and initiatives. For example, while Ekmel Ertan emphasizes the role of Bilgi University’s VCD program, Başak Şenova places the emphasis on Bilkent University and the professional community in Ankara, each positioning their autobiographic experiences at the center of their narrative. Şenova can be considered a pioneer in several respects and her experiments at building a network of professionals under the umbrella of “digital culture” has had a vital role

in the emergence of the Turkish New Media Art territory. Like Şenova, Ertan noticed this community's growing potential at its early stages and worked towards building a network of creative individuals with a common professional ideology.

Second, except for a few artistic experiments scattered in between decades, the New Media Art scene in Turkey remained practically non-existent until the 1990s, and its evolution as an imported artistic genre has remained dependent on the timing of the new technologies' availability within the domestic sphere. Moreover, the local scene developed also thanks to a group of professionals going abroad to study or work towards the end of the 90s and bringing the know-how back to Turkey in the 2000s, which is another reason why the field still operates based on predominantly Western art historical and theoretical references and in synch with the international New Media Art sphere. Yetişkin can be considered an exception in this regard, for she has consistently been trying to propose new terms and concepts originating from the local art scene.

Third, the lack of consensus in the global professional community regarding New Media Art's scope and definition is present within the local context as well, which allows us to observe the boundary-work in action in more clarity.

2.7 Conclusions: The New Media Art World

This chapter has summarized the approaches to New Media Art's definition and scope, its historical origins and theoretical background, which yielded two main conclusions. First, the medium-based approaches to New Media Art's definition are

still far from generating consensus, and the term is only capable of covering a photographic moment in history at a given time. In fact, the art historical overview illustrates that every medium goes through a similar life cycle: in its emergence, the new medium is used for non-artistic purposes like in the case of photography, and the artists adopting it for innovative experiments represent the Avant-garde of their period. In its mid-life, the medium is gradually accepted by the artistic establishment while another, newer medium replaces it as the new Avant-garde. Video is a great example in this regard; it entered the museum collections much later than its first use in artistic experimentations, but in today's media ecosystem, its place in art history is as solid and legitimate as that of painting's. Finally, in its late life, the medium either becomes obsolete and finds its place in art history, or it continues to survive in a state transformed by the newly emerging technologies. A good example for the first can be a computer-based artwork that needs an outdated operating system to function, whereas the second finds its manifestation in a video artwork migrating from videotape to a digital file format. The Post-media perspective offers a solution to the crisis of the medium, and more artists and curators in the 21st century continue to embrace it as the dominant paradigm.

Second, like Contemporary Art, New Media Art is a Western invention; it has deep roots in the 19th- and 20th-century histories of Western art and technology. Its leading theoreticians and pioneering artists come from the Western world, and so do the technological developments that have become its *raison d'être*. Naturally, its multidisciplinary theoretical background features predominantly postmodernist

theories from the spheres of art, technology and communication, mapping the terrain for its analysis as a professional territory in demarcation.



CHAPTER 3

METHODOLOGY

3.1 Research Questions

As briefly mentioned in chapter 1, this study departed from the following research question:

Does a common professional ideology¹⁷⁷ exist in the New Media Art world¹⁷⁸ in Turkey?

And the following sub-questions emerged from the main question:

If so, has it changed throughout history? Does it follow or defy the art historical and theoretical narratives overviewed in chapter 2? Is it imported, or does it express a local identity? Is it monolithic, i.e. universal across the entire professional group, or do subgroups with competing ideologies exist? Put differently, do the New Media Art professionals in Turkey use the same cultural repertoire to describe their professional territory? If the cultural repertoires manifest differences, does a correlation exist between these variations and the professional identities of the subjects using them? What are the key neighboring professional territories for each subgroup and how do they position themselves in relation to these?

By answering these questions, this study aims at discovering the broader social dynamics that have been shaping the New Media Art territory in Turkey.

¹⁷⁷ As used in Gieryn's "Boundary-Work"

¹⁷⁸ As defined by Quaranta in "Beyond New Media Art"

3.2 Research Design

3.2.1 Sampling

The questions presented above could not be answered without turning to the individual testimonies of the professionals operating within the so-called New Media Art world in Turkey. The artists and the curators were the primary subjects of this investigation for the former demarcate and possibly expand the territory with their various artistic creations, and the latter do so either via theoretical contributions and/or by selecting the artists and the works to feature in their exhibitions, i.e. giving some of them exposure and eligibility and not to others. Moreover, two additional profiles that do not fit either category were also included in the analysis, the first of which was the creative producer without an artistic practice and examined as a member of the sample of curators. This has two reasons: first, this professional might occasionally assume curatorial roles, or a curator might assume managerial roles depending on the project, hence the boundaries between the two are often blurry. Second, their preference to work with certain artists and institutions over others are as influential in shaping the professional territory as the curators' choices. The second additional profile included in the sample of artists, on the other hand, was the artist using traditional media or both traditional and digital media. Examining this profile was crucial in understanding the grey, semi-permeable zones between the New Media Art and the Contemporary Art territories, and offered valuable insight into how artists in Turkey approached the problem of the medium and its role in the formation of their professional identity.

The sampling method was purposive, for the researcher knows her population very well and relies on her expert judgment. She was able to combine in her population a selection of interview subjects with a broad variety of educational backgrounds, career profiles and artistic/curatorial visions, which generated a fruitful ground to map the professional territory from a boundary-work perspective. The subjects in both samples were selected based on their professional titles available on LinkedIn if their websites were unavailable. The sample of curators/producers consisted of professionals born and/or based in Turkey who present themselves on their official websites as:

- New Media Art Curator, Media Arts Curator or Digital Art Curator;
- Curator, but whose projects are predominantly in the art and technology sphere, and/or feature New Media Art or digital technology;
- Creative Director, and whose projects are predominantly in the art and technology sphere, and/or feature New Media Art or digital technology;

The list of artists, on the other hand, consists of professionals born and/or based in Turkey who present themselves on their official websites as:

- New Media Artist, Media Artist, Digital Artist or Creative Technologist;
- Artist, but whose projects are predominantly in the art and technology, new media and/or digital technology sphere;
- Artist using traditional media, but with at least one work based on or involving data.

Having subjects from all three categories in each sample was important to be able to assess the extent and nature of the correlation between how the subjects present their professional identities and the specific nature of their curatorial or artistic practices.

3.2.2 Interviews

The data for this study was collected via semi-structured in-depth interviews with an average duration of seventy-five minutes. The interviews were either conducted in person and voice-recorded on smartphone with the interviewees' knowledge and consent, or conducted and video-recorded on Skype, again with the interviewees' knowledge and consent. The researcher transcribed these conversations and translated them from Turkish to English. The final textual format was then sent to each interviewee via Google Docs, where he or she was able to modify the content, and the researcher could follow these revisions in real-time. Modifications mainly consisted of revising the statements needing further clarification, adding the information the interviewee found necessary but forgot to mention during the interview, removing the irrelevant statements, correcting inaccurate information, and completing the missing parts not heard clearly in the recordings. Another round of changes took place if deemed necessary by either party, and the final version entered the data set as agreed upon by both parties.

The interview was composed of two sections the first of which consisted of a standardized set of questions about the subject's professional identity and

affiliations (Table 1). Based on a combination of factual information and keywords, it aimed at discovering the interviewees' own perception of their professional identity and the professional territory they felt part of, and the correlation between the two. The first two questions examined their educational background to observe the extent and nature of its impact on their professional identity. Their income sources were investigated in question 4 to assess their potential impact on their professional ideologies. Questions 3, 5, 6, 7 and 8 focused on their professional demarcation strategies within the field and in relation to the neighboring fields they perceived as friendly or antagonistic. Question pairs 5-6 and 7-8 appeared too similar to each other at first sight but they actually required slightly different types of information; while 5-6 asked about the keywords used by others to describe the subjects, 7-8 asked about their own feelings of belongingness to a professional group or its lack thereof. Finally, question 9 investigated the subjects' actual and hypothetical institutional affiliations, as these were expected to offer valuable insights into the specifics of their professional ideologies.

Table 1: Standard questions used in the in-depth interviews

INTERVIEW QUESTIONNAIRE	
1.	Educational background (universities, departments, levels of degree: B.A./B.F.A.; M.A./Msci/M.F.A., Ph.D., etc.)
2.	Professional education/certificate programs, workshops and/or courses if any
3.	Professional title(s): Please list your professional titles and rank them in order of relevance in defining your professional identity.
4.	Your primary source(s) of income?
5.	Please list five keywords regularly used in reference to

	your professional identity that you find most relevant in defining your professional identity, and explain why.
6.	Please list five keywords regularly used in reference to your professional identity that you find least relevant in defining your professional identity, and explain why.
7.	Top 3 professional groups you see yourself as an insider of (in order of relevance)? Why?
8.	Top 3 professional groups you see yourself as wrongly associated with and as an outsider to (in order of irrelevance)? Why?
9.	Please list the institutions (can be both types of institutions or specific institutions from Turkey and abroad) that you perceive as associated with each of your professional titles you provided in question 3.

The tailored questions, on the other hand, were semi-standardized and customized for each interviewee depending on the specifics of their curatorial/artistic statements and portfolios/projects. These questions enabled the researcher to initiate in-depth discussions on the definition, history and theory of New Media Art and the latter's relationship to Contemporary Art, as well as the subjects' positions regarding the use of data in artistic practices. During these conversations, the researcher often acted like the devil's advocate and pinpointed the grey zones in the subjects' articulations to see how the subject defended his or her position in the face of counterarguments. The use of the concept of data as an anchor took place at this stage as well. These, in turn, allowed the researcher to better understand the subjects' professional ideologies and to observe their demarcation tactics in action.

The interview process began with Özcan Saraç in November 2018, and reached completion with Refik Anadol in July 2020. The following professionals were contacted with an interview request (in alphabetical order):

Curators/producers: Başak Şenova, Ceren & Irmak Arkman (GRID), Ebru Yetişkin, Ekmel Ertan, Elif Demirci (Datafobik), Erdem Dilbaz, Esra Özkan, Lalin Akalan.

Artists: Ahmet Said Kaplan (DECOL), Ali Miharbi, Bager Akbay, Burak Arıkan, Can Büyükberber, Candaş Şişman (as himself and as a member of NOHlab), Çağrı Taşkın (Oddviz), Didem Yalınay, Doruk Kumkumoğlu, Ebru Kurbak, Elif Ayiter, Erdal İnci (both as himself and as a member of Oddviz), Genco Gülan, Güvenç Özel, Hakan Gündüz (DECOL), Hazal Fırat, Kerem Ozan Bayraktar, Mahir Yavuz, Memo Akten, Nihat Karataşlı, Ozan Türkkkan, Özcan Saraç, Refik Anadol, Selçuk Artut, Sergen Şchitoğlu, Serkan Kaptan, Süleyman Yılmaz (Awesome Brothers), Şifa Girinci, Taşkın Esin, Uğur Engin Deniz.

All curators in the population have been interviewed except for Lalin Akalan who was contacted via e-mail, but no response was available. In the artist population, it was not possible to arrange an interview with Memo Akten, Mahir Yavuz and Güvenç Özel due to their busy schedules. Elif Ayiter refused to dedicate time to the tailored questions and responded only to the standard questions via e-mail, thus she was not included in the final sample to avoid upsetting the data's comparability. Ebru Kurbak was also reached via e-mail, but no response was available after the second exchange of emails.

3.2.3 Method of Analysis

The data collected from the curators/producers and the artists were analyzed separately, and the conclusions for each population were then analyzed comparatively. The units of analysis in the data collected via standard questions were the standard answers given in the form of word lists analyzed under the following categories:

- Education profile;
- Professional identity;
- Income sources;
- Institutions identified with.

The units of analysis in the data collected via tailored questions, on the other hand, were the interviewees' arguments and articulations analyzed under the following categories:

- The definition and scope of New Media Art: In this category, the researcher examined the interviewees' comments and observations on the definition and scope of New Media Art, whether its meaning changed over time, whether it was still a relevant term or not, and its position in relation to the Contemporary Art sphere, comparing the findings with the literature on definitions provided in chapter 2.
- New Media Art's historical origins: Here, the researcher investigated where in the history of art and technology the subjects identified New Media Art's origins, and compared the findings with the literature on history provided in chapter 2.

-Theoretical affiliations: In this category, the researcher traced the interviewees' curatorial or artistic positions, i.e. the main ideologies driving their practice, their views on the effects of technology on society, their observations on the nature of contemporary technological systems, and their positions regarding the problem of the medium and media hierarchies, comparing the findings with the literature on theory provided in chapter 2.

-Approach to data as artistic material: Here, the researcher examined the various meanings in which the subjects used the term, whether they offered any references to the concepts and theories developed around data and its use in artistic practices, and the aspects making data art artistic, comparing the findings with the literature on data art provided in chapter 2.

This method of analysis was useful in three ways. First, it allowed the researcher to directly compare the data obtained from the curators/producers with the data obtained from the artists. Second, it allowed the researcher to systematically compare the findings specific to the New Media Art sphere in Turkey with the global New Media Art context. Third, the designed categories produced the data able to answer the research questions listed earlier in the following way:

- 1) The analysis of the data collected from the standard questions as well as the data on the definition and scope of New Media Art revealed whether a common professional ideology existed in the New Media Art world in Turkey;
- 2) The analysis of the data on New Media Art's historical origins revealed if this ideology had changed throughout history, and whether the Turkish narrative was in

harmony with the global historical narrative. Similarly, the analysis of the data on New Media Art theory was used to determine whether the Turkish theoretical ground was similar to the global one. These, in turn, revealed insights into whether New Media Art in Turkey was an imported concept or had local characteristics specific to itself.

3) Subgroups with competing ideologies revealed themselves in the arguments and articulations in the data collected from tailored questions.

4) The correlation between the variations of cultural repertoire and the professional identities of the subjects was reflected in the extent and nature of the correlation between the data from the standard questions and the data from the tailored questions.

5) The key neighboring territories for each subgroup were possible to trace in the keywords and professional groups collected from the standard questions and the subjects' in-depth articulations on both curatorial/artistic positions and their approach to data as artistic material in the data from tailored questions.

3.3 Challenges Encountered

The main challenges encountered in the research were:

1) The sampling of subjects with multiple professional roles: The professional roles in the New Media Art world are as versatile as the artistic practices themselves, and their domains are hardly mutually exclusive. For instance, some professionals work

as artists and curators at the same time. Curators often step into the role of a producer if they have to mobilize the financial and technical resources the artists necessitate for finalizing their projects. Some artists working in a studio environment also act as creative directors or project managers rather than individual creators to manage some large-scale projects. In this study, the curators who were also artists (e.g. Ekmel Ertan) were categorized under curators, and the artists who were also creative producers or studio directors (e.g. Candaş Şişman) were categorized under artists.

2) The analysis of the data collected from members of creative studios: Some interviewees were the founders and/or members of creative studios, such as Süleyman Yılmaz (Awesome Brothers), Ahmet Said Kaplan and Hakan Gündüz (DECOL), Candaş Şişman (NOHlab), Erdal İnci, Çağrı Taşkın and Serkan Kaptan (Oddviz). Among these, Candaş Şişman and Erdal İnci also had individual artistic careers independent of the studio. The data collected from these subjects was more difficult to categorize and evaluate. To overcome this challenge, the researcher evaluated the data collected from Şişman and İnci in two parts, i.e. the data representing the individual artist and the data representing the studio. Yılmaz represented himself and the studio under one single category, and while Kaplan and Gündüz represented DECOL, their individual professional identities were too highly pronounced to be evaluated under the studio only, so they were also analyzed as two separate individuals.

3) The subjects' interpretations of the standard questions: Some standard questions were interpreted differently by different subjects, hence the data produced by them

was not as standardized as originally planned. For example, when the subjects were asked about the keywords regularly used in reference to their professional identity, some offered words actually used in various contexts to describe them while others offered more hypothetical ones they found incorrect or irrelevant in principle. Similarly, when asked about the close or far professional groups, some mentioned the groups they considered as neighbors, whereas others mentioned them as groups they felt they belonged into. The researcher refrained from guiding the interviewees towards one interpretation to avoid the researcher bias to intervene in their articulations as much as possible. Yet, all these answers had to be evaluated cumulatively, and this remains as one of the study's weakest points. The "why" parts of these standard questions were often ignored as well, but the answers to the tailored questions compensated for the majority of that loss of detail.

CHAPTER 4

CURATORS/PRODUCERS

4.1 Standard Questions

The data obtained from the standard questions is illustrated in Table 2a and Table 2b, in alphabetical order, based on the subjects' first names.

Table 2a: Curator/Producer data obtained from the standard questions (profile)

NAME	DEGREES	TITLE ON WEB	TITLES	INCOME
BAŞAK ŞENOVA	English Philology; Graphic Design; Art, Design and Architecture	Designer; Curator (website)	Designer; Curator	Teaching at the university;
CEREN ARKMAN (Grid Istanbul)	Political Sciences, History, Cultural Studies	Director, Grid Istanbul (website)	Creative Producer, Curator	Event organization projects (unsteady income)
EBRU YETİŞKİN	Radio-TV-Cinema; Science, Technology and Society; Sociology	Curator, Researcher (website)	Researcher; Sociologist only after many years	Teaching at the university;
EKMEL ERTAN	Electronics/Communication Engineering; Interactive Media Design;	Design and Development Consultant at Motion Composer; Artist, Curator, Educator (linkedin)	Curator; Artist; Cultural Manager; Educator; Artistic Director (Amber festival);	Teaching
ERDEM DİLBAZ	Management of Performing Arts	Founder, Electronic Arts Producer at NERDWORKING (linkedin)	Electronic Arts Producer, Scenographer, Manager	Scenography; Nerdworking
ELİF DEMİRCİ (DATAFOBİK)	Sociology; Cognitive Sciences	Creative Technology Director (linkedin)	Project Manager; Creative Technology Manager;	Freelance project management

			Production Manager; Production Designer	
ESRA ÖZKAN	Plastic Arts; Philosophy and Social Sciences (ongoing)	Arttech&Science Curator (website)	Curator; Art Director; Researcher	ArtBizTech regular wage; curatorial fees
IRMAK ARKMAN (Grid Istanbul)	Arts, Entertainment and Media Management	Director, Grid Istanbul (website)	Creative Producer, Curator	Event organization projects (unsteady income)

Table 2b: Curator/Producer data obtained from the standard questions (keywords)

NAME	POSITIVE WORDS	NEGATIVE WORDS	CLOSE PROFESSIONS	FAR PROFESSIONS	INSTITUTIONS
BAŞAK ŞENOVA	Digital Culture; Sound; Spatial Issues; Exhibiting & Curating; Control; Memory	Art Critic; Art Historian; Artist	Curating; Design; Editing	Not specified	Arter; Salt; Akbank Sanat; Istanbul Biennial; Kunsthalle Exnergasse; Universität für angewandte Kunst Wien; Galerie Rotor (Graz); Camera Austria (Graz); Künstlerhaus Büchsenhausen (Innsbruck)
CEREN ARKMAN (Grid Istanbul)	Snob, arrogant	Not specified	Agents, Producers, Organizers, Curators	Not specified	Espacio Fundación Telefónica in Lima, Elektra, Mutek, How Art Museum
EBRU YETİŞKİN	Transdisciplinarity; Collective Production; Transparency and Open Source;	Curator; Moderator; Academician; Organizer; Art Critic; Writer	Academicians; Art Critics;	Curators;	Amber platform; Women in Art, Science and Technology; STS Istanbul Lab; independent research collectives (Bager Akbay/Mine Kaplangı); worked with but

					not identifying with Borusan Contemporary and Akbank Sanat
EKMEL ERTAN	Education; Art-and-Technology; New Media; Curatorial Practices	None	Educators; Arts and Culture Managers; New media, Art&Technology Curators; Researchers;	Not specified	All independent initiatives; worked with but not identifying with Borusan Contemporary
ERDEM DİLBAZ	Interaction; Digital; Electronic; Scenography; Creating worlds; Developing concepts; Tough negotiation	None	Management; Production; Stage Design	Artist	Signal Light Festival; Moment Factory; Onion Lab; Bi'Seyler Yeni Medya;
ELİF DEMİRCİ (DATAFOBİK)	Management; Creative Technology; Art-Science intersections; Audiovisual	Production Manager in the more traditional sense;	Digital Media Manager; Communication professionals; Production Professional	Advertising	Ars Electronica; Digilogue; Creative coding collectives like 404 zero
ESRA ÖZKAN	Crazy, creative, calm, philosophy	Artist	Advertising; Curating; Copywriting; Philosophy	Finance professional; banker; pilates or xumba trainer	Borusan Contemporary; Contemporary Istanbul; Akbank Sanat to some extent; Kikk; Ars Electronica; Elektra; Mutek; Marshmallow Laser Feast; V&A, Pace Gallery; Saatchi Gallery; Momentum Factory; Field
IRMAK ARKMAN (Grid Istanbul)	Excessively moralistic	Not specified	Not specified	Not specified	Institutions in Canada, Latin America and the Far East

4.1.1 Education Profile

The curators/producers come from a variety of educational backgrounds that are also eclectic in themselves. Şenova studied Literature, transitioned into Design and

pursued a Ph.D. degree in Art, Design and Architecture. She is also the only subject in the sample holding a degree in Curating, but at the certificate level. Ertan studied Engineering and switched to Interactive Media Design, whereas Yetişkin pursued a Ph.D. degree in Sociology after studying Cinema-TV and completing the interdisciplinary Master's program in Science, Technology and Society, and she received her Associate Professorship degree in Digital Culture. Dilbaz studied Performing Arts Management at the Bachelor's level, whereas Demirci studied Sociology and Cognitive Sciences. The only subject with a Plastic Arts degree at the Bachelor's level is Özkan, who then switched to Art Management and pursues a graduate degree in Philosophy and Social Sciences. The Arkmans operate as a duo with their own production firm, Grid Istanbul, and their educational backgrounds point to a clear division of labor. Irmak has an Arts, Entertainment and Media Management degree, while Ceren studied Political Sciences, History and Cultural Studies. However, they do not refer to such a division when describing the nature of their teamwork.

Except for Dilbaz who remained in management in both his choice of education and career, the subjects come from highly multidisciplinary educational backgrounds, and the entry of each one of them into the art world took place via different channels. Although they initially pursued non-artistic degrees, both Şenova and Ertan have been involved in art since a young age. Şenova began to work as a Graphic Designer during her Bachelor's years in Literature. Her B.A. introduced her to the critical theories of Derrida and Structuralism, and her work as a designer offered her access into the Bilkent University's MFA program. Here, she became

involved in artistic projects as an assistant to Fulya Erdemci and she published three bulletins for the Istanbul Biennial, which marked a decisive moment in her introduction into the artistic community. Ertan has an artistic practice alongside his curatorial one that initially took the form of photography. Yetişkin, on the other hand, says that her background in cinema had a big influence on her curatorial approach. Demirci comes from a career in content production for digital platforms and she currently teaches Artificial Intelligence and Cyber Culture at the university level in addition to her free-lance practice in project management. During her student years, Irmak Arkman began to work for some production companies, and Ceren joined her after giving up on the idea of pursuing a Ph.D. degree and remained as her partner in Grid Istanbul ever since. Ceren says she believes that field experience is much more important than formal education in the making of a successful curator.

4.1.2 Professional Identity

The subjects' professional identities are assessed based on the information in Table 2a and 2b. For Şenova, her identity involves both design and curating, “and none has priority over the other”:

“[...] This background has always shaped my way of approaching contemporary art in terms of my working methodology, observation criteria, and critical—as well as analytic—thinking. This designer’s approach [...] also determines my curatorial approach as I simply understand the world

through the problem-solving methods in design. [...] I also teach (as Assoc. Prof. Dr.) and teaching involves all”.

When curators/producers are asked to provide their professional titles, the only subject who refrains from calling herself a “Curator”¹⁷⁹, even placing it in her list of far professions, is Yetişkin. She says she prefers the title “Researcher” instead:

“[...] I conduct independent and transdisciplinary research in collaboration with artists, scientists, theorists, technologists, activists, engineers and designers who adopt critical and self-reflexive positions in their field”.

Yetişkin approaches the exhibitions as “experiments of thought” thanks to which her research finds a channel of expression through artistic forms. She adds that her exhibitions can also be interpreted as “critical interventions on the field”, and yet she avoids the title “Art Critic”, for she thinks what criticism is deeply misunderstood in Turkey. She also rejects the titles of “Moderator” and “Organizer”. When asked about the professional groups she feels close to, she mentions “Academicians” and “Art Critics” even though she excludes them from her professional titles; in fact, her negative keywords include “Academician”. Ertan is the only subject in the sample identified both as “Artist” and “Curator”, but he also identifies himself as “Cultural Manager”, “Educator” and “Artistic Director” thanks to his role in amberPlatform. He admits he finds it difficult to describe his identity to a new acquaintance; his identity changes from context to context and his main concern is not professional demarcation. Dilbaz underlines his role as

¹⁷⁹ Interestingly, Yetişkin still presents herself as a curator on her official website. View: <http://www.ebruyetiskin.com/?lang=en#about>

“Manager and Producer with a focus on Electronic Arts”. No other subject uses “New Media” or any other medium-based prefixes in their titles, and when asked why he prefers it over “Digital Art” or “New Media Art”, he says it is a term “more inclusive than Digital Arts”:

“[...] People imagine animated visuals nowadays when they think about the digital, but Electronic Arts is a production process where you also need to predict the electronic aspect of the job but with an artistic viewpoint [...]”.

He is not bothered by his professional identity being misunderstood; he enjoys the ambiguous terrain he often finds himself in thanks to it, and he thinks this actually makes him more influential. Similarly, Demirci focuses on the project management aspect of her identity, but she also complains that confusion arises regarding the division of labor when working in a team:

“[...] My role is actually closer to that of a Creative Director, and yet I am not considered one because there is usually someone else in the team under that title”.

Özkan’s and the Arkmans’ responses are more similar to each other than to the rest of the group. When asked about the keywords used in reference to their professional identities, they all mention adjectives describing their personality traits: “Crazy”, “creative” and “calm” for Özkan; “snob” and “arrogant” for Irmak Arkman, and “excessively moralistic”¹⁸⁰ for Ceren Arkman. Moreover, Özkan uses the titles “Curator”, “Art Director” and “Researcher”, while the Arkmans prefer “Creative

¹⁸⁰ Ceren uses this definition in relation to Grid Istanbul’s attitude towards work ethic.

Producer” and, to a lesser extent, “Curator”¹⁸¹. In other words, their professional identities combine curatorial and managerial functions. In fact, the Arkmans identify more closely with producers/organizers than curators/educators, and they criticize the latter for not being sufficiently knowledgeable in technical problem solving. Irmak explains why they prefer the title “Creative Producer” over “Curator”:

“As the artists we collaborate with also agree, we do not only curate. We do not just select works; we produce the work in collaboration with them. [...] Curating in New Media has to transcend boundaries in terms of division of labor anyway”.

Furthermore, when asked about her list of close professions, Özkan mentions writing, particularly emphasizing advertising and its close relationship with the New Media Art territory:

“[...] If I had not become a curator, I would definitely have become a copywriter, an advertising professional or a journalist. As you see, all these professions involve some kind of writing”.

Another element in common between Özkan and the Arkmans is their perception of themselves as members of the artists’ teams and their degree of involvement in the works’ production processes. Özkan believes that a close collaboration with the artist is indispensable for a successful outcome:

¹⁸¹ The Arkmans explain that Creative Producer is a better term in reference to their line of work compared to Curator, for they do not only write texts and arrange the exhibition layout but also solve technical issues and have advanced technological skills, often more so compared to the technical teams they worked with at the clients’ venues.

“This is teamwork. I see myself as a member of every team I work with rather than a curator [...]”.

In describing her relationship with the artists, Yetişkin uses a rather interesting term:

“[...] I cannot work with someone I cannot have a *muhabbet* with. This concept is crucial; the word means love, friendship, affection, etc. If we do not mutually share with each other the things we are excited or curious about, we cannot collaborate [...]”.

4.1.3 Income Sources

Şenova, Yetişkin and Ertan¹⁸² report university-level teaching as their main source of income. On the other hand, regarding her projects’ funding sources, Şenova explains that the majority of it has been coming from abroad, and when funding is available, she and her collaborators spend it on artwork production and purchasing equipment:

“Until I moved to Austria, I was always either acting as a faculty member (Assist Prof. Dr.) or teaching as a guest lecturer in the universities in Turkey. For sure, when I came back to Turkey in 2003, I had no steady source of income until I had an offer from a university. [...] I mostly received income from the projects abroad. However, especially in the beginning of 2000s the curatorial fees were either non-existent or very symbolic in Turkey”.

¹⁸² Ertan’s teaching career is currently inactive. Moreover, his LinkedIn profile presents him as a consultant to a motion design firm in Germany, but the information is apparently outdated.

Ertan mentions the EU as an important funding source as opposed to the local ecosystem where state funding for the arts is practically non-existent. This is one of the reasons why one of Ertan's primary concerns is the future of the independent artistic initiatives. As the founder of at least a few of them, he admits he occasionally receives corporate funding or does project-based collaborations with some private institutions. Yet, he believes that independence can still be maintained by not regularly accepting funds from the same institution, and by engaging with as many sponsors as possible for each project. Yetişkin expresses a similar sensitivity, particularly regarding independent research. When asked whether she makes her living through the academia, she replies:

“Yes. But I do not define myself as one. Academics and Researchers are different things. The former conducts research within the academic circle, and the latter can conduct research in various circles including academia”.

Dilbaz, Demirci and the Arkmans explain that they rely on project-based, unsteady income. Dilbaz identifies his production company Nerdworking¹⁸³ and scenography as his primary income sources with some additional income from his individual side projects, while adding that it is not easy to sustain a business under the current economic circumstances, which is the reason behind their intense collaboration with “the entertainment and advertising sectors”. He says the income they obtain from these areas is then invested in art and innovation. Demirci, on the other hand, relies on freelance project management for brands and companies, while the Arkmans rely on event organizations, but only if they involve art and/or design. They say they

¹⁸³ <https://nerdworking.org>

cannot avoid private funding altogether as state funding for the arts is not available in Turkey like it is in Europe. Instead, they say that, as one of their main responsibilities as curators, they “educate” their corporate clients on the correct terms of doing business with the artists. Finally, Özkan’s regular income is based on her position at ArtBizTech¹⁸⁴, and she receives additional curatorial fees from her independent projects.

4.1.4 Institutions Identified with

Currently based in Vienna, Şenova already operates within a highly international network, while her list of institutions is more autobiographical and both geographically and categorically more heterogeneous than the other subjects’. Despite his involvement in plural disciplines and in various institutional collaborations, Ertan identifies himself with the independent initiatives¹⁸⁵, while Yetişkin mentions some independent research collectives in addition to Ertan’s amberPlatform. Indeed, the subjects with an academic or teaching career identify more closely with the independent art and research initiatives. Both Yetişkin and Ertan mention their project-based collaborations with some corporate institutions like Borusan Contemporary and Akbank Sanat, and yet they add that they do not identify themselves with them. Dilbaz mentions creative studios and festivals from

¹⁸⁴ At the time the interview was conducted, Özkan was a member of ArtBizTech, a firm specialized in Design Thinking offering innovative problem solving trainings to corporate clients, as well as organizing exhibitions and events to encourage the use of innovative technologies in art. As of 2021, Özkan works for the Contemporary Istanbul art fair and curates its Plugin section dedicated to New Media Art. She also continues her free-lance projects as an independent curator.

¹⁸⁵ The role of the independent initiatives in the New Media Art territory in Turkey was also highlighted in Çaşkurlu Belgesay’s study.

various parts of the world, benchmarking them against Nerdworking. Demirci mentions Ars Electronica in the world and Zorlu's Digilogue in Turkey, as well as creative coding collectives like 404 zero. Özkan's list includes institutions such as museums, galleries and festivals both from Turkey and abroad, while the Arkmans only refer to the institutions from abroad. Interestingly, Ceren observes that "the institutions in Canada, Latin America and the Far East" perform better compared to their European counterparts. She believes that the latter lost momentum due to the recent cuts in state funding.

4.1.5 Conclusions

According to the data obtained from the standard questions, the New Media Art curators/producers in Turkey have a variety of educational backgrounds ranging from fine arts to design, management, engineering and social sciences, or from a combination of two or more of these disciplines. None of the subjects except for Şenova has formal or professional education in curating, and they all have stepped into the art world via practical experience and networking. Yet, a multidisciplinary background appears to offer a particular advantage in New Media Art curating and production. Some technical skills demanded by this role are impossible to acquire under traditional art and curating departments, or they change at a speed that formal education cannot immediately respond to. Consequently, the skills acquired in areas like engineering and design become a valuable asset in distinguishing these professionals from other curators and managers/producers operating in the broader

Contemporary Art sphere. The theoretical background and research skills acquired in social sciences or humanities, on the other hand, help them build a meaningful context for their investigations into various topics around art and technology.

Regardless of their educational backgrounds, the curators'/producers' main income sources are either teaching (mostly university-level but not only), project management (exhibitions, publications, talks, events, etc.), or a combination of the two. Regular income is not always available, and when it is, it seldom comes from curating. Due to the absence of state funding for New Media Art in Turkey, they have to collaborate with the private sector and especially the corporate world, and their biggest challenge is to do so without having to compromise their interests or those of the artists they work with. The lack of institutional diversity in the arts and culture ecosystem in Turkey compared to the West leaves them with a very limited number of institutions they can collaborate with. Hence, even if they do not professionally identify with some of them, they still continue to work with them, so that they can sustain their careers in the long run. Thus, it should not be surprising that some subjects mention more names of institutions from abroad than from Turkey; apparently, the local art scene still lacks a good example of a New Media Art institution combining the democratic values of the independent initiatives with the financial and infrastructural capacities of the corporate institutions.

4.2 Tailored Questions

4.2.1 The Definition and Scope of New Media Art

How the subjects describe New Media Art and its scope is examined under three subcategories: terminology and defining characteristics, the meaning and relevance of the term “New Media Art”, and the relationship between the territories of New Media Art and Contemporary Art.

4.2.1.1 Terminology and Defining Characteristics

All the subjects in the sample population acknowledge the importance of both medium-based and function-based characteristics in defining New Media Art, but the emphasis they place on one or the other is positively correlated with their individual career orientations which, in boundary-work terms, also determines their cultural repertoires. The subjects with a more academic orientation¹⁸⁶ emphasize New Media Art’s function-based characteristics, especially its ability to challenge the existing political structures, and they generally refer to their professional territory as “digital culture”. Şenova uses the term several times and refers to the individuals and groups associated with it as “actors of digital culture” and “digital-minded communities”. Other concepts that she emphasizes include “network”,

¹⁸⁶Şenova, Yetişkin and Ertan. Despite his currently inactive teaching career, Ertan is evaluated as part of this group due to his identification with the title “Educator” and his declaration of teaching as his main income source. Demirci, on the other hand, is included in the second group with a managerial career orientation despite her teaching career, for she identifies with the title “Manager” and declares her project management practice her main income source. The subjects other than Ertan and Demirci do not pose such a dilemma.

“process”, “experiment”, “interdisciplinary collaboration”, “critical thinking” and “open-source”. She considers “free culture, open source, networking, and distributed networks” as “potential answers to how we can build a more democratic and critical art world”¹⁸⁷. She is openly critical of a technofetishistic approach that emphasizes the medium¹⁸⁸:

“[...] I still think that the medium is not the prior element in it. It is the ideology/ies brought by that medium. [...] This is not about showing some hi-tech, over-designed, and beautiful objects [...]”.

As an Associate Professor in Digital Culture, Yetişkin mentions defining concepts similar to Şenova’s, such as “collaboration”, “collective production”, “transdisciplinary dialogue”, “network”, “process”, “experiment”, “transparency”, “open-source” and “critical approaches”. On a similar note, Ertan explains how amberFestival emerged as a response to the emergence of “a group of interested young people” around digital culture in the early 2000s, and how they intended to “build a community around it and make it part of our cultural universe as well as [...] bring this digital culture developing around art, technology and design to the public’s attention”. Furthermore, like Şenova and Yetişkin, Ertan emphasizes “critical approaches” as a better defining element for the field compared to the medium-based criteria:

¹⁸⁷ Her choice of terms is reminiscent of Chatzichristodoulou’s and Pereira’s, mentioned in chapter 2.

¹⁸⁸ Let us remember Şenova’s remarks mentioned in chapter 2, where she says that mainstream art institutions have the tendency to reduce digital culture to a medium-based phenomenon.

“Using new technologies alone is not enough to make New Media Art; you need a statement. Some of the early works in New Media Art were not far from creating only beautiful images or beautiful moving images using computer technologies. But at that stage, creating such an aesthetic with a machine was a statement in itself”.

Another terminology regularly used by Ertan is “art and technology”, appearing in combination with “a junction of”, “the relationship between” and “the intersection of”. Şenova uses the term in reference to the atmosphere at the Bilkent University during the 1990s, which she describes as “the epicenter for the new experimental academic and non-academic art and technology-based knowledge from 1990 to 2000”. Similarly, on her website, Yetişkin presents herself as a “curator and researcher, who is working on the interaction of science, technology and art”.

The subjects with a more managerial/organizational career orientation, independently of whether they present themselves as “curator” or “producer”, highlight the possibilities offered by new technologies in the generation of new forms of experience. When they address New Media Art’s functional characteristics, they focus on the ones that are related to its perceptual reception such as interactivity and immersion, and its ability to overthrow the traditional methods of art and exhibition making. The Arkmans use the terms “digital art”, “digital design” and “experience design” as well as “New Media Art” and “New Media practices”, indicating a deeper identification with the medium-based characteristics compared to Şenova, Yetişkin or Ertan. They emphasize “collaboration” and “teamwork” as

well, but they do so within a technical rather than a philosophical context. But while Ceren focuses on the field's ability to create new forms of experience, Irmak observes that a medium-based taxonomy allows some professionals to "build themselves territory", and a medium-based approach has its own pitfalls:

"[...] To be New Media, something does not necessarily need to be high tech. One of the best New Media Artists I know is Zimoun, and he does not use anything new: ropes, wires, dc motors... But their outcome is what is new [...]."

Demirci uses the terms "New Media", "New Media Art", "New Media design" and "New Media sector", and in discussing the functional characteristics, she emphasizes "experience", "affect" and "interaction". She even argues that "New Media Art is Media Art with interactive or sensor-based elements", and by Media Art she refers to Photography and Video. Like Irmak Arkman, she questions the shortcomings of a medium-based approach, and she pushes the "projects with weak content that appear strong thanks to the high level of technology involved in them" outside New Media Art's professional territory. Dilbaz, on the other hand, occasionally uses the term "New Media Art", and in describing his professional identity, he proposes "Electronic Arts" as an alternative that also comprises "Digital Arts". He also discusses "interdisciplinary collaboration", but from a business viewpoint. He regularly mentions "interaction", including in his list of keywords. Interestingly, in spite of his ambition for commercial success, he expresses a strong adherence to the "open source" culture and the free sharing of knowledge. Like the

Arkmans and Demirci, he is skeptical towards medium-specificity, and like Irmak Arkman, he keeps an open mind towards non-digital works that can be considered New Media:

“Actually I prefer calling [New Media] New Medium. It sounds more correct to me as it is based on making use of the developing technologies added on top of the existing ones. [...] It does not have to be screen or computer-based. I do not have to see a digital component. A mechanical, interactive work also feels like new media to me, for it is a new medium”.

Finally, Özkan regularly uses the terms “New Media” and “New Media Art” as well as “digital arts” interchangeably. She mentions “experience” several times, and discusses how “immersive spaces” and “immersive experiences” are able to generate “emotion”. But she also sees “interdisciplinarity” as a crucial element, and her articulation of “process” distinguishes her from the other subjects with a managerial orientation. Yet, her use of the term is different from the academically oriented subjects: Özkan finds the process behind the work of art important in determining its artistic value, while the academic subjects discuss “process” as an artistic form in itself¹⁸⁹.

¹⁸⁹ “Process” as in Christiane Paul’s definition, for instance.

4.2.1.2 The Scope and Relevance of the Term “New Media Art”

Regarding the scope of “New Media Art”, and whether it is still a relevant term or not, some interviewees provide detailed accounts on how the term’s scope changed throughout history, confirming this study’s earlier observations on the term’s fluid nature and shifting references.¹⁹⁰ Regarding relevance, Şenova says the term continues to exist “probably due to the fact that there is an ideology and a culture around it, and the funding structures are still based on the earlier media categories”. On the other hand, Ertan finds the term relevant, not as a genre but as “a movement” that “emerged in the mid-80s and lasted until the mid-2000s” and “developed around a group of artists, a culture involving creative industries and festivals such as Ars Electronica, Transmediale, and V2_”. But he also adds that “today, the movement is over:

“[...] people still create work at the intersection of art and technology, but it is either called Digital Art within a broader framework, or Post-Media. New Media still makes sense for its utopian approach which is still relevant. [...] New Media said something beyond art’s digitalization, and, although it is a controversial term, there are still works that I can only define with the term New Media Art”. “[...] The works that deal with imminent problems of our age with certain approaches, technologies and methods of ‘New Media Art’ [...]”.

And it is partly over due to the following:

¹⁹⁰ Paul and Pereira also depicted a scope prone to change over time.

“[...] As tech companies dominate the art scene, the critical aspect of technological artworks will disappear. That was a problem and a reason for many discussions in the fifties too. Those discussions created the tension between the art world and the new media artists causing the distance between them, but also raised the emphasis on the critical approach of New Media Art”.

Unlike Ertan, Yetişkin finds the term problematic to begin with, for “it reproduces the modernistic paradigm and it is open to speculation”. She attributes the term’s growing popularity to the contemporary art institutions’ changing strategies, as these “began to exhibit works by artists working in different fields, using different techniques and different critical approaches”. In fact, she thinks the term is “imposed by the Contemporary Art market” for a number of reasons:

“[...] first, artists, curators and others working in [New Media Art] began to infiltrate the Contemporary Art market. Second, art institutions had to maintain the fetish for the new to survive in this neoliberal capitalist economy, and they wanted to revive the stagnant art market with some exciting novelty”.

Nevertheless, Yetişkin continued to use the term “paratactically over and over again, hoping to generate polemic and speculation around it”, to “draw people’s attention to its problematic nature”, i.e. to the technofetishistic approaches in it. In fact, she is the only subject proposing a new terminology independent from these dynamics. Translated into English as “Contemporary Art // Yet Another”, the term

“Günümüz Sanatı // Bir Başka” resembles the “Hybrid Art category at the Ars Electronica Golden Nica Awards” in nature¹⁹¹, and it emerges as a third alternative to the two dominant Turkish translations of Contemporary Art, namely, “Çağdaş Sanat” and “Güncel Sanat”. Each term is associated with one of the two most prominent curators in the Turkish art world, Beral Madra and Vasıf Kortun. This way, not only does Yetişkin do boundary-work within the New Media Art territory, but she also claims expanded territory in the broader art sphere by extending her domain of expertise to a less medium-specific territory.

On a similar note with Yetişkin, Demirci observes that New Media Art became a “buzzword”, while Özkan makes a distinction between an authentic New Media artwork with an elaborate process and artistic awareness behind it vs. “work similar in appearance to the professional and authentic works” made using “apps or programs on the Internet allowing any user to produce a New Media work”. Dilbaz uses the term comfortably, but he also adds that “New Media Art has not yet established itself firmly, and is still looking for acceptance”, and he believes its newness and the lack of a standardized range of ethically acceptable behaviors is at the heart of the problems experienced by its professionals¹⁹².

¹⁹¹ Here, we shall remember that Derya Yücel classifies “digital sculpture, installation, virtual reality, performance-music-sound art, software, database and game art” as “hybrid media” under the umbrella of Contemporary Art. In spite of their differences, both Yetişkin and Yücel’s perspectives manifest a Post-media approach.

¹⁹² As noted in chapter 2, McCarthy and Ondaatje also observe that New Media Art is a new territory that lacks a long history and tradition, which is also at the heart of its lack of visibility. But their remark is from 2002, and the territory has evolved at an outstanding speed since then.

4.2.1.3 The Relationship between New Media Art and Contemporary Art

Like their views on New Media Art's defining characteristics, the subjects' interpretations of the relationship between New Media Art and Contemporary Art is positively correlated with their career orientations. The academically oriented subjects tend to regard New Media Art as a territory developing within the broader Contemporary Art sphere either from the beginning, or they observe a growing tendency towards the former's integration into and dissolution in the latter. When asked to explain NOMAD's mission, Şenova replies that "NOMAD aimed to produce and experiment with new patterns in the contemporary art sphere by using various lenses of other disciplines". Similarly, when asked to interpret the relationship between New Media Art and Contemporary Art, she says:

"I do not know if I should make a distinction between New Media Art and else. New media become newer by the minute. In the last decade, we witnessed the rise of the use of technology in the art world. Even the artists we consider traditional are able to use technology and to create immersive experiences. New Media artists are not that different from the mainstream contemporary artists nowadays".

Put differently, Şenova does not consider "the ability to create immersive experiences" as a distinguishing skill for the New Media artist. Yetişkin, on the other hand, argues that Madra's "Çağdaş Sanat" and Kortun's "Güncel Sanat" still favor the "New Media Art" terminology for the latter helps them preserve the existing institutional structures. She explains that a work using new technology

without a critical contribution or at least an attitude favoring transparency and open-source culture cannot be considered “Contemporary Art // Yet Another”.¹⁹³ Similarly, Ertan says that lately, he has been curating “out of the new media frame more often”, for “the works then called new media art now merged in the wider frame of contemporary art”. This is another reason why he prefers to approach New Media Art as a movement:

“[...] In the past, New Media Artists remained as a distinct caste and a closed community. They did not have strong relationships with the art world. This was both the case in Turkey and in Europe. [...] But today, the situation is different. [...] In my opinion, New Media Art as a movement has dissolved into and diffused within the broader Contemporary Art sphere. [...] All contemporary artists actually practice Contemporary Art in today’s world”.

It is crucial to note that all three interviewees identify a distinction between New Media Art and art done by the traditional artists using new technologies. Şenova refers to the works of the latter as “immersive experiences”, somehow pushing them outside the New Media Art territory, whereas Yetişkin labels them as “design”, pushing them outside the artistic territory altogether¹⁹⁴:

“[...] although Refik Anadol uses data, he gives the data back to Google, a dominant platform that is not transparent about how it extracts and uses our

¹⁹³ Here, it is important to recall that, in reference to RSG’s *Carnivore*, Manovich said its open-source nature was what made it a work of art.

¹⁹⁴ Interestingly, Yetişkin wrote in 2012 that it was difficult to distinguish New Media Art from other practices in design, management or entertainment.

data. [...] so he does not perform a critical function and strengthen subversive power besides, alongside and beyond dominant actors, actants and networks. He mechanically repeats and reuses, therefore strengthening the ‘netttachments’¹⁹⁵ among dominant platforms, artists, designers, software engineers, scientists, art professionals and the public. This is why I see his works as aesthetically pleasing works of Design, but I cannot think of them as Contemporary Art// Yet Another”.

Ertan agrees with Yetişkin that such practices identify more closely with the design territory, but he is not against their presence in the art world as they are still able to trigger some critical debates around technology:

“Refik Anadol’s work, for example, the one created for the Walt Disney Concert Hall, is impressive in size [...]. The whole process including the idea of reflecting the building’s memory onto its own façade is more of a design process for me [...]. On the other hand, these works incorporate topics such as artificial intelligence or algorithms into our daily lives and help make them more appealing, even ‘sweet’. Art is now being used for technological gentrification. However, the same works also start a discussion about those topics”.

At one point, he even questions a total adherence to the critical approach:

¹⁹⁵ A critical term coined by Yetişkin within a Latourian (ANT) context. She explains: “It is neither the human actor/the non-human actant, nor the network that we should focus on; instead, it is the attachments that determine and transform relations among actors, actants and networks. Once we realize how attachments are (not) constructed and (re)used, it would also be possible to discuss social change”.

“[...] Critique is only one path among many. Today, we find it vital and indispensable. But this does not mean we should say ‘everything else is not art’. [...]”.

The subjects with a more managerial career orientation tend to regard New Media Art territory as autonomous from Contemporary Art. Despite her skepticism towards medium-based definitions, Demirci observes that “Contemporary Art seems to use more analogue media tools”. She attributes some characteristics to New Media Art that positively differentiate it from Contemporary Art:

“[Contemporary Art] is slightly intimidating; people criticize it for being too politically charged, too complicated to understand and too difficult to relate to. New Media is based on interaction and experience, so it does not alienate the viewer as much. [...] Perhaps, this is why New Media Artists do not want to associate themselves with Contemporary Art as much”.

A concern for political criticism and conceptual sophistication, qualities that the academically oriented subjects regard as their territory’s distinguishing characteristics, are on the opposite side for Demirci: she associates them with Contemporary Art while associating New Media Art with interaction, experience and public-friendliness. The latter is the kind of art the academically oriented subjects criticize for being New Media Art’s imposter, or, in Yetişkin’s perspective, the ‘new’ New Media Art favored by the art market and institutions. Dilbaz and the Arkmans share Demirci’s views as well; they highlight New Media Art’s public

accessibility in contrast to Contemporary Art's arrogance and elitism. Regarding the problem with terminology, Dilbaz says:

"The definitions should come from the public [...] Of course, [art historians, curators and critics] should say something too, but I do not care much about it until I hear it from the wider public's mouth".

Ceren describes New Media Art as a "democratic revolution" in the art world:

"[...] New Media Art is often regarded as Contemporary Art's subcategory. I disagree. What I call New Media Art is appealing for it is something close to a revolution in art. It changes art's production and consumption practices. It requires teamwork and collaboration; it can be carried around or even transferred online. It is something people can perceive easily. [...] It changes everything, from what we understand an art collection to be to how we define an artist. [...]".

"In the past, you had to make a big investment to become an artist, so only the rich ones could afford to study art; but now it is not the case. Similarly, a viewer must have an art history background to appreciate a painting or a sculpture, and understand its meaning. But there is no such prerequisite for a digital artwork. It can also express a meaning outside the context of art history. Someone who was not fortunate enough to study art history in high school can still attend an exhibition and understand something from it [...]".

Finally, Özkan identifies some “overlapping territories between the two” spheres, but she believes New Media Art’s main subject matter is the future:

“[...] what is contemporary is neither in the past nor in the future; it takes place here and now even if it somehow refers to the past or to the future. You can only document the past and only imagine the future. [...] New Media Art takes the present and the future as a reference [...]”.

4.2.2 New Media Art’s Historical Origins

The subjects’ historical references to New Media Art’s origins are examined under two subcategories: references to the history of technology and references to the history of art.

4.2.2.1 References to the History of Technology

The subjects’ articulations of New Media Art’s origins in the history of technology focus on the birth of the computer and the Internet, confirming their decisive role in the field’s emergence. Şenova identifies the “key moment” in the history of New Media Art in Turkey in the early 2000s’ “Internet boom” and the subsequent “rise of the digital culture”. Yetişkin, on the other hand, identifies a correlation between Conceptual Art’s birth and the emergence of the computer and the Internet during the 1950s and 60s. She also identifies a similarity between cinema and New Media Art in terms of production processes; yet, she does not mention film’s emergence as

a key event in New Media Art history. Ertan's narrative takes the emergence of the personal computer and its widespread use as the origin. He regards the computer as an unavoidable instrument in today's artistic practices:

“[...] The tools change your processes, your approaches, be it a hammer, a brush, or a computer; and there is no escape from the computer anymore. Any contemporary production process inevitably intersects with a computer at some point, including an art object such as a sculpture or even a painting [...]”.

Demirci argues that “Digital Media Arts evolved from Photography and Video”. Referring to “media archaeology”, she emphasizes the computer's role in changing the speed and not necessarily the nature of artistic practices, partially contradicting Ertan's position¹⁹⁶. No other explicit reference to the history of technology has been identified in Özkan's, Dilbaz's or the Arkmans' interviews.

4.2.2.2 Art Historical References

Except for a few references to the Western art movements, the majority of the subjects' art historical references are autobiographical accounts on how the field emerged in Turkey. None of the interviewees references pre-modern art historical movements with the exception of Demirci who regards “cave painting” as data visualization's ancestor. References to modern art historical movements are not

¹⁹⁶ As mentioned in chapter 2, Fuller agrees that computers have changed the scale of the operations and not necessarily their nature, but he also adds that this ultimately made capitalism even stronger than before.

plenty either. Şenova offers a detailed account of the history of NOMAD's emergence and growth, and she places Bilkent University and its department of Graphic Design at the center of her narrative for having established the first interdisciplinary M.F.A. program in Turkey where the first experiments around digital culture began to flourish. She devotes a particular attention to Sound Art and its recognition thanks to the *ctrl_alt_del* Sound Art Festival, organized by NOMAD as the first of its kind in Turkey. During the interviews, the curators/producers have been informed that the interviewed artists have seldom made references to the Turkish art history when tracing New Media Art's origins, and they have been asked why this could have been the case. Unlike the other subjects, Şenova answered the question from a political viewpoint:

“In the early 2000s, it made a lot of sense to turn to these lands for a potential, for we were in the process of discovering it. However, I can understand it, because any aspect related to the notion of ‘history’ is highly politicized and contextualized, so it is always challenging to work on it without avoiding certain traps [...]”.

Like Şenova, Ertan's narrative revolves around autobiographical cornerstones such as the birth of BPS¹⁹⁷ (Body Process Arts Association) and amberPlatform¹⁹⁸. According to Ertan, the emergence of communities around digital culture at the Bilgi University Department of Visual Communication Design, Istanbul Technical University and Yıldız Technical University have constituted the territory's

¹⁹⁷ <http://connectingcities.net/content/amber-platform-body-process-arts-association-istanbul>

¹⁹⁸ <https://amberplatform.org>

backbone in Turkey starting from the early 2000s. Although he does not reference modern art historical movements, he traces Nano Art and Bio Art's origins in New Media Art. When asked why Turkish New Media Artists do not reference Turkish art history, he explains this is expectable, for "in Turkey, New Media Artists had to look abroad, since there was not a single artist working in the junction of art and technology in Turkey during the 1950s." The only two figures he is able to mention within this context are İlhan Mimaroglu "with his interests, approaches and experiments in electronics" and Teoman Madra "later in visual arts" with a long dormancy period between them and he identifies no other figure "until the late 90s":

"Even the earliest exhibitions and screenings involving technology took place as late as the 90s, or slightly earlier. There was one screening event at ITU in the late 70s, but that too was the initiative of a foreign scholar. [...]"

Yetişkin is the only subject making an explicit reference to modern art history. During her interview, she mentions one of her articles on "blockchain-related artworks", where she argues that they "have their roots in Conceptual Art". Conceptual Art reappears in her already addressed discussion of the computer and the Internet; here, she refers to Sol LeWitt's instruction-based art as a form of algorithm:

"[...] Algorithms execute the code to perform a given task. The artist writes a code and opens an algorithm to others and they reuse the algorithm and replicate the experiment on their behalf. This is at the basis of Conceptual Art [...]"

She mentions Bio Art, Net Art and machine learning algorithms as her current research interests. When asked about why New Media artists do not reference local art history, she replies:

“This is very problematic. Openness to sharing, the ability to do collective work and the peer-to-peer mentality all have their origins in the past in the contemporary art movements. For example, in many countries’ art histories including Italy, Mail Art has been one of the key practices behind the emergence of New Media Art, and it is considered the ancestor of Net Art. But it has never been done in Turkey, and it is unknown. The same holds for Performance Art”.

She says all this happens for both New Media Art and the technology behind it are “imported”:

“[...] there is this impression that today’s art came out of the blue with no connection to art history, as if some technologies emerged and the artists suddenly began to use them. This is because New Media Artists do not have enough knowledge of art historical movements. Or rather they do not care about knowing these art movements. They are interested in other things such as metaphysics, mathematics or mechatronics”.¹⁹⁹

Demirci’s articulations of history to new ways of art production include Artificial Intelligence which is already her area of specialization. Dilbaz narrates the history

¹⁹⁹ In her article from 2013, Yetişkin says that New Media Art has a “distant relationship with art history”, but in her later works, she apparently concentrates her efforts on establishing connections between New Media Art and the 20th century art history.

of his companies, Kafa Ayarı and Nerdworking. Although the issue of the absence of references to Turkish art history does not come up in his interview, he persistently criticizes the Turkish New Media artists for other reasons. He believes they “live in prosperity and they are not aware of it”, their work is “sloppy” for they think it is good enough for Turkey, and the local market is a comfortable place where “they can still afford not to collaborate” as they do not have to face international competition. He regards New Media Art as an imported territory as well, but he also points out that Turkish artists shall aim at the global market:

“[...] It is easy to show off in Turkey but the know-how does not belong here; it belongs to the world [...]”.

Similar to Dilbaz, the Arkmans narrate how they established the Kurye Video Art Festival and their production firm, Grid Istanbul. They share several anecdotes on their artistic collaborations, but they do not offer any art historical references. Irmak identifies a similarity between New Media Art and Street Art, and she mentions science fiction literature as the main source of their “professional creativity”. Finally, Özkan mentions Bio Art, Data Art, Artificial Intelligence and Generative Art, but she offers art historical references neither from Turkey nor from abroad.

4.2.3 Theoretical Affiliations

The interviewees’ theoretical affiliations are analyzed under three main categories: curatorial positions trace the subjects’ ideological motivations. Approach to

technology investigates their ideas on how technological systems are formed, how technology affects society, and whether they reference the theories in chapter 2. Finally, approach to the medium examines their positions regarding the Post-media perspective.

4.2.3.1 Curatorial Positions

Although the subjects' cultural repertoires manifest considerable variety, a set of concepts common to all of them, i.e. demarcating the professional territory as a whole, can still be identified. These are:

- 1-Potential for democratization;
- 2-The intersections of art, science and technology;
- 3-Interaction/interactivity;
- 4-Interdisciplinary/transdisciplinary collaboration.

Regardless of their career orientations, all subjects observe that their professional territory carries a “potential for democratization”. But while the academically oriented subjects discuss this potential within a sociopolitical context and/or in relation to the existing power structures within the art world, the managerially oriented subjects discuss it in relation to the changing nature of the artistic practices and audience involvement. For example, strikingly reminiscent of Yetişkin's earlier

observations, Şenova's comments are symptomatic of a desire to challenge the territory's boundaries to make it accessible to a new set of actors:

“One of our main motives for founding NOMAD was the following: in the art world, there were only two or three main access points available to the artists to go abroad, one of which was the biennial. Another was Garanti Platform via Vasıf Kortun which later became Salt. And the third was Beral Madra. Figures like Fulya Erdemci, Ali Akay and Emre Baykal were also active but they mostly operated through the biennial channel. [...] NOMAD's intention was to emphasize the idea of free culture via digital culture. We wanted to establish a distributed network thanks to which people could reach things, where we would function as the network operators and not as gatekeepers”.

Both Ertan and Yetişkin are deeply concerned about the influence of the neoliberal institutions over the art world in Turkey; they observe that these institutions' programs and funding preferences negatively affect the visibility of alternative, more critical artistic practices. Hence, critical thinking loses its momentum in the society in general. Partly parallel to Şenova and Yetişkin's observations, Ertan identifies “two main cultural institution types in Turkey”, namely “the private extensions of public bodies whose mission is based on the same traditional Republican ideals”, and “other institutions with a neoliberal, market-oriented approach”. He explains why the latter currently dominate the art world and how they affect the art ecosystem:

“[...] these neoliberal corporate institutions also established this dual relationship of conflict/collaboration with the state. The latter gave up on its responsibilities in the cultural sector and opened up the territory to them, and they filled the gap. [...] In Europe, every country has state funding. [...] In Turkey, however, it is completely transferred into the hands of the private capital. Borusan, Arter, IKSÜ, SALT... They all create such large clusters around them that the remaining artistic territory is neither visible nor substantial [...]”.

In Ertan’s view, such institutions also act as gatekeepers for funding and innovation, which becomes particularly important when large-scale projects are concerned. Eventually, this puts art at the service of their image-making strategies:

“[...] You collaborate with certain institutions or corporations if you want to create the artworks above a certain scale or based on emerging researchers or technologies [...]. The same institutions currently run the world, so they will start dominating the art sphere, re-set the definitions and use it to legitimize their actions [...]”.

Yetişkin identifies the same political bipolarity in Turkey’s art ecosystem as does Ertan:

“Vasıf Kortun coined the term ‘Güncel Sanat’ and distinguished his positioning from the ‘Çağdaş Sanat’ terminology, for what he did was something alternative and almost oppositional to the cultural ideology of the modern Turkish state”.

She also discusses the relationship between the neoliberal art institutions and political censorship:

“[...] the majority of the Contemporary Art institutions in Turkey are affiliated with large holding companies, especially since the passing of the tax exemption law in 2005. [...] I experienced it first hand with several institutions I worked with. They often told me ‘let us not mention this’, ‘we better avoid publishing that’, etc. [...]”.

She agrees with Ertan that this government-corporation-art institution triangle²⁰⁰ overshadows the more alternative artistic practices. She says the only way to bypass it as an artist is to develop the skills to write your own code, the examples of which are still quite rare²⁰¹.

While the subjects with an academic orientation are deeply invested in their field’s potential to build a more democratic society, those with a managerial orientation are more concerned with their projects’ accessibility to a wider public, also transcending the museums’ and galleries’ walls whenever possible. Dilbaz and the Arkmans are particularly sensitive to this issue and they complain about the cultural elitism dominating the Contemporary Art sphere. Dilbaz says:

“[...] If I do a project, I do it so that anyone can feel it. Is the viewer supposed to approach me and ask me about the work’s conceptual

²⁰⁰ At this point, it is important to remember how Computer Art in the USA emerged from a tripartite collaboration involving the military, the private corporations and the universities. This is another indication that the emergence of technology-based art forms cannot be fully understood in isolation from the politico-economic and institutional systems surrounding them.

²⁰¹ In her article from 2013, Yetişkin referred to such skills as “media literacy”.

references? It is enough for me to see the spark in his or her eyes, that he or she feels what I intend to deliver. [...] this is why I seldom work with the galleries [...].”

He criticizes the Contemporary Art professionals’ almost allergic reaction against entertainment:

“[...] If they call it a show on the street, it is a show. Excuse me, but is what you do in the gallery not a show? Does it not entertain some people? This is why I cannot make a distinction, and definitions seem inappropriate to me [...].”

Similarly, Ceren says that “we must abandon the belief that the less people understand an art form, the higher and more valuable it is”, and art’s appreciation should not require a “certain educational background or ideology”:

“I love it when we exhibit an atheist artist’s work and a theology graduate comes and says he enjoys the work and finds something in it... The artist intends to refer to the Big Bang, but he sees the Divine Creation in it. We must generate more opportunities for such encounters. We shall not explain it all and impose a single interpretation on the viewer [...].”

Finally, a common element between Dilbaz, the Arkmans and Yetişkin’s accounts is a sensitivity towards artistic labor. Dilbaz feels responsible for carrying out the financial negotiations on the artists’ behalf, so that the latter can better focus on their self-development. Similarly, the Arkmans say they never do a project without

an artist fee, and it is their responsibility to persuade their clients to offer fair amounts to the artists. Yetişkin is aware that the artists often fulfill the institutions' expectations to avoid financial difficulties, but she also criticizes their inability to show organized resistance:

“Those artists found themselves in such a struggle to make a living that they were forced to abide by the terms of those institutions. Yet, I do not only blame the institutions in this equation. Artists do not know how to defend their rights either; they do pro-bono work for the sake of visibility, and they do not demand fees for artist talks, etc. If no one says yes, the institutions cannot ask for these services free of charge [...]”.

The second common element in the curators'/producers' professional ideology is a focus on the intersections of art, science and technology, and the exhibition “Scientific Enquiries” curated by Şenova is a good example of how this intersection manifests itself in practice. She explains that the project questions how the two domains can work together to produce a third, alternative kind of knowledge. In fact, the subjects seldom approach art and science as two distinct territories. Yet, while the academically oriented professionals tend to build an analogy between the scientific and the artistic methods, support the art forms using the scientific notion of experiment and express a genuine interest in how science translates into technology and shapes our sociopolitical reality, the managerially oriented professionals focus on the innovation and the applied technology to explore how

these can be made part of the artists' creative experiments and help them generate new forms of experience.

The third dominant theme in the ideology of the New Media Art curators/producers is interaction. Both in the global and local context, interactivity is one of New Media Art's most highlighted characteristics. Again, the subjects with an academic orientation and those with a managerial orientation approach the concept differently. The former focus on the interactive technologies' ability to interconnect individuals and facilitate their communication, enabling the emergence of new communities transcending geographical boundaries and able to challenge the existing sociopolitical structures. This is why they place a particular emphasis on the Internet. The second group, on the other hand, approaches the subject from a user-experience design viewpoint, arguing that interactivity allows the viewers from various generations and social backgrounds to experience and understand the artwork. They often present this quality in opposition to the presentation models they associate with Contemporary art which they consider top-down and alienating. Interdisciplinary/transdisciplinary collaboration is the fourth element in common in the ideologies of the New Media Art curators/producers. Again, while the subjects with an academic orientation tend to approach the concept from a more philosophical and cultural perspective and critically approach the interdisciplinary schisms as a modernist invention, the interviewees with a managerial orientation approach it from a more technical, practical and division-of-labor viewpoint.

In addition to these recurring themes in the cultural repertoires of the curators/producers responsible for the demarcation of the Turkish New Media Art territory, the data contains systematic references to three domains that the subjects either perceive as “friendly collaborator” or as “pseudo-art”. These are:

1-Design;

2-Advertising;

3-Entertainment.

Probably due to her dual professional identity, Şenova perceives design as a friendly collaborator and she even uses it to do her own exhibitions’ spatial designs. Similarly, Ertan has an educational background in design and he worked in the design sector for a long time, so his attitude is also far from antagonistic. In fact, he observes a rapprochement between the two domains, especially thanks to their instrument in common, i.e. the computer:

“[...] in today’s world, art and design are also drawn much closer together. The artists’ working methods become increasingly similar to that of a Designer, and their production processes are almost the same. The Artist is compelled to think like a Designer; both have been using computers in the last three decades [...]”.

Yetişkin positions design in opposition to Contemporary Art // Yet Another. Interestingly, she also mentions designers in her list of collaborators, but only those “who adopt critical and self-reflexive positions in their field”. Meanwhile, Demirci

regards design as one of the key components of a good-quality New Media artwork and one of the characteristics differentiating it from entertainment. She mentions briefing as the main element distinguishing the commercial projects from the artistic ones, and her professional responsibility is to maintain a balance between artistic quality and design needs even in such briefing-based projects:

“Neither present the project to the client as a design project, nor put the artist under burdensome obligations. If you define these territories correctly, both sides are pleased with the result”.

On a similar note, when asked whether a commissioned project involving briefing is to be considered design, Dilbaz disagrees:

“[...] If that was the case, they would prefer someone else and not us. They know we would add an artistic touch, and that is the source of our bargaining power. They expect you to deliver a functional benefit without jeopardizing the artistic content [...]”.

Meanwhile, Ceren Arkman does “not believe in or make a distinction between the Artist and the Designer”. As Grid Istanbul, their projects feature “participants from both spheres” as the two “are highly and increasingly intertwined”. Finally, Özkan does not offer a statement on the subject, but her Design Thinking certificate and her professional role at ArtBizTech implies that her position is similar to the Arkmans’.

It is interesting to note that the subjects' approach to design is not directly correlated with their career orientations and more context-dependent than any other neighboring territory. Both Şenova and Ertan mention design as a friendly collaborator probably due to their educational background and career. However, while admitting that art and design are “drawn much closer together” thanks to their instruments in common, Ertan still associates Anadol's installation at the Walt Disney Hall more closely with design. Özkan and the Arkmans also agree that art and design are increasingly intertwined. Yetişkin, however, makes a clear distinction between art and design while acknowledging the designers with “critical and self-reflexive positions” as friendly collaborators. According to Dilbaz, the “artistic touch” distinguishes his company from ordinary design studios. Finally, Demirci identifies the commissioned projects as design even if they are done by an artist, but she tries to direct the client's demands in such a way that the artist can maintain his or her creative freedom while delivering work on a pre-determined concept.

Apparently, advertising and entertainment have negative connotations for the subjects with an academic career orientation, whereas the managerially oriented subjects consider them friendly collaborators that help them finance their artistic projects. Dilbaz admits that he needs the revenue from the advertising sector so that he can continue to invest in art and innovation, while the Arkmans criticize the art world for downgrading advertising and entertainment. Also reminiscent of Dilbaz's earlier comments on the subject, Ceren says:

“[...] people have this notion that art must be more ‘serious’ and philosophical, and it should communicate big messages. That is necessary too, but art can also be entertaining. We want our audience to be entertained, to be pleased with the time he or she spends at our exhibitions. We think of each exhibition as an experience. In this sense, our activities share many elements with all the marketing, advertising and PR operations around the world. [...] We shall not be afraid to entertain; if your work has high quality, they will not perceive it as barcovision or advertisement”.

Despite her intensive collaboration with the commercial institutions, Demirci puts advertising into her list of far professions, whereas Özkan places it in her list of close ones. She distinguishes New Media Art from entertainment on the basis of content:

“[...] If we look at New Media without any curatorial concerns, it really becomes a show business. If it lacks substance, it shifts towards entertainment”.

and context:

“[...] Evidently, New Media is also a form of entertainment. So it has two aspects: a commercial-entertainment side and an art side. The latter is expressed in the form of Bio Art, Data Art, etc. in various festivals, exhibitions and conferences, ranging from Ars Electronica to ISEA”.

She adds that New Media Art is increasingly perceived as entertainment thanks to the companies' growing demand for it; the advertising agencies are asked to offer a "New Media product", and they hire the artists for that purpose. But "as soon as [the artist] undertakes this project, the entertainment element steps in" and "the client has the final say". Put differently, while Demirci and Dilbaz believe they can establish a balance between the artist's and the client's expectations, Özkan thinks the client's preferences eventually prevail in such arrangements. The Arkman's attitude, on the other hand, is closer to the former.

4.2.3.2 Approach to Technology

Approach to technology is analyzed under two categories: the subjects' thoughts on the impact of technology on society, and their ideas about the nature of the contemporary technological systems. In discussing technology's impact on society, Yetişkin expresses adherence to Bruno Latour's Actor-Network Theory (ANT). Latour was Yetişkin's PhD thesis co-advisor, and she regularly uses his terminology of the actants and the actors as well as his notion of "opening up the black box" as a means to challenge the existing technological structures by revealing their background operations. Her "paratactical" collaboration with the Contemporary Istanbul art fair is a good example of how she uses the ANT approach to reveal the institution's true intentions:

"[...] I did it as a paratactical work. Collaborating with a dominant art institution, I challenged how artworks were considered an object to be

consumed and exchanged. By suggesting other ways of exchange (of ideas, experiments, experience, knowledge etc. among various actors/actants/networks) via artworks, workshops and panels, I learnt the tactics of a dominant art institution, which has been adopting New Media Art as an umbrella term to promote itself [...].”

Şenova’s PhD thesis also expresses interest in exposing the technological systems’ inner workings, which is in line with the ANT approach:

“[...] My Ph.D. thesis [...] was about the time concept and the operation mechanisms of communication technologies as capitalist apparatuses, therefore, I was making associations among different disciplines: Philosophy (the concepts such as ‘Smooth and Striated Space’²⁰² by Deleuze and Guattari); Sociology (through Richard Dienst’s concept of time and Marxist theories); and Music (with the notions of ‘rhythm and beat’) [...]”.

Yetişkin also has a research concentration in feminism. She analyzes the history of the feminist waves in Turkish history and associates the fourth wave with her idea of the paratactic²⁰³. Moreover, she cites Rudi Volti²⁰⁴ as one of her main theoretical

²⁰² In *A Thousand Plateaus*, Deleuze and Guattari use this conceptual pair to refer to the “nomad space and sedentary space”, and add that they “exist only in mixture” (1987, p. 474).

²⁰³ “I have this book chapter titled ‘Moving towards Paratactical Curating’, where I summarize the developments in Feminist Art and Curating since 2000. I have identified three main waves in it; the first is a top-down, elitist and didactic approach represented by Hasan Bülent Kahraman. His arguments are rooted in the 1960s’ Feminist discourse and he presents Louise Bourgeois as the ideal ‘Feminist Artist’ of all times, for example; but the Contemporary Feminist discourse rejects such assumptions based on the modernist attitude of educating the public on what Feminism means. The second wave represented by figures such as Levent Çalikoğlu, Burcu Pelvanoğlu and Ahu Antmen, consists of organizing exhibitions around women artists. They are modernist as well, and they reproduce the male-female dialectic and do not leave room for alterity. The third group, or the tactical group, consists of independent initiatives. They do exhibitions at some restaurants, or do the Pedestrian exhibitions like Fulya Erdemci did. This group features numerous artists of whom Canan

sources “to emphasize how technology is understood in public”. She describes Contemporary Art // Yet Another as “an understanding of Contemporary Art” based on “a transdisciplinary, translocal, transhuman, transgender approach”. Overall, her theoretical oeuvre and research interests indicate a postmodernist viewpoint, in line with the theoretical foundations overviewed in chapter 2.

To describe her curatorial approach taking shape around the concepts of time, space, interaction, stimulus, perception, emotion and storytelling, Özkan appeals to the works of Plato, Kant, Hegel, Hume, Borges, Schelling and Fichte. She often turns to cognitive science, literature and Neo-Existentialism for curatorial inspiration, but she does not refer to any of the theories addressed in chapter 2. The Arkmans and Demirci also find literature and especially science fiction inspirational. One of the most interesting inputs within this context comes from Dilbaz, who identifies himself as an “anarchocapitalist” and associates himself with Hakim Bey (Peter Lamborn Wilson) and his ideas on post-anarchism, particularly his notion of the “temporary autonomous zones”²⁰⁵. Wilson’s work has strong ties with both Deleuze and Debord, so Dilbaz’s views partly converge with the critical approach put forward by Ertan and Yetişkin as well as Şenova’s ideas on distributed networks.

Throughout this study, technology has been addressed both as an instrument for transparency and democratization and an instrument of public deception and

could be a good example. I am going to write about the fourth group, doing projects around Ecological Feminism, embracing collectivity and open source and a more contemporary Feminist discourse [...]”.

²⁰⁴ One of Volti’s most ambitious works is his book titled *Society and Technological Change*, used extensively as an introductory text in STS studies all over the world. Its eighth edition was released in 2017 by Worth Publishers.

²⁰⁵ <http://www.t0.or.at/hakimbey/taz/taz.htm>

control. The subjects with an academic orientation address both these aspects, while the subjects with a managerial orientation focus on technology's positive consequences, and they do not discuss its role in the mechanisms of surveillance, control and oppression. The former elaborate on technology's ability to facilitate participation, collaboration and political transparency, but they also discuss how power holders use it to control the capital and the information flow. A Benjaminian optimism towards technology's democratizing effects is present in both groups, but some subjects in the first group such as Yetişkin regard an important portion of the artistic practices described by the second group as part of the Debordian "spectacle":

"[...] The Contemporary Art market favors this techno-fetishistic formal aesthetic production as it results in the abundance of abstract forms and it lacks 'nettachments' with the criticism of current problems, so they do not bother the authority of dominant institutions. Due to their object-oriented material outputs, they are also easier to produce and sell [...]".

Similarly, Şenova uses the expression "hi-tech, over-designed, and beautiful objects" in reference to the artworks she considers irrelevant for art's true purpose, i.e. looking for "potential answers to how we can build a more democratic and critical art world". Ertan describes a similar position within a data art context:

"Big data exists, and it is collected and used by corporations and governments for surveillance. With this reality surrounding us, it is impossible for the Artists to ignore this issue. They can deal with it in two

ways: they either use the data to approach the issue critically and its result may not be that appealing. Or they use data to create a beautiful visual spectacle, but it does not involve criticism. The latter are usually not individual Artists but artist groups operating as companies though calling themselves ‘studio’ [...]”.

He explains why he regards Anadol’s artistic approach as problematic, which is less about its form and production method and more about the politico-economic processes behind its realization:

“[...] once Refik [Anadol] began to create works and positioned himself in the art world, he took a critical action: he brought the artistic and the corporate spheres together and shifted the positions of the actors in both. The works’ dimensions grew exponentially, turning into something impossible to realize without institutional support. This had two main consequences. First, it turned art into an instrument justifying and legitimizing other activities or corporations, like Google’s research projects. Secondly, only a few people in the art world have access to certain networks and resources, especially at the junction of science, technology and art. You collaborate with certain institutions or corporations if you want to create the artworks above a certain scale or based on emerging researchers or technologies, or vice versa they invite you; and of course, there is a mutual agreement there [...]”.

Yetişkin agrees with Ertan, and their criticisms are in line with Debord’s ideas on how ruling institutions determine technology’s future to further reinforce their

dominant position, and they believe that the kind of New Media Art they criticize serves precisely this mission. Dilbaz, on the other hand, finds such criticisms unfair, and interprets Anadol's collaboration with such giant corporations differently:

"I admire Refik, for he found acceptance on a global scale. [...]"

"[...] OK, they give him two million dollars; but he runs an office with ten employees for two years with it. His profit margin most probably has the same ratio with his Turkish counterparts".

In addressing the nature of the contemporary technological systems, none of the subjects makes a direct reference to the theories addressed in chapter 2. Still, Ertan and Yetişkin's approach can be regarded as Latourian for they tend to describe the existing institutional structures as "black boxes", and their curatorial interventions are attempts at opening them up and exposing the "technology" behind them. Their and Şenova's position is also in line with Fuller's media ecologies as they focus on the "discourse formation practices around media rather than their components", and, like Fuller, they approach technology as "a political-economic entity bringing the social and the machined back together". Moreover, Demirci's views on the computer's impact on the scale and speed of calculations is reminiscent of Fuller's observations on how the digital age differs from the past. Finally, the subjects' articulations of the technological systems' rhizomatic nature are more evident around the problem of the medium, for it is precisely this nature that pushes the current media ecologies towards a Post-media condition.

4.2.3.3 Approach to the Medium

In discussing medium hierarchies, none of the interviewees makes an explicit reference to the theories addressed in chapter 2. Yet, their discussions on the problem of the medium reveal their theoretical positions. First, it is necessary to note that the managerially oriented subjects' reservations on medium-specificity and their criticisms against technofetishism shall not automatically be taken as an indication of their adherence to a Post-media perspective, for the way they use "medium" in these discussions actually stands for "technology". Artistic media are assemblages of various technologies operating together; for instance, the medium of painting is composed of the technologies of paint, the painting surface and the object used to apply the paint on a surface. As a New Media artist, being comfortable with adding a new type of paint to your artistic vocabulary is not the same with both the new paint and the artistic medium of Painting as a whole becoming part of your artistic practice. The latter is what is considered an indicator of a Post-media perspective.

The academically oriented subjects are better aligned with the Post-media condition. Şenova observes that "the categories themselves have become old, and we have already entered a new age in which all these media distinctions have dissolved". Similarly, Yetişkin's *Contemporary Art // Yet Another* essentially describes a Post-media condition, and her arguments are in line with Krauss's observation that "the already existing problem with media taxonomies" have become evident "thanks to new technologies". Ertan finds the term "Digital Art" insufficient in describing the

current art world, and he says “Post-media is another term that best defines the current state”. The managerially oriented subjects, however, have a different viewpoint. Dilbaz repeatedly uses the term “New Media Art” and does not question its meaning except for proposing “new medium” as a better alternative since new technologies continue to enter the artistic realm. Hence, he cannot be considered a Post-media advocate. Although she repeatedly explains that computers have only increased the speed and scale of our artistic practices and not their nature, Demirci cannot be regarded as a Post-media advocate either, for she distinguishes New Media Art from Contemporary Art based on the analog vs digital dichotomy. The Arkmans clearly have a New Media Art and even Weibelian approach, and they are open to the use of “non-technological” technologies as long as they are used innovatively. Özkan, on the other hand, discusses New Media Art within the framework of digital technology, so she cannot be considered an advocate of Post-media. In short, the subjects with an academic orientation tend to adopt the Post-media perspective under the art world’s present state, whereas those with a managerial orientation remain invested in the assumption of a New Media Art sphere still existing as an autonomous professional territory. This is also supported by their choice of institutions in the standard questions. The first group offers a mixture of art and research institutions not all of which are specialized in New Media Art, while the second group mentions creative studios, festivals or institutions specialized in New Media Art practices.

The specific theories and concepts addressed in chapter 2 with regards to this issue make more implicit appearances in the interviews. For instance, in the academically

oriented subjects' accounts, Guattari's idea of the Post-media appears in discussions around technology as a tool for democratization, especially in reference to the Internet and its distributed networks bypassing regulated communication channels. It is also possible to identify elements of Bourriaud's "relational aesthetics", "the radicant" and "altermodernity" in some subjects' observations on interdisciplinary collaboration and networking. For instance, Ertan and Şenova's dedication to the construction of communities and networks as well as Dilbaz's and the Arkman's desire to interact with their public outside the Contemporary Art's institutional realm resonates with Bourriaud's idea of relational aesthetics.²⁰⁶ Similarly, the professionals in geographically distant areas whom Dilbaz tries to summon around a temporary project to create "temporary autonomous zones", are reminiscent of Bourriaud's "artist-viators", even though the former generally travel only virtually. Such temporary collaborations are definitely "rhizomatic", and the nature of the interdisciplinary collaborations as described by various subjects is inherently "radicant".²⁰⁷

Here, the discourse on the nature of the contemporary technological systems and that of the Post-media condition inescapably converge; the current nature of the former pushes the conditions in the art world towards the latter. Evoking Manovich, the computer emerges as the "meta-medium" reshaping the entire media ecosystem via three channels. First, it infiltrates the production phases of all the pre-existing

²⁰⁶ Relational aesthetics approaches social relations developing around the art object as art, and the artist is the facilitator and enabler of such encounters. It is no coincidence that Bourriaud uses Internet terminology throughout his text. Şenova's description of networks and her role as curator is very similar to Bourriaud's perspective. Indeed, in the next section, we will see that some artists describe part of their professional identities as "enabler" and "facilitator" as well.

²⁰⁷ The Radicant places a particular emphasis on interdisciplinarity.

media. Second, it redefines the artworks' distribution mechanisms, independently of their original media. Third, it makes the Internet's existence possible as another "meta-medium" in itself. However, the key question is the following: what does the computer essentially do? It turns everything into digits, i.e. into numerical data. Consequently, we may argue that all New Media Art involves some kind of "data", hence this concept deserves particular attention in the discussions pertaining to its demarcation as a professional territory.

4.2.4 Approach to Data as Artistic Material

The subjects' approach to data as artistic material is examined under two subcategories: theoretical and conceptual references, and views on what makes data art artistic.

4.2.4.1 Theoretical and Conceptual References

The subjects use the word "data" in the meanings of "code" or "digits", "information" and "knowledge". Şenova chooses to take it exclusively as knowledge and discusses the importance of the archives and databases except for a brief dialogue on what makes data artistic. Yetişkin and Ertan adopt the "data-information-knowledge" hierarchy, while Demirci, Dilbaz, Özkan and the Arkmans use it from a predominantly code/digit and information point of view.

Unfortunately, none of the subjects makes a direct reference to the theories addressed in chapter 2. Yet, in discussing their approaches to data visualization aesthetics, the subjects invite some of the concepts addressed there into the discourse. Yetişkin's articulations of art as a democratization tool and the connection she identifies between New Media Art and Conceptual Art associate her with Sack's aesthetics of administration and the body politic²⁰⁸. Fuller's warnings on the digitalization and capitalization of data are a common concern for both Yetişkin and Ertan. On the other hand, the subjects' approach to datafication as an instrument of transparency and democratization vs. an instrument of public deception and control is parallel with their approach to technology. Yetişkin evokes data art's potential to generate positive outcomes by exposing the truth, and she mentions Burak Arıkan's *Networks of Dispossession* as a great example of such an endeavor²⁰⁹. But Yetişkin and Ertan's main concern is the control of information by various governmental and corporate agencies²¹⁰. Even though they do not elaborate further on this subject, it is expected that their position is in line with that of Vincent's Mosco's and James Bridle's. The managerially oriented subjects, on the other hand, do not discuss any of the political debates taking place around data, nor do they evoke any of the theories related to data aesthetics. Özkan, on the other hand, identifies a theoretical connection between Data Art and "Borges and his idea of 'intertextuality' borrowed from literature". She says "we already see the same

²⁰⁸ In fact, in Sack's text, the relationship between Conceptual Art, data visualizations and democratization is highly pronounced. Yetişkin regards Conceptual Art as New Media Art's historical ancestor as well.

²⁰⁹ Arıkan's work is also reminiscent of Josh On's *They Rule*.

²¹⁰ This also brings to mind Fuller's warnings on the capitalization of data and the emergence of a private data market.

time-space transitions take place in relation to data and html”, and observes that “Data Art and literature have several overlapping dynamics”.²¹¹

4.2.4.2 What Is It that Makes Data Art “Artistic”?

In addition to the debate around art vs. design, this question generates the most intense boundary-work in the population. This is no coincidence, as data frequently stands in the grey zone between these two territories, or even oscillates between them. The artists that the subjects mention the most within this context are Burak Arıkan and Refik Anadol. The academically oriented subjects are more favorable towards the former and critical of the latter, while the managerially oriented subjects cite Anadol as a positive example. Bager Akbay is also cited once by each group as a positive example.

Şenova identifies the elements distinguishing data art from other data visualizations as “context” and “content”, and mentions Arıkan as one of her earliest collaborators:

“[...] The functional procedure, including the coding, the data collection or the visualization phase, is the same in both spheres. [...] what makes it important in the artistic sphere is the context it sits into and its content”.

Yetişkin insists on the criteria of transparency and repeatable experiment also with regards to data art, and compares these two artists’ approaches to illustrate her point:

²¹¹ Actually, Manovich’s idea of “hypernarratives” could correspond with Özkan’s articulation more effectively.

“For data to become knowledge, information has to be verified. Some would argue, it might not be the task of the artist to produce knowledge but if you do such works, then it is the task of the artist to provide the sources that would enable others to produce knowledge. Such experimental works can also be done. If we consider the data-information-knowledge hierarchy, the algorithm used by Refik [Anadol] turns data into information. For that information to become knowledge, it must be open to observation and repeatable experimentation. Thus, in its current state, it does not produce knowledge. On the other hand, Burak Arıkan’s *Networks of Dispossession* produces knowledge, for it transforms the collectively obtained data into information using Graph Commons; and that information is transformed into knowledge by being shared in all kinds of media, including the biennial or the newspapers. Burak develops the instruments necessary to test and question this information available to anyone [...]”.

Moreover, she says what distinguishes Arıkan’s work from a scientific endeavor is “aesthetic form”:

“[...] In *Networks of Dispossession*, Burak [Arıkan] chooses this color and not the other for making the attachments among various actors and actants, or this shape of the network and not another, to help the public access and read the information more easily so that they can adopt a critical stance by producing knowledge”.

Here, what Yetişkin describes is more reminiscent of a designer's role rather than an artist's; in this case, design becomes a friendly collaborator facilitating the artwork's reception. Counterintuitive at first, she also cites Akbay's work *Deniz Yılmaz* as an example of data art due to its open source quality. Yetişkin's description of "eligible" data art is actually similar to Brooke Singer's, who favors the works that "either reveal hidden phenomena or generate new political attitudes". Ertan, on the other hand, agrees with Şenova on the importance of the context, and explains that the difference between the artistic and the scientific endeavor is based on "the context, the way you approach the issue, the statement you make with that visualization and how you relate it to the other elements within that context". Yet, he adds that some examples of data visualization may exist in both spheres simultaneously, or may remain exclusively in one sphere. When asked about Anadol's work and why it is considered data art despite the inaccessibility of the knowledge in it, he says:

"[...] Data does not consist of simple digits. It acquires its identity once you datafy it; it is the data of 'something' and it is how it begins to contain information. Therefore, Refik [Anadol] begins to handle that information, and the process leading to his final output is directly dependent on the data set. What would have changed if we took this data set instead of the other and kept everything else the same? The output visually would have been different or not so much, but the narrative of the work will certainly be different. Does the image communicate the data's content? This question can still be asked, but the aim -he would say- is not to translate a data set [...]"

Demirci mentions the artistic intent, the underlying concept and affect as her criteria of eligibility:

“[...] Taking big data and expressing it in a comprehensible and holistic manner is data visualization; but if you also translate it into a simulation and associate it with a concept related to its theme, then you have created an experience generating affect in the viewer. He or she receives the data through an affective experience”.

But she adds that using data to do artistic projects and doing data art are not the same, supporting Ertan’s comments on Anadol’s oeuvre:

“The problem lies in our tendency to refer to all the artists using data as Data Artists. An Artist may depart from the data and explore where this can go in terms of generating an experience. But if you really want to produce a Data Art work, then you need to associate it with a concept. [...] otherwise, data is only an instrument inspiring the artist”.

Dilbaz, on the other hand, finds the debate on the production of knowledge irrelevant to begin with, as an artwork “does produce knowledge even if you do not intend it to”, and the outcome is “a new form of knowledge anyway”.

Like Fernanda B. Viégas and Martin Wattenberg, the Arkmans insist that data art should be based on actual data. Raw data is often devoid of aesthetic beauty, so whenever the viewer finds beauty in data art, they claim there is some form of intervention on it. Interestingly, they add that they do not see a problem in raw data

being moderately edited for comprehensibility and visual appeal if the work in question is a corporate commission. They refer to sensory translations as “Interactive Art”, and Irmak mentions 3D scan technology used by artists like Quayola and Felix as the latest source of excitement in data art practices. Finally, like Demirci, Özkan attributes a particular importance to affect in addition to the concept and the production process. She refers to Data Art’s and New Media’s point of intersection as “Generative Art”, and she explains that Data Art does not necessarily have to be New Media:

“[...] I think New Media can be thought of as the data’s output, like in the work of Refik Anadol. He combines the data with visual images, and produces an aesthetic experience. [...] However, you are not obliged to combine Data Art with New Media. You can present it on paper as well [...]”.

4.2.5 Conclusions

The data obtained from the tailored questions offers valuable insight into the professional ideology of the New Media Art curators/producers in Turkey. Although the analysis on the curatorial positions indicates the presence of a cultural repertoire common to all subjects consisting of

- potential for democratization;
- intersections of art, science and technology;

-interaction/interactivity;

-interdisciplinary collaboration;

the subjects use these concepts with different meanings depending on their career orientations. These differences that are particularly evident in the subjects' accounts on New Media Art's definition and scope point to the existence of two main variants in the field's cultural repertoire. Variant 1 is identified in the articulations of the subjects with an academic career orientation, and it describes the professional territory with terms such as "digital culture", "digital culture developing around art, technology and design", "art and technology", "art and technology-based knowledge" and "the interaction of science, technology and art". Here, the key concept for demarcation is "critical thinking" or "critical approach"; in other words, the members of this group demarcate their professional territories based on the presence of a critical perspective in the artworks they choose to endorse or exhibit. All the other recurring concepts in their repertoire directly or indirectly support this function. For instance, "network", "distributed networks", "collective production", "interdisciplinary collaboration" and "transdisciplinary dialogue" all appear in their articulations in defense of a dissolution of the existing disciplinary schisms and the emergence of a more democratic communication platform. Moreover, by emphasizing "free culture", "transparency" and "open source", they advocate the liberation of knowledge from private ownership and aim at offering a departure point for political activism. Finally, the subjects using this variant emphasize concepts like "experiment" and "process"; the former indicates a research-oriented approach, i.e. a rapprochement with the scientific territory, while the latter implies

an understanding of art that is not necessarily expected to deliver a finished product. This, in turn, makes it less “market-oriented” and more difficult to commodify, which is another characteristic positioning it against neoliberal ideology.

The repertoire variant 2 is identified in the articulations of the subjects with a managerial career orientation; it describes the professional territory with terms such as “New Media Art”, “New Media Design”, “Electronic Arts”, “Digital Art”, “Digital Design” and “Experience Design”. Here, the key concept for demarcation is “experience”, and all the other recurring concepts directly or indirectly support this function. The experience is created via “interaction”, “immersion” or both, and it aims at generating “emotion” or “affect” in the viewer/user. The generation of this experience is an end in and of itself, and does not have a particular drive for criticism. “The intersections of art, science and technology” are explored in terms of the newest hardware or software tools and the new kinds of outputs they are able to generate, and “interaction” refers to the viewer/user’s interaction with the artwork and not his or her interaction with the other users using these technologies. “Interdisciplinary collaboration”, on the other hand, refers to the teamwork involved in the experience’s technical realization and not necessarily to a philosophical reconsideration of the old disciplinary boundaries. In the population of curators/producers consisting of eight subjects, three subjects use variant 1 and five subjects use variant 2.

The data on New Media Art’s relevance as a term yields additional results in line with the two-variant model described above. The subjects using variant 1 find the term’s current use problematic. It used to be meaningful in the past while it referred

to a utopian movement with a revolutionary potential, but now it has lost that meaning and has acquired more technofetishistic connotations, creating expectations for a wow effect. Yetişkin, however, claims that this terminology has always been problematic as it reproduced the modernist paradigm, but nowadays, contemporary art institutions have been deliberately reviving it to exploit the “fetish of the new”. Her “Contemporary Art // Yet Another” encompasses what “New Media Art” used to encompass in its earlier state, plus all the other contemporary artistic practices based on a critical approach independently of the medium. The subjects using variant 2, on the other hand, continue to use the term to describe a genre producing alternative forms of experience using new technologies or already existing technologies in innovative ways. The term is still relevant and meaningful to them, but they expect its scope to shift in accordance with every emerging technology. Most importantly, they say they distinguish the works with an artistic value from the works devoid of it based on the presence vs. absence of meaningful content, and some claim that the public is already able to tell the difference between the two. Yet the nature of this content is not clearly specified, and their articulations focus on issues around narrative, perception and emotion and not knowledge production, activism or criticism.

The subjects’ approach to the relationship between New Media Art and Contemporary Art is positively correlated with their repertoire variant as well. The subjects using variant 1 either argue that New Media Art is a movement or a genre with its own community, institutions and events but always within the broader Contemporary Art sphere, or that the boundaries between the two have been

dissolving due to the effects of the Post-media condition. Their approach to New Media Art's scope is much closer to Christiane Paul's definition²¹², i.e. they tend to exclude the traditional art objects such as paintings or sculptures created with digital technologies from New Media Art's territory. To them, New Media Art is associated with networks, processes and interventions rather than finished objects, reflecting a close affinity with the 20th century avant-garde movements.²¹³ They do not regard all process-based works as New Media Art either: In addition to these formal, or better, structural characteristics, the work should either enable a discussion, offer a critical perspective or somehow challenge the existing political systems and power structures. Finally, in addition to its status as a generic term describing the broader art sphere, this group uses the term "Contemporary Art" also pejoratively to describe a more market-oriented and commercial sphere where grandiosity in size and/or audience is the ultimate criterion of success.

The subjects using variant 2, on the other hand, tend to distinguish the New Media Art and Contemporary Art territories based on two criteria, the first of which is technological literacy. Although some interviewees also say that New Media does not have to be digital, they describe the New Media Art professional as a figure who is particularly familiar with the latest digital technologies, and open and able to learn using the new ones as they emerge. In other words, their approach to the territory's boundaries is more medium-based compared to variant 1. The second

²¹² "art that uses digital technologies as a tool for the creation of more traditional art objects" and "digital-born, computable art that is created, stored, and distributed via digital technologies and employs their features as its own medium" (Paul, 2015, p. 8).

²¹³ In fact, both Manovich and Weibel acknowledge the importance of the early Avant-garde movements in New Media Art's emergence. Manovich also adds that modernist debates shall not be completely discarded from the New Media Art theory.

criterion is the artworks' physical and/or intellectual accessibility; most works in a New Media Art exhibition are not protected from the visitors; to the contrary, the viewers/users are encouraged to touch them, to interact with them and to modify their content. Moreover, the viewer/user is not expected to have a high level of education or knowledge to enjoy the work; anyone can "enjoy" it even if they do not always understand it, and there is no way one viewer's interpretation is more or less "wrong" compared to another's. The subjects in this group tend to use the term "Contemporary Art" pejoratively and mostly in reference to the Conceptual Art practices deeply cherished by variant 1, i.e. alienating, elitist and difficult to understand. The term's use as a generic description of the broader art sphere is less frequent in variant 2, and the distinction between the two territories is more evident.

Specific references to the history of technology come from the subjects with an academic career orientation, or variant 1. The majority of the interviewees regard the birth of the computer and the Internet as the two most decisive technological moments in the history of New Media Art. The only exception is Demirci from variant 2, who specifies photography and video as Media Arts, and New Media Art as their derivative featuring "interactive or sensor-based elements"; in fact, this perspective is in line with variant 2's taxonomical approach that, unlike Paul, does not distinguish between a digitally produced traditional art object and a work of New Media Art. Manovich's approach to computers as meta-media converting photograph, film and video into the same digital raw material enabling the creation of hybrid cultural forms, however, captures the subjects' present reality more accurately. Finally, Weibel's approach to photography and film as "old

technological media” vs video and computer as “new media” does not have much following in either group.

Regarding art historical references, each subject’s individual narrative contributes to the overall narrative of the New Media Art territory’s emergence in Turkey. Three universities and departments, namely Istanbul Technical University, Bilkent University Department of Graphic Design and Bilgi University Department of Visual Communication Design have had a vital role in the territory’s emergence. New Media Art’s birth in Turkey taking place at the university environment is partly similar to the Western experience, for these are the ultimate institutions with the willingness and ability to bring research and creativity as well as infrastructure under the same roof. They are also the ideal environments for interdisciplinary conversation in spite of inter-departmental competition, as they bring the professionals from different disciplines in close proximity and the latter regularly remain exposed to each others’ methods and procedures. Hence, we may infer that not much was happening in Turkey in terms of New Media Art at the traditional fine art schools in that period precisely because they were not exposed to the inner workings of the other, non-artistic disciplines. In fact, the New Media Art territory in Turkey owes its initial momentum to the departments of design where digital technology became the norm even long before it entered the fine arts academies as a supportive tool. The 1990s were also marked by a closer integration with the world due to globalization, which was further accelerated and facilitated by Internet’s emergence. The fruitful university environments, combined with an intensified collaboration and exchange of information with the international New Media Art

community prepared the ground for the emergence of some of the leading Turkish New Media Art curators and artists during the 2000s. The lack of art historical references in variant 2 deserves particular attention as well. The subjects in this group are either disinterested in an art historical contextualization of their work, or their conceptual references are grounded in other disciplines like literature or psychology. Apparently, as they try to distance their work from the Contemporary Art sphere, they avoid direct associations with its history as well, and digital technology becomes the main instrument of this detachment.

The analysis of the subjects' curatorial positions reveals the existence of three neighboring territories presenting boundary-work challenges, i.e. design, advertising and entertainment. For the subjects using variant 1, design can be a "friendly collaborator" or "pseudo-art" depending on the specifics of the work's production process or the presence/absence of a self-reflexive critical approach in it. However, they do not mention any philosophical distinguishing criteria such as "expression" or "utility"; considering that the art vs. design debate is still far from reaching a closure this is understandable, and this is exactly why it offers such a fruitful area for boundary-work to the professionals from both territories. From a variant 1 perspective, advertising and entertainment, on the other hand, are in the pseudo-art corner for they enable and encourage the production of works with a wow effect and without a critical stance, emptying out the territory's potential to trigger political change and putting the artists and curators at the service of the corporate capital. Nevertheless, they continue to collaborate with the art institutions they believe are financed by the same ideology, and they do so rather unwillingly due to the

otherwise total unavailability of funding and exposure in their territory. The subjects using variant 2, on the other hand, are much more indifferent towards the art vs. design debate or they find it irrelevant altogether. They also approach advertising and entertainment as friendly collaborators for their practice is financially sustainable thanks to them.

Although the actual references to the theories reviewed in chapter 2 are very few, the articulations of the subjects using the repertoire variant 1 are closely aligned with them both in terms of their approach to technology and to the problem of the medium. The subjects critically examine the impact of technology on the society and how it is used by the governments and corporations to help sustain the “simulacra” or the “spectacle”; but, as Benjamin, they are also deeply invested in technology’s ability to generate alternative pathways for political change. Considering their arguments and theoretical references, their positions resonate deeply with Friedrich Jameson and his *Postmodernism, or, the Cultural Logic of Late Capitalism* (1991). Here, Jameson offers an overview of postmodernism’s impact on cultural production from a Marxist viewpoint, and argues that postmodernism dissolved the boundaries between the so-called “high culture” and “mass culture” (p. 39). Moreover, evoking Baudrillard, he observes that the emergence of new technologies such as television and computer marked the end of the era of production and replaced it with the “narratives which are about the processes of reproduction and include movie cameras, video, tape recorders, the whole technology of the production and reproduction of the simulacrum” (p. 22). The influence of Adorno and Horkheimer’s concept of culture industry on

Jameson's work is also undeniable; therefore, they are part of this theoretical background as well. The subjects using variant 2, on the other hand, express much less interest in such theoretical debates, with the exception of Özkan whose references include various philosophers and theoreticians studying concepts like reality and perception. Latour's "black box" and Deleuze and Guattari's "rhizome" dominate variant 1's approach to the nature of the contemporary technological systems. Additional theories they reference from outside the literature review belong into the same theoretical universe as well, indicating a predominantly postmodernist, and more specifically, Deleuzian vision. Finally, regarding the approach to the medium, variant 1 is more closely aligned with the Post-media perspective than variant 2, which is compatible with their positions regarding the nature of their professional territory.

The subjects in variant 1 regularly touch upon the sociopolitical effects of datafication and its commodification, evoking the ideas of Fuller, Bridle and Mosco. The only theoretical reference in variant 2 comes from Özkan, who identifies a parallel between data art practices and literature. None of the subjects except her makes a direct reference to the theories about data addressed in chapter 2. Their articulations of interactivity bring to mind Manovich's notion of hypertext and Paul's notion of dynamic dataspace addressed in chapter 2, as they are interested in alternative and pluralist narrative forms. However, the subjects' articulations of what makes data art artistic reveal their boundary-work strategies more clearly. Two broad categories of artistic practices can be identified in these discussions: The first type renders the information in the data accessible and comprehensible, producing

knowledge other than the work's design and form. It frequently takes the form of data visualizations, and Burak Arıkan's practice is in line with this definition. The second type, however, uses data as experimental raw material for digital algorithmic processes, it does not illustrate the information in the data, and it is interested in the sensory output and the affect it generates in the audience rather than the data's content or message. It frequently takes the form of sensory translations, and Refik Anadol's oeuvre is a good example for it.

The main conflict arises regarding the scope of the term "Data Art". The subjects in variant 1 tend to approach data visualizations with the appropriate content and context as Data Art, and it is not a problem whether it simultaneously inhabits a non-artistic context as long as it reveals a previously invisible political connection, makes a relevant statement within the artistic context or offers a repeatable experiment. These subjects also tend to label the practice-type 2 as design or entertainment, as these fulfill neither of these criteria. The subjects using variant 2, on the other hand, tend to define the practice type-2 as Data Art; if the work is not able to generate affect in the viewer and make him or her experience the data poetically, it is no different from ordinary data visualization, which is in fact not art but design. This does not mean type 2 does not have a conceptual departure point, but it is not required to directly illustrate the information in the data. In short, the term "Data Art" connotes different practices in New Media Art curators'/producers' cultural repertoires, and their positions regarding this subject are positively correlated with their career orientations. Academic orientation is positively

correlated with an expectation of knowledge production, while managerial orientation is positively correlated with an expectation of affect.

4.3 Professional Ideology of New Media Art Curators and Producers in Turkey

As illustrated by the subjects' testimonies, the main funding source for New Media Art in Turkey is the private sector. Private funding either takes the systematic form of arts and culture institutions such as museums and art spaces, or the non-systematic form of commissions and sponsorships. Due to the absence of alternative funding channels, New Media Art curators and producers in Turkey have to find ways to collaborate with the private sector while maintaining their projects' creative freedom, which requires constant and skillful negotiation. Their situation is further complicated by the absence of regular income based on curating or production; only a handful of arts and culture institutions exist in Turkey with the capacity to implement projects that require technological infrastructure, know-how and budget, and their programs are not exclusively dedicated to New Media Art. With such a narrow window of opportunities, these professionals are faced with two career alternatives. The first option is to rely on an academic and/or teaching career for a regular income to afford maintaining a safe distance from private capital. The professionals pursuing this path have a more critical orientation, and they are able to express it via academic research that has the potential to translate into art projects and exhibitions as well. They do not completely dismiss the possibility of

collaborating with private arts and culture institutions, but they are seldom involved with private funding outside of this context.

The second option is to continue to rely on irregular, project-based income, which requires a broader window of opportunities to work with, so the professionals choosing this path have to maintain close relations with the private capital and they accept doing commercial projects as well. These professionals often work with the private companies and advertising agencies in addition to the arts and culture institutions, and their operations resemble the work of a film or a performing arts producer independently of whether they report their professional title as “curator” or “producer”. They renegotiate the boundaries of their creative freedom depending on the specific context they operate in, and in this sense, their practices are reminiscent of a design or advertising professional. A third alternative is to enroll in a permanent curatorial position at a private arts and culture institution, which is extremely rare and not immune to complex negotiations with corporate decisionmakers either.

The professional ideology of the New Media Art scene in Turkey from the curators’ and producers’ perspective is very similar to its Western counterpart. Under these circumstances, however, these professionals have to adapt their field’s ideology to the local dynamics they choose to operate in so that they can sustain their careers. Their articulations indicate that the two groups, namely the academically oriented and the managerially oriented subjects select certain terms, concepts, approaches and practices from New Media Art’s overall professional ideology to devise their own cultural repertoire inside it, in line with the requirements of the path they have

chosen to take to advance in the local art scene. Variant 1 has a strong theoretical drive, walking on the zone of tension between postmodernism and Marxism, navigating the territories of STS and critical theory and appealing to the 20th century avant-garde art movements to position their practices within the Western art historical narrative. Variant 2, however, avoids art historical debates, which also allows them to avoid any unintended political or critical references. The theories they occasionally refer to generally come from natural sciences, literature and psychology, illustrating a drive for science fiction, storytelling and perception. However, contemporary studies of perception and even neuroscience are also closely related with the marketing and advertising professions, signaling a dangerous proximity between their artistic practices and these commercially oriented areas. This difference of approach is also evident in the subjects' articulations of data; variant 1 is interested in data's content and potential for political critique, whereas variant 2 are interested in its ability to feed an algorithmic process that produces a sensory output. As already overviewed in chapter 2, the demarcation between the two variants is not as clear-cut in the world as it is in Turkey; here, the professionals need such a sharply demarcated territory due to the nature of the funding ecosystem in the local art scene.

CHAPTER 5

ARTISTS

5.1 Standard Questions

The data obtained from the Standard Questions is illustrated in Table 3a and 3b, in alphabetical order, based on the subjects' first names or their studio's names.

Table 3a: Artist data obtained from the standard questions (profile)

NAME	DEGREES	TITLES	INCOME
Ali Miharbi	Electrical and Computer Engineering; Art Theory & Practice with a Concentration in Painting; Kinetic Imaging	Artist	Art; Irregular projects in design, teaching and translation
Süleyman Yılmaz	Mechanical Engineering (incomplete); Visual Communication Design	Interdisciplinary Designer	Awesome Brothers studio work
Bager Akbay	Mathematical Engineering; Design; Digital Art (incomplete)	Teacher/Mentor; Artist;	Education projects during bad economy; Interactive commercial projects during good economy
Burak Arıkan	Civil Engineering; Visual Communication Design; Media Arts and Sciences	Artist; Entrepreneur; Technologist; Founder of Graph Commons	Graph Commons; Art
Can Büyükberber	Physics (incomplete);	Visual Artist; Director, and other	Art; also Design and Education in

	Visual Communication Design; Art and Technology	medium-specific, context-dependent changing titles from people	the past
Candaş Şişman	Plastic Arts (high school); Animation	Artist; Designer (NOHlab); Sound Artist; Performer	Commercial work (NOHlab); Art
Ahmet Said Kaplan	Programming (High school); Fine Art Education	Media Artist for the moment; Too unstable and fluid; "Ultratechnologist"	Commercial work; Art
Hakan Gündüz	Physics	Creative Technologist; Artist/Programmer (more accurate); "Ultratechnologist"	Commercial work; Art
Didem Yalınay	Radio, Television and Cinema; Communication Sciences	Artist; Generative Artist; Scholar	Art
Doruk Kumkumoğlu	Visual Communication Design; Photography (ongoing)	Artist (Designer and Photographer only in relation to commercial projects)	Design; Photography; savings during master's
Erdal İnci	Painting	Digital Artist or Artist Using Digital Media;	Art (50% or more); Commercial work (advertising); Commissions
Genco Gülan	Political Sciences and International Relations; Fine Arts; Media Studies	Professional Artist (best); Idea Artist	Art
Hazal Fırat	Product Design (incomplete) Graphic Design; Pedagogical Formation; Certificate in Art Therapy	Graphic Designer; Artist	Graphic design; corporate identity design;
Kerem Ozan Bayraktar	Painting	Artist; Academician; Writer	Art; Teaching
Nihat Karataşlı	Computer Science;	Artist	Art (residency

	Visual Communication Design; Fine Arts in Studio		fundings); occasional art writing, translation and website development; teaching (past)
NOHLab	Multidisciplinary	Designer	Commercial work
Oddviz	Multidisciplinary (Painting, Architecture, Environmental Engineering)	Independent Collective	Art and Commercial work
Ozan Türkkan	Combined Arts; Multimedia; additional courses on software	New Media Artist	Art; Commercial projects, especially around VR
Özcan Saraç	Economics; Conceptual Photography; Post-Conceptual Arts	Artist; Researcher;	Art; E-commerce;
Refik Anadol	Photography and Video; switched to Visual Communication Design; Media Arts	Media Artist; Director; Researcher; Educator, Designer, Spatial Thinker (later indicated by interviewer)	Art; Teaching at the university
Selçuk Artut	Mathematics; Sonic Arts; Media and Communication	Academician; Artist; Musician; Designer	Academician (stable); others (Art, Design, Music) irregular
Sergen Şehitoğlu	Mechanical Engineering; Photography	Education professional; Artist	Education; Art
Şifa Girinci	Fine Arts with a Focus on Painting (Faculty of Education)	Artist	Art; Painting and Drawing lessons for a limited period of time;
Taşkın Esin	Industrial Design	Multidisciplinary Artist; Designer	Design; Art
Uğur Engin Deniz	Physics	Aspiring Polymath; Artist	Projects as Motion Designer and New Media Artist involving

			mapping, 3D graphics and motion graphics etc; Art

Table 3b: Artist data obtained from the standard questions (keywords)

NAME	POSITIVE WORDS	NEGATIVE WORDS	CLOSE PROFESSIONS	FAR PROFESSIONS	INSTITUTIONS
Ali Miharbi	Idea; Process; Experiments with materials; Amateur spirit; DIY	Technological invention; Engineering & art; Academia	Artists	Engineer; Designer; Academician	Non-profit culture and art institutions; Pilot Galeri
Süleyman Yılmaz	Creative Director; Physical Interaction Design; Motion Design; Interaction	Art Director	Advertising Professionals; Art; Communication; Makership	None	Ars Electronica; amber platform; Borusan; Moment Factory; Sila Sveta; Universal Everything
Bager Akbay	Artist; Spiral; Queer; Mentor/accompanist; Experimentalist	Design; Programming; Teacher/instructor; Artificial Intelligence	Against professional group perspective	Designer; Programmer; Teacher/instructor	amber platform; Başka Bir Okul Mümkün; İskele 47; institutions similar to these
Burak Arıkan	Art; Technology/Science; Entrepreneurship; Activism; Civil Politics	Any prefix of Artist confining within the territory of a specific medium or technique, such as New Media Artist	Freelancers (in Turkey); Artists; Technological Entrepreneurs; Civil Society	Data Scientists; Data Artists; Data Visualization Artists; Data Visualization Designers	Salt; SAHA; MoMA PS1; Transmediale; The Neural IT Magazine; Further Field; Serpentine Gallery; The Radical Networks Conference; Privacy International; Tactical Tech;

					Access Now; Hrant Dink Foundation; Hafıza Merkezi; Citizens' Assembly and Human Rights Platform
Can Büyükberber	Art; Technology; Immersive Experience; Overview Effect	All the medium- specific Artist prefixes mentioned earlier; Programmer; Coder; VJ; Data Artist	Visual Artists	Any artistic group defined by a medium- based adjective	Museums, galleries, festivals, online digital art platforms (Sedition Art, streaming channels, etc), panels, talks, symposia, artist residencies, workshops, i.e. a very broad spectrum of events and institutions
Candaş Şişman	Perception; Experience; Hybrid reality; Multisensory	Mapper; Animator	Experience Designers; Installation Artists	None	Ars Electronica; ZKM Karlsruhe;
Ahmet Said Kaplan	Design; Research and Development; Experiment; Excitement; Childhood; Perfectionism	None	Visual Artists; Soldier/progra mmers;	Video-makers	Other similar studios; TeamLab; Ars Electronica; NOHlab; Refik Anadol; Zorlu PSM/Lalin Akalan
Hakan Gündüz	Technology; Art; Experience; Research; Activism	None	Photographers ; Programmers; Artists	Computer repair;	MIT Media Lab; Stanford University; University of Goldsmiths
Didem Yalınay	Media Artist; Trans-Media Artist; collaboration;	Digital Artist; New Media Artist	Artists; Scholars; Actresses/Perf ormers	Makers; curators; directors	Le Cube; universities; superstructure s such as UN

	future; interdisciplinary; scholar				and EU
Doruk Kumkumoğlu	Visual Perception; Image; Value systems; Physicality	None	Contemporary artists; Commercial photographers ; Designers	None	ECAL Lausanne; Borusan Contemporary
Erdal İnci	Photographer; Researcher; Composer (bringing elements together); Movement; Choreography ; Technology; Digital	None	Photographers ; Videographers; Painters	None	The gallery representing him; The Internet;
Genco Gülan	Idea; Color; Contemporary ; Concept; Media	Painter; Sculptor; Photographer; video maker; Artist (and NOT)	Writers; Designers; Archaeologists; Engineers; Physicians; Researchers; Cognitive Scientists; Fishermen who are also Poets	Designers; Curators; Gallerists	TÜBİTAK in its ideal state; NASA; MSGÜ; NYU Library; fish market
Hazal Fırat	Pattern; Texture; Monochrome; Aesthetic Objects	None	Graphic Designers; Artists; Educators	None	Neriman Polat's show at Depo; institutions with no sales priority that allow you to show critical, political work
Kerem Ozan Bayraktar	Botany; Art; Photography; Art Theory; Teaching	New Media Artist; Eco Artist	Artists; Scientists; Philosophers	Political Art; Popular Painting	Universities; all art institutions and initiatives
Nihat Karataşlı	Queer Space; Queer Interactions; Performative Happenings; Contemporary Art/Artist; Archive; Daily/Soft Politics	None	Art Precariat; Students; Researchers; Ethnographers or Pseudo-ethnographers	Computer Scientist	Ashkal Alwan; artist collectives and initiatives such as Raqs Media Collective and Ruangrupa, the Society of the Friends of the Virus, Drama Queer

NOHLab	N/A	N/A	N/A	N/A	N/A
Oddviz	N/A	N/A	N/A	N/A	N/A
Ozan Türkkan	Innovation; New; Surprise	None	Artists; Art Directors;	None	ArtBizTech; Museo Reina Sofia; Casa Encendida; Ars Electronica; smaller and more accessible platforms in Madrid
Özcan Saraç	Artist; Researcher; Contemporary ; Reactive/activ ist; Conceptual	Any word confining within the territory of a specific medium or technique	Independent Artists; Engineers; Scientists; Researchers	Any artistic group defined by an adjective	Research institutes with no commercial interests; Independent initiatives; Salt; Depo
Refik Anadol	Media Architecture; Machine Intelligence; Neuroscience; Architecting Perception; Poetics of Data	Architect; Computer Scientist; Neuroscientist	Media Artists; Academicians ; Creative Programmers	Architects; Computer Scientists; Neuroscientist s	MIT Media Lab; Harvard GSD; UCLA Design and Media Arts Department; NVIDIA; Google; IBM; Intel; and their AI research programs; Frank Gehry; Tadao Ando; Thom Mayne; Zaha Hadid Architects; libraries in general
Selçuk Artut	Technology; Philosophy; Pleasure; Reality/non- reality; Creativity	Maker; New Media Artist;	Same with professional titles, with philosophy and especially philosophy of technology at the center of it all	Event Organizers	Universities (academic); Concert venues and private parties (music); Small-scale, independent organizations; Event organization agencies (design);

					Galleries and group shows (artist)
Sergen Şehitoğlu	Data; Coincidence; Necessity; Post-Internet; New Ethics	Geography; Topography; Photographer	Artists; Educators; Mathematicians (in progress)	Photographer; Engineer	Artist initiatives; Sanatorium
Şifa Girinci	Migration and Cultural Identity; Displacement; Growth	Data Artist; Social Scientist;	Artists; feels close to Social Scientists	Medical professionals; Researchers	Salt; Arter; Degrowth Conference in Leipzig;
Taşkın Esin	Data Art; Animation; technological developments; Augmented Reality; Virtual Reality	Painter	Industrial Designers; Designers; Artists	Painters	Design and art fairs; museums; galleries; public spaces
Uğur Engin Deniz	Computation; Scientific method	Designer; new media; design; graphics	Programmers; Science Fiction Writers; Open Science	NGOs; Revisionist approaches	MIT Media Lab; the Glitch community

5.1.1 Education Profile

Although the artists have a great variety of educational backgrounds ranging from natural sciences to social sciences, it is still possible to identify some common patterns between them. The main clusters are as follows:

E1 (7 subjects): A combination of Engineering/Physics/Math and Art/Design;

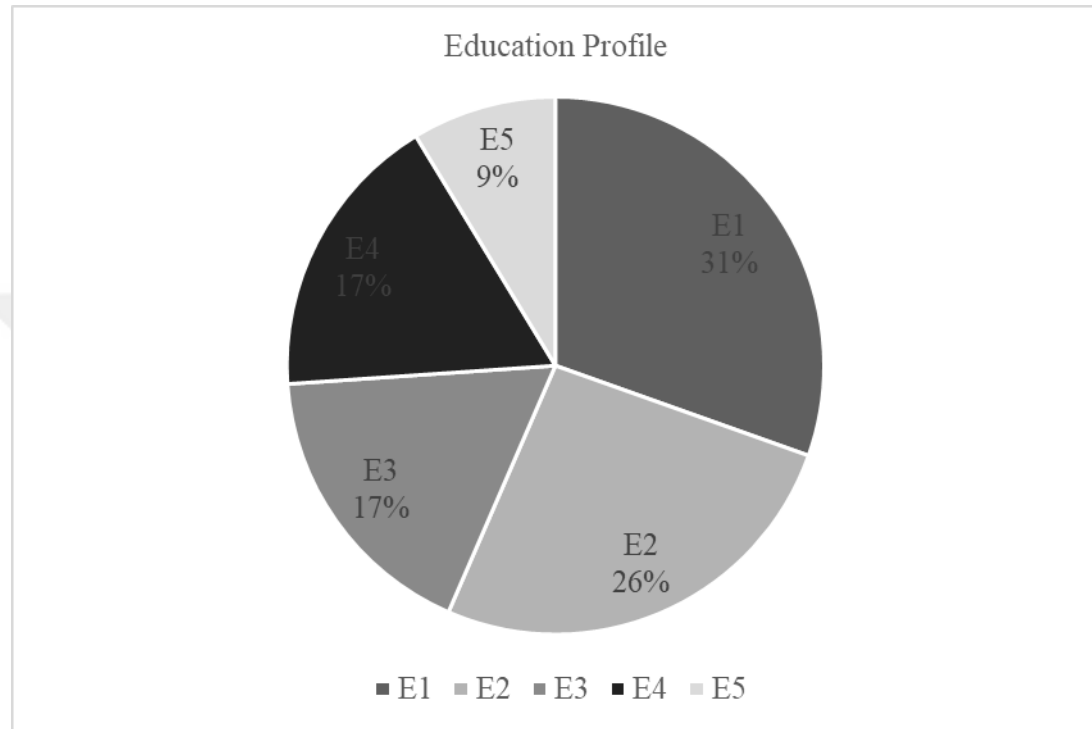
E2 (6 subjects): Fine Arts/Combined Arts/Plastic Arts only;

E3 (4 subjects): Additional background(s) in social or administrative sciences;

E4 (4 subjects): A single background in Math/Physics or in a design discipline;

E5 (2 subjects): A background both in Art and Design and no other discipline.

Diagram 1: Distribution of the artists' education profiles among clusters



Regardless of their educational backgrounds, the subjects working with new media and/or art and technology tend to describe themselves as an “autodidact polymaths”²¹⁴, although none of them except Uğur Engin Deniz explicitly uses the term. They are autodidacts, for they say they have acquired the majority of their technical skills by themselves and outside of their formal educational framework, either with the support of their peers or via online tutorials. Subjects identifying as “auto-didacts” include Ali Miharbi, Bager Akbay, Burak Arıkan, Can Büyükberber,

²¹⁴ “Autodidact” means self-taught, whereas “Polymath” is a term often associated with the Renaissance masters, indicating “a person of great and varied learning”. Source: www.collinsdictionary.com.

Erdal İnci, Taşkın Esin and Uğur Engin Deniz. Some artists also explain that they constantly need to keep up with the latest technological developments in their line of work, so self-teaching is a never ending process. One of them is Ozan Türkkkan:

“[...] I am at my studio, in front of the computer on a daily basis, conducting intensive research into newly emerging programs, software, technologies, so that I can discover the newest digital tools and can learn to use them, which takes quite some time and energy [...]”.

Similarly, when asked about the meaning of the term “ultratechnologist” found on DECOL’s website, Hakan Gündüz explains:

“[...] We try to catch up with contemporary developments, particularly the scientific ones, and we try to apply and observe the results of these new developments as instantly and quickly as possible. We want to have the knowledge and the experience even if we do not need to produce a work using them at that point [...]”.

The “polymath” aspect, on the other hand, is evident in the subjects’ comments on interdisciplinarity and transdisciplinarity. As a hybrid professional critical of old disciplinary schisms, Bager Akbay says he frequently transfers skills from one professional field into another:

“[...] taking a skill I learnt during work and using it in art, or turning an artistic output into an education idea makes me better in all of these areas. It

is an advantage. Being able to switch between these different areas keeps your mind fresh [...]”.

Candaş Şişman believes he developed a special interest in animation thanks to its multidisciplinary nature, which, in turn, had an impact on his approach to the physical world as an artist:

“[...] Once I stepped into its world, animation became the main technique that allowed me to concentrate on sound, virtual design and spatial design more specifically. Then I began to detach from it and to slowly transfer into the physical environment the interdisciplinary perspective I acquired there [...]”.

As a graduate of Fine Arts with a focus on Painting, the only artist who approaches the concept with skepticism is Şifa Girinci:

“[...] I am skeptical about this self-taught discourse; I believe in formal education in relation to professional specialization. I only borrow [social scientists’] methods and use them in my artistic projects”.

Evidently, the subjects’ commitment to interdisciplinarity and/or transdisciplinarity is highly correlated with their multidisciplinary educational backgrounds, but it becomes even more manifest in the descriptions of their professional identities.

5.1.2 Professional Identity

Based on the titles they use to describe their professional identities as a response to the standard questions, the interviewees can be clustered as follows:

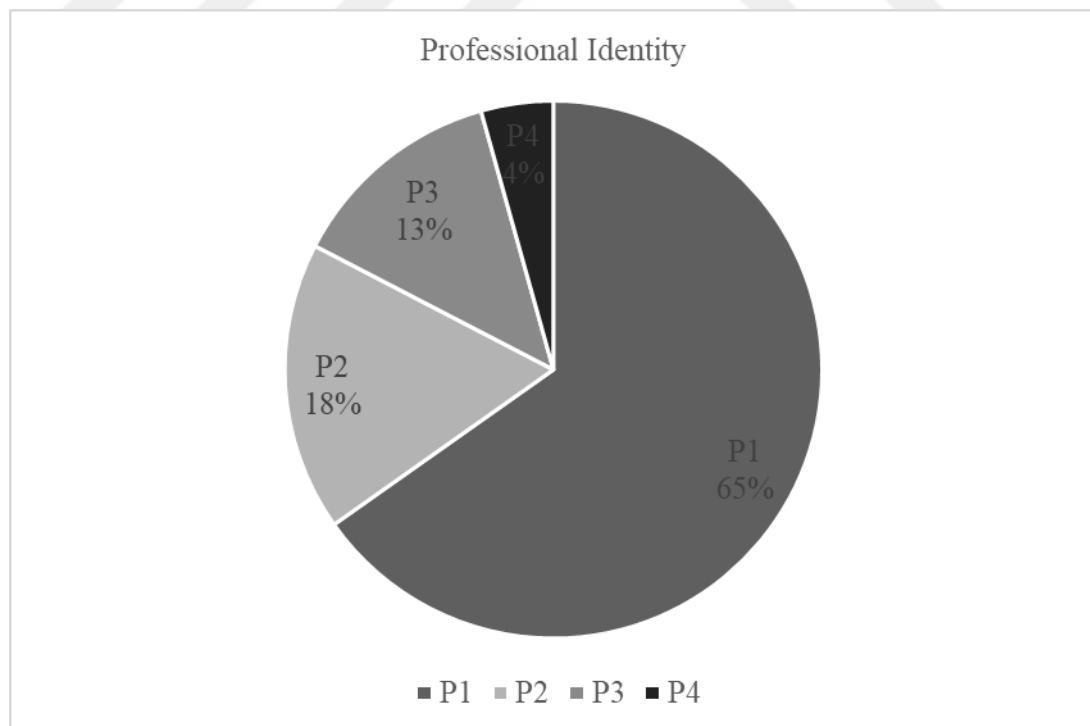
P1 (15 subjects): Identifies as “Artist and....”;

P2 (4 subjects): Identifies as “Media Artist”, New Media Artist” or “Digital Artist”, regardless of whether this is the only title or one of plural titles;

P3 (3 subjects): Identifies as “Artist” only;

P4 (1 subject): Does not identify as Artist.

Diagram 2: Distribution of the artists’ professional identities among clusters



All the subjects who are P2 are also E2, i.e. the subjects with a Fine Arts education and working with new media/digital technology tend to use a more medium-specific artistic title. Among them, Ozan Türkkan embraces the “New Media Artist” title most enthusiastically:

“New Media Artist; I use it very explicitly, I find the term useful, accurate and clear. [...] it became established thanks to its use by art historians, curators and other theorists. I adopted this new term in my professional title as well, and I think it accurately describes what I am doing [...]”.

Candaş Şişman is the only E2 widely known as a “New Media Artist” or “Digital Artist” but avoiding all media prefixes in his professional title:

“[...] I prefer the much more generic term ‘artist’ instead of terms like ‘media artist’, ‘new media artist’ or ‘digital artist’. Specific definitions have a more limited scope and thus they can be more practical for communication purposes, but they also limit my range. I also have to retain my freedom to produce work without using any technology [...]”.

Şifa Girinci is the other E2 who prefers the title “Artist”, but she only uses traditional media. The E1 tend to refer to themselves as “Artist” as well, although in the Turkish art scene they are widely known as “New Media Artist”.

Examining the relationship between the subjects’ educational backgrounds and professional titles yields other important findings. The majority of the E1 are also in P1, indicating a positive correlation between a multidisciplinary educational

background and multiple professional titles. The two exceptions are Ali Miharbi and Nihat Karataşlı who are both E1 but also P3, i.e. they only identify as “Artist”. E3, on the other hand, is perfectly correlated with P1. Here, the most unexpected finding is the positive correlation between E4 and P1, i.e. these subjects with a single disciplinary background use plural professional titles including “Artist”, regardless of whether that single background is in natural sciences or design. However, their additional titles are either more abstract as Deniz’s “Aspiring Polymath” and Gündüz’s “Creative Technologist”, or directly based on their single, non-artistic degree, as “Graphic Designer” for Hazal Fırat and “Designer” for Taşkın Esin. Finally, Doruk Kumkumoğlu and Refik Anadol, the two E5, use plural professional titles as well; however, while Anadol’s artistic title has the “media” prefix, Kumkumoğlu finds the title “Artist” more accurate, and partly similar to Şişman, he finds the medium-based definitions problematic.

The professional titles other than “Artist” or its medium-based variations are also worthy of closer examination. The biggest clusters under this category are:

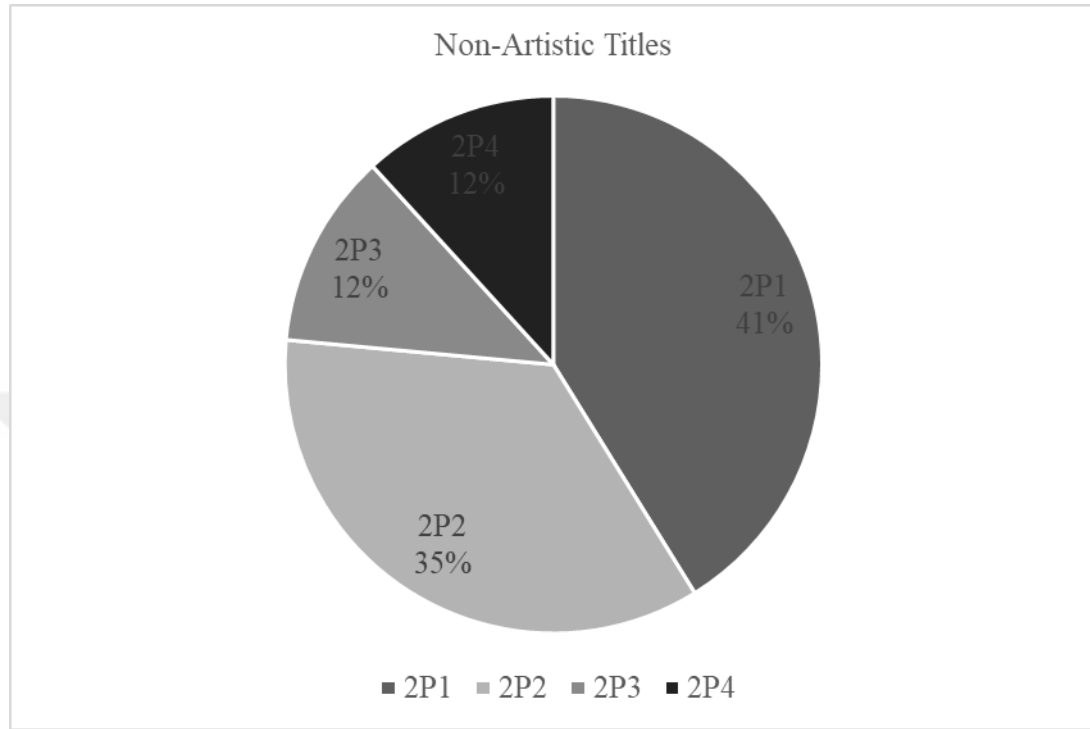
2P1 (7 subjects): Design-related titles such as “Designer”, “Graphic Designer”;

2P2 (6 subjects): Education-related titles such as “Academician”, “Mentor”, “Educator”;

2P3 (2 subjects): “Researcher”;

2P4 (2 subjects): “Director” (as in a creative studio).

Diagram 3: Distribution of the four most frequently mentioned non-artistic titles



The subjects refer to some of their professional activities as “commercial”, but while some subjects mention them as a part of their professional identities, others only mention them as an income source and exclude them from their professional titles. Design is the most problematic area in this regard; some subjects mention it as an income source just as important as or even more important than art, but they also place it in their list of negative keywords or far professions. Selçuk Artut is a good example for an artist with a design career who acknowledges both roles as part of his professional identity. But he also adds that he is not a typical or mainstream designer:

“[...] what we do is very niche. [...] We do off-screen interaction projects, hardware hackings, almost mission-impossible projects involving sensors and microprocessors, usually in relation to specific events and performances [...]”.

In contrast, Bager Akbay avoids the title “Designer” altogether even though he does commercial work in “experience design” and “physical interaction design”:

“I am an artist. I would definitely discard the term ‘designer’; I hate it. I do not do design; I do art. This is one of the reasons why there are no design decisions in the making of *‘Robot Poet Deniz Yilmaz’* [...]”.

How the subjects interpret the relationship between art and design is addressed in more detail in the section on artistic positions.

The cumulative data on the positive and negative keywords illustrates more clearly how the subjects demarcate their professional territory in relation to other neighboring territories. The lists consist of a mixture of professional titles, thematic concepts and individual attitudes, and some words are used more frequently than others. Table 4 classifies the positive keywords according to their types and frequencies. Under each type, the words with the highest frequency are placed on top, and all the other words with a frequency of 1 are listed below them in an alphabetical order. The words recurring as nouns, adjectives or with prefixes have been considered as part of the same cluster and placed under the main concepts.

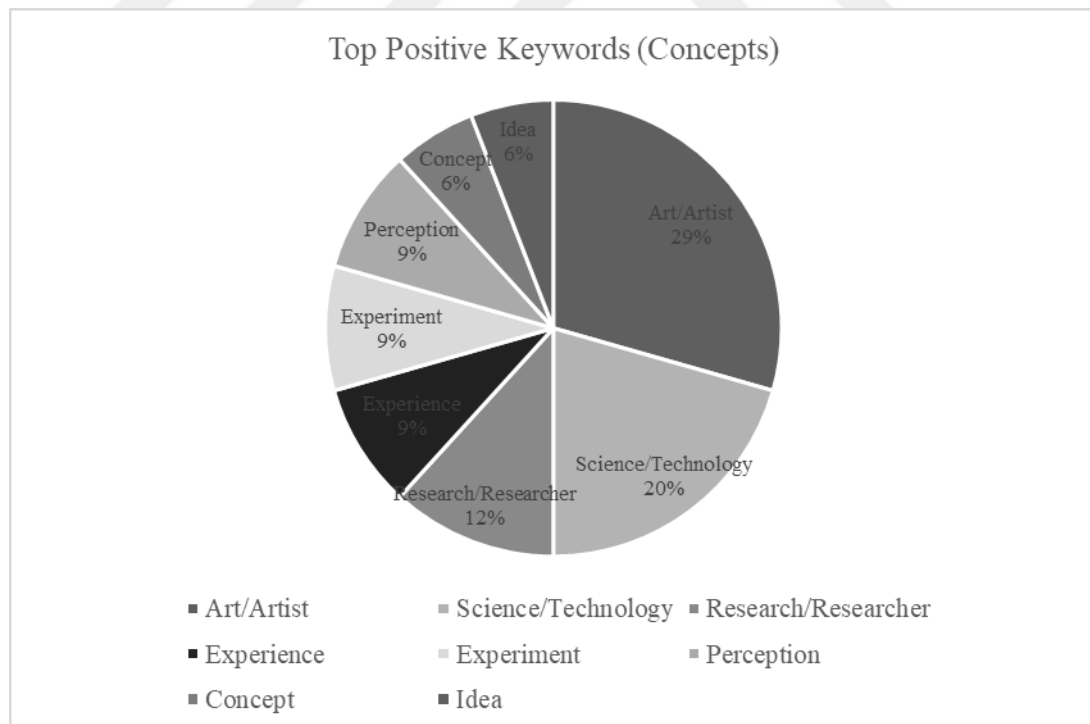
Table 4: Positive keywords provided by the artists, classified according to type and frequency

<u>MAIN CONCEPTS</u> Artist, Art, Art, Art, Art, Contemporary Art/Artist, Art Theory, Artist, Media Artist, Trans-Media Artist Technological developments, Technology/Science, Technology, Technology, Technology, Scientific method, Technology Researcher, Researcher, Research and Development, Research Immersive Experience, Experience, Experience Experiments with materials, Experimentalist, Experiment Perception, Visual Perception, Architecting Perception Concept, Conceptual Idea, Idea Aesthetic Objects Archive Choreography Coincidence Collaboration Color Computation DIY Future Image Innovation Interaction Media Movement Necessity Overview Effect Pattern Physicality Process Reality/non-reality Texture	<u>SUBJECT AREAS</u> Activism, Civil Politics, Activism, Daily/Soft Politics, Reactive/activist Queer, Queer Space, Queer Interactions Botany Cultural Identity Displacement Growth Migration New Ethics Philosophy Post-Internet Value systems <u>PROFESSIONS/PROFESSIONAL ACTIVITIES</u> Design, Motion Design, Physical Interaction Design Creative Director Entrepreneurship Image Composer Mentor/accompanist Photographer Scholar Teaching <u>MEDIA/GENRES</u> Data, Data Art, Poetics of Data Animation Augmented Reality Hybrid reality Machine Intelligence Media Architecture Neuroscience	Performative Happenings Photography Virtual Reality <u>ATTITUDES</u> Childhood Creativity Excitement Perfectionism Pleasure Spiral Surprise <u>ADJECTIVES</u> Contemporary, Contemporary Digital Interdisciplinary Monochrome Multisensory New

The concepts most frequently mentioned as positive keywords are “Art” and “Technology”, followed by “Research”, “Experience”, “Experiment” and “Perception”. “Science” is less frequently used compared to “Technology”, but they have been clustered into one single category. Some concepts in the list like “Experiment”, “Research”, “Experience” and “Perception” have already been emphasized by the curators/producers, the first two dominating the academically oriented subjects’ repertoires and the last two dominating the managerially oriented subjects’ repertoires, with “Art” and “Technology” being the umbrella keywords of

the entire professional territory. The most frequently mentioned subject areas in the positive word list are “Activism” and “Queer”, particularly reminiscent of Yetişkin’s research interests. Some artists’ involvement in civil politics is also in line with the academically oriented curators’ interest in art’s potential for social change. In the professions/professional activities list, on the other hand, “Design” takes center stage once more due to its presence in some subjects’ professional identities. As for media/genres, it is not surprising to find “Data” at the top, for the subjects were sampled purposefully with a focus on their practices based on data.

Diagram 4: Main concepts the artists have mentioned more than once as positive keywords



The negative words in Table 5 manifest much less variety compared to the positive ones. This is also due to the overall absence of negative words in several subjects’ accounts, as they say they cannot think of any professional connotations they perceive as negative even when these are inaccurate or reductionist. Here, the subjects mention plenty of medium-based artistic titles including “New Media Artist” and “Data Artist”. Moreover, according to the data on the non-artistic professions, a considerable number of the subjects are worried about being perceived as a “Designer”. Ironically, “Design” is also the top profession in the positive keyword list. This is another indication that Design has a particular importance in New Media Art’s boundary-work.

Table 5: Negative keywords provided by the artists, classified according to type and frequency

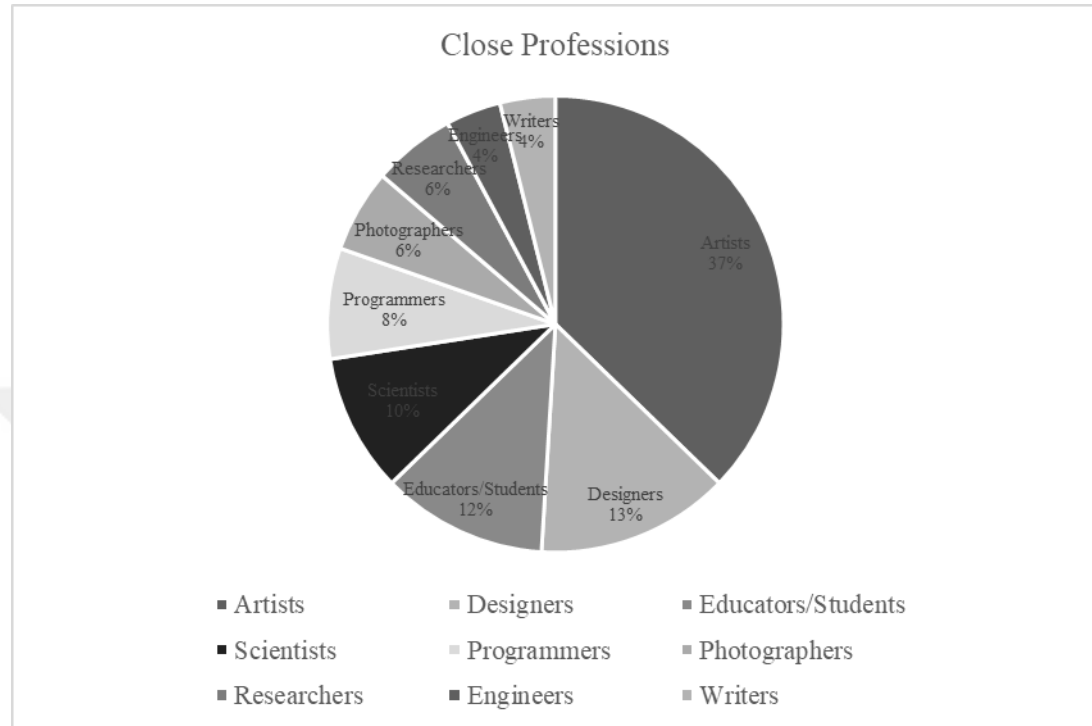
<u>ARTISTIC PROFESSIONS</u>	
Any word confining within the territory of a specific medium or technique; any prefix of Artist confining within the territory of a specific medium or technique, such as New Media Artist; All the medium-specific Artist prefixes mentioned earlier	
New Media Artist, New Media Artist, new media, New Media Artist	
Data Artist, Data Artist	
Painter, Painter	
Photographer, Photographer	
Animator	
Digital Artist	
Eco Artist	
Sculptor	
Video Maker	
<u>SUBJECT AREAS</u>	<u>NON-ARTISTIC PROFESSIONS</u>
Artificial Intelligence	Design, Designer, Design
Engineering & art	Programming, Programmer, Coder
Geography	Academia, Teacher/instructor
Graphics	Architect
Technological invention	Art Director
Topography	Computer Scientist
	Maker
	Mapper
	Neuroscientist
	Social Scientist
	VJ

The data on the closest and farthest professional groups offers further insight into the subjects' professional demarcation processes. It is not surprising to find at the top of the close professions list the term "Artist" with its medium or genre-based variations (Table 6).

Table 6: The professional groups the artists feel closest to, listed according to frequency

<u>CLOSE PROFESSIONS</u>	
Art, Art Precariat, Artists, Artists, Artists, Artists, Artists, Artists, Artists, Artists, Artists, Artists, Artists, Artists, Contemporary Artists, Independent Artists, Installation Artists, Media Artists, Visual Artists, Visual Artists	Communication
Designers, Designers, Designers, Designers, Experience Designers, Graphic Designers, Industrial Designers	Etnographers or Pseudo-etnographers
Academicians, Academicians, Educators, Educators, Scholars, Students	Fishermen who are also Poets
Scientists, Scientists, Cognitive Scientists, Open Science, Social Scientists	Freelancers (in Turkey)
Programmers, Programmers, Creative Programmers, Soldier/Programmers	Makers
Photographers, Photographers, Commercial Photographers	Mathematicians
Researchers, Researchers, Researchers	Musicians
Engineers, Engineers	Painters
Writers, Science Fiction Writers	Philosophers
Actresses/Performers	Physicians
Advertising Professionals	Technological Entrepreneurs
Against professional group perspective	Videographers
Archaeologists	
Art Directors	
Civil Society	

Diagram 5: The professions the artists have mentioned as “close” more than once

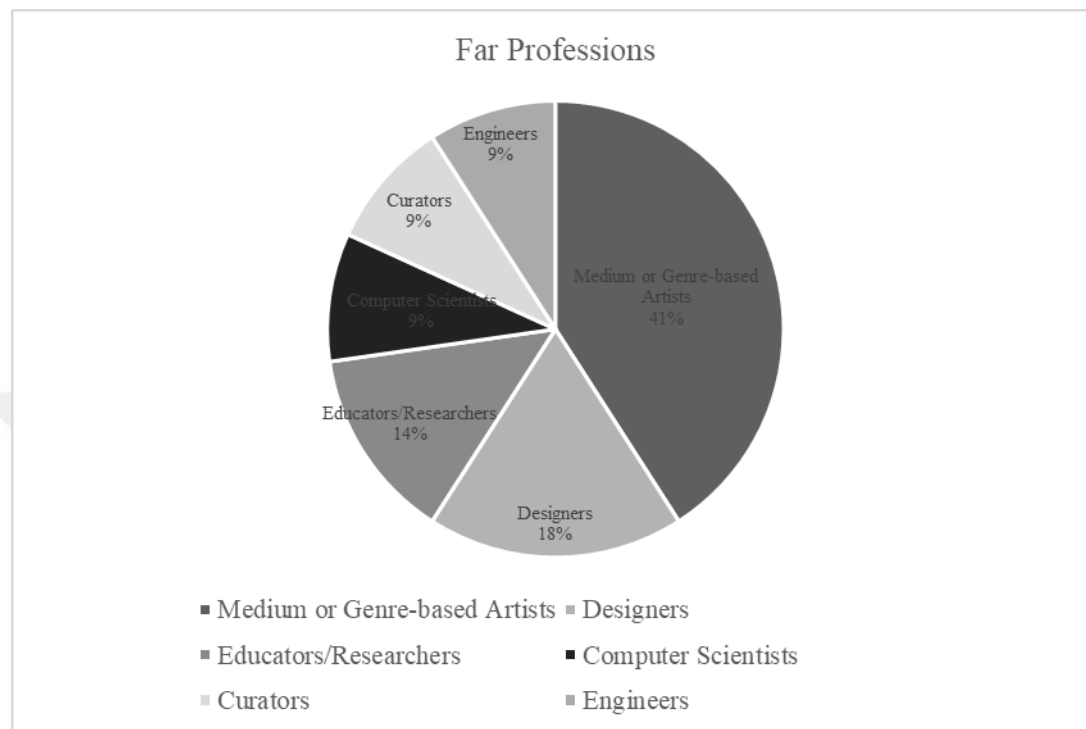


Certain artist types and groups defined by an adjective are also mentioned as the farthest professions (Table 7), parallel to the findings in the keywords. Again in line with the keywords, “Designer” is only second to “Artist” as both the closest and the farthest professional group. Most interestingly, the third and fourth items in the two lists, i.e. “Academicians” and “Educators” as well as “Scientists”, partly overlap as well. Evidently, these professional groups occupy a sensitive territory in the New Media artists’ professional demarcation strategies.

Table 7: The professional groups the artists feel farthest from, listed according to frequency

<u>FAR PROFESSIONS</u>
Any artistic group defined by a medium-based adjective, Any artistic group defined by an adjective, Data Artists, Data Visualization Artists, Painters, Popular Painting, Photographers, Video-makers, Political Art
Designers, Designers, Designers, Data Visualization Designers
Academicians, Teachers/Instructors, Researchers
Computer Scientists, Computer Scientists
Curators, Curators
Engineers, Engineers
Architects
Computer repair
Data Scientists
Directors
Event Organizers
Gallerists
Makers
Medical professionals
Neuroscientists
NGOs
Programmers
Revisionist approaches

Diagram 6: The professions the artists have mentioned as “far” more than once



5.1.3 Income Sources

The artists' and studios' income sources can be clustered under three main categories:

I1 (18 subjects): Art and other professional activities;

I2 (5 subjects): Professional activities other than Art;

I3 (2 subjects): Art only.

The majority of the subjects have more than one income sources, and only two subjects mention art as their only income source. I1 specify professional activities both related and unrelated to art, including design, teaching, writing, translation, e-

commerce and entrepreneurship. Here, the most problematic category is “commercial projects”, a generic term the artists often use in reference to the projects they do for commercial institutions and advertising agencies. This category’s scope and meaning vary considerably from one subject to another. For example, Candaş Şişman distinguishes the commercial projects from the artistic ones based on aesthetic concern:

“[...] The very reason I refer to our works with NOHlab as design is the fact that our projects within that context are more formal and aesthetically driven”.

When he is asked why NOHlab has two distinct project categories marked as “Commercial” and “Independent”, and whether the latter refers to the artistic projects, he says he regards the independent projects as design projects that are “commissioned but open-ended”, and where the artist has control over the briefing aspect as well:

“[...] In my individual projects, I create my own problem; on the design and NOHlab side, however, we address already existing problems”.

Can Büyükberber explains he has eventually managed to make art his main source of income, but his definition of artistic projects has a broader scope compared to Şişman’s:

“[...] I have really been making my living through art, especially in the last five, six years. Of course, I [...] did some commissions as well, but at the

end of the day, they did commission me for my own oeuvre and not for a TV commercial, so I can safely claim I make a living through digital art”.

Ahmet Said Kaplan says they are exploring how they can make their artistic projects more sustainable without having to engage so intensively in the commercial sector and particularly in advertising:

“[...] Most of the time, commercial projects become the main funding sources for our artistic projects. But we have recently managed to break this cycle, for the eventual aim of all of us is to be able to make a living through art. We all want to make a living through what we enjoy doing. We have recently been observing that our commercial projects are increasingly becoming more artistic and this makes us very happy”.

Similarly, Uğur Engin Deniz is trying to shift the balance in his income towards his own artistic projects, but unlike the other subjects, he refers to “New Media Artist” as a commercial title along with “Motion Designer”, while excluding it from his professional titles:

“[...] I try to take one or two commercial projects a year, and focus on my independent practice in the time that they buy me. In the last few years, I have begun to generate some income as an artist as well, and I wish it eventually becomes the only source of income enough to sustain me, for all the fields other than Art operate based on other people’s visions [...]”.

Erdal İnci reports that art constitutes more than half of his income, and he generates its remaining portion via “commercial work and commissions” that are “usually advertising videos”. Unlike NOHlab where the art and design functions are clearly distinguished and NOHlab assumes the latter, both Erdal İnci’s individual career and his work in Oddviz involve both functions. Oddviz positions itself as an “independent art collective” and its work regularly appears in art exhibitions. İnci adds that they have never done any commercial photogrammetry projects just yet, but they “are open to it”, for they “have to make a living” and their “equipment is expensive”. Similarly, Ozan Türkkan believes that commercial projects are necessary for a studio’s sustainability:

“[...] I still do some commercial projects; I established a VR studio doing creative VR works. Here, we do films for big businesses and corporations. Additionally, there are some commissioned VR projects, and they probably constitute the biggest portion of my current income. [...] This is double advantage: to be able to realize and experience such a large-scale project with a grandiose technical budget, which we could normally not afford to do by ourselves. I also receive a certain fee, which carries the studio forward [...]”.

Both artist and designer, Taşkın Esin says “one of them prevails at times” as his income source. Süleyman Yılmaz from the Awesome Brothers has a slightly different position for he is I2, i.e. identifies as a designer and not as an artist. His main income source is the studio, and his observations regarding why the artists in

Turkey are so deeply involved in commercial projects and in the advertising sector deserve particular attention:

“In fact, there is even a study about it. They looked into the percentage of the labor the creative professionals dedicate to the marketing sector all over the world. I am talking about songwriters, actors, performers, coders, etc. This percentage is 1.6 in Berlin and 60 in Istanbul. Put differently, if you are a creative professional in Turkey, there is no way of sidestepping the marketing sector. I think this is because the entertainment sector is still not fully established, and the art sector is rather too slow”.

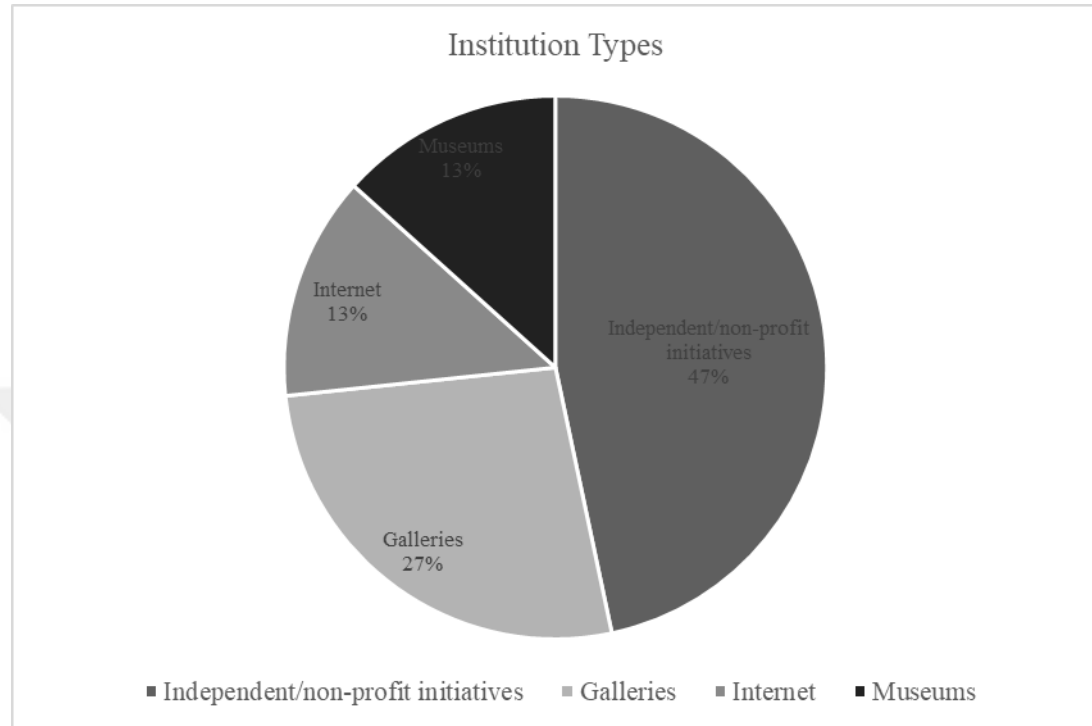
He argues that having a dual identity with completely distinct professional functions is not a realistic goal to begin with under the local circumstances.

5.1.4 Institutions Identified with

Table 8: The institution types associated with, listed according to frequency and alphabetical order

INSTITUTION TYPES
Artist initiatives, Artist collectives and initiatives, Independent initiatives, Small-scale independent organizations, Non-profit culture and art institutions, Smaller and more accessible platforms, Institutions with no sales priority that allow you to show critical, political work
Galleries, Galleries, Galleries and group shows, the representing gallery
Universities, Universities, Universities
Internet, Streaming channels/Online digital art platforms
Museums, Museums
All art institutions and initiatives
Artist residencies
Concert venues/private parties
Event organization agencies
Fairs
Festivals
Libraries
Panels/talks/symposia
Public spaces
Research institutes with no commercial interests
Superstructures such as UN and EU
Workshops

Diagram 7: The institution types the artists have mentioned more than once



The artists approach this question from two complementary perspectives (Table 8). They either mention the institution types they think are associated with their professional identities, or the particular institutions they already collaborate with or they aspire at working with. Institution types manifest great variety, reflecting New Media Art's cross-disciplinary versatility and the wide range of activities and practices the subjects are able to undertake. The artists' list features all the types as well as some institutions mentioned in the curators'/producers' list, but the former manifests much greater variety compared to the latter. Although the majority of the artists are concerned about financial sustainability, the institution type topping their list is the independent and/or artist-run initiative. The galleries are in the second

position, for some subjects also have gallery representation and their identification is often limited to that gallery. Finding the universities and museums in high ranks is not surprising either, but it is interesting that the world wide web and particular online platforms are mentioned more times than are the art fairs or festivals. For example, Erdal İnci mentions the Internet as part of his list of institutions:

“[...] I could not have established a connection with a gallery if not thanks to [the Internet]. That relationship developed thanks to my recognition on the Internet, and rather organically [...]”.

Can Büyükberber mentions “digital art platforms such as Sedition Art” and “streaming channels”, but he adds that he does not identify with the latter.

The specifically mentioned institutions are listed in Table 9, with the institutions from Turkey and those from abroad listed separately. The institutions mentioned more than once are placed on top, and others follow an alphabetical order below them. It is interesting to note that, despite not being exclusively dedicated to New Media Art, Salt emerges as the most popular institution from Turkey. The second place belongs to amber platform, the independent initiative co-founded by Ekmel Ertan, followed by Borusan Contemporary in third place as one of the very few local institutions with a particular focus in Media Arts. Interestingly, none of the subjects mentions Contemporary Istanbul’s Plugin despite its unique position. Moreover, the list includes several NGOs and activist groups, but since Bager Akbay, Burak Arıkan and Nihat Karataşlı are the artists mentioning most of them, their relevance remains more specific to their individual practices.

Table 9: The institutions associated with, listed according to place, frequency and alphabetical order

INSTITUTIONS IN TURKEY	INSTITUTIONS ABROAD	
Salt, Salt, Salt	Ars Electronica, Ars Electronica, Ars Electronica, Ars Electronica	NYU Library
amber platform, amber platform	MIT Media Lab, MIT Media Lab, MIT Media Lab	Privacy International
Borusan Contemporary, Borusan Contemporary	Access Now	Raqs Media Collective
DEPO, Neriman Polat's show at DEPO	Ashkal Alwan	Refik Anadol
ArtBizTech	Casa Encendida	Ruangrupa
Arter	Degrowth Conference	Sedition Art
Başka Bir Okul Mümkün	ECAL Lausanne	Serpentine Gallery
Citizens' Assembly and Human Rights Platform	Fish market	Sila Sveta
Drama Queer	Frank Gehry	Stanford University
Hafıza Merkezi	Further Field	Tactical Tech
Hrant Dink Foundation	Google	Tadao Ando
İskele 47	Harvard University GSD	Teamlab
MSGÜ (Mimar Sinan Fine Arts University)	IBM	The Glitch community
NOHlab	Intel	The Neural IT Magazine
Pilot Galeri	Le Cube	The Radical Networks Conference
SAHA	MoMA PS1	The Society of the Friends of the Virus
Sanatorium	Moment Factory	Thom Mayne
TÜBİTAK in its ideal state	Museo Reina Sofia	Transmediale
Zorlu PSM/Latin Akalan	NASA	UCLA Design and Media Arts Department
	NVIDIA	Universal Everything
		University of Goldsmiths
		Zaha Hadid Architects
		ZKM Karlsruhe

The list of international institutions is twice the size of the list from Turkey, illustrating that the artists identify more closely with the global professional territory, the importance of which has already been addressed by Dilbaz. Despite the “festivals” appearing only once in the list of institution types, Ars Electronica is the most frequently mentioned institution in the list of institutions. It is followed by the the MIT Media Lab, one of the leading education and research institutions in the field as already illustrated by the historical overview in chapter 2. All the other mentions are more directly related to the artists' individual areas of interest, the specific art scenes they operate in and their previous institutional collaborations.

Disappointingly, despite its pioneering role and Peter Weibel's scholarly prestige, ZKM Karlsruhe is only mentioned once. Some artists also mention other creative studios such as Universal Everything and Teamlab as the models they aspire at or that they already think they are similar to. Finally, some gigantic tech companies and architecture offices have a strong presence in the list thanks to Refik Anadol.

5.1.5 Conclusions

According to the data obtained from the standard questions, the New Media artists in Turkey come from a variety of educational backgrounds just like the curators/producers, and having a multidisciplinary background is an advantage for them as well. The artists without a degree in fine arts generally enter the New Media Art sphere by learning new technical and/or technological skills either on their own or from their peers, or by transferring into the art sphere the skills they have already acquired from formal education in other fields such as Design or Mathematics. The artists with a fine arts education also regularly update their technical skills in line with the latest technological developments. Interestingly, fine arts education is strongly correlated with medium-based references in the professional titles. This might be due to the fact that the fine arts education system is still based on earlier medium taxonomies, and its graduates tend to approach New Media Art as a new category in this hierarchy in which they choose to specialize and develop a mastership. The subjects with degrees in other disciplines, however, are much less

affected by this artistic medium discourse, and their attitude is more in line with the Post-media perspective.

Similar to the curators/producers, the artists have two main types of income sources in addition to art: Activities related to teaching, and commercial projects which may include artistic commissions, design projects or both depending on each artist. The subjects who run a studio often rely on the latter to sustain their practice, but in their ideal scenario, they say they would rather concentrate on their independent projects. To overcome this problem, they try to ensure that their artistic vision is reflected in their commercial projects as much as possible, i.e. to the greatest extent acceptable to their clients. In fact, their situation is similar to the curators'/producers' working towards a balance between institutional demands and creative freedom. Finally, the institution types the artists identify with confirm their desire for autonomy once more, and despite its greater variety compared to the curators'/producers', the quality of their institutions list is similar to the latter, predominantly international and categorically heterogeneous.

5.2 Tailored Questions

The artists' responses to the open-ended questions are analyzed under the same four categories used for the curators/producers, with the exception that the third section on the "curatorial positions" is replaced with the "artistic positions".

5.2.1 The Definition and Scope of New Media Art

5.2.1.1 Terminology and Defining Characteristics

In trying to define “New Media Art”, the interviewees propose various combinations of medium and function-based characteristics. Can Büyükberber provides a medium-based definition featuring “kinetic sculptures, video art, works done with old television sets and digital animations alike”, i.e. involving “the technologies and the electronic media of the 20th and 21st centuries”. He thinks the persistence of the term’s medium-based connotations is also due to the public’s unfamiliarity with these media compared to the traditional ones. Doruk Kumkumoğlu offers a medium-based definition related to “the work’s design process” involving “some kind of technology”, while Nihat Karataşlı argues that the artists themselves contribute to this medium-based perception by clinging to the medium prefix in their professional titles, which makes him think of “New Media Art as exclusively computer-based”. Moreover, he avoids using the term despite having done numerous New Media artworks, for he thinks “it refers to code-based artworks” which, he argues, “implies a territory dominated by right-wing, big tech companies, and not artist groups”. His words are reminiscent of Yetişkin and Ertan’s warnings on the corporate control over independent artistic practices. Another artist highlighting “code” as one of New Media Art’s defining elements is Bager Akbay; yet, unlike Karataşlı, he believes that the code receives an unfair treatment, because it demands an “interpretation through systems philosophy” and

thus “it requires a sophisticated perspective” like does Conceptual Art²¹⁵. He adds that the fine arts education system based on medium or even material-based departmentalization is one of the leading factors in this mistreatment, and it results in the code’s exclusion from the artistic media hierarchies.

In parallel to Karataşlı’s comments regarding the code and its connotations, Can Büyükberber and Didem Yalınay identify a correlation between the medium-based taxonomies and the neoliberal art market. Yalınay observes that such taxonomies persist “because there is such corporate dominance in the art world”, and true art “is different from and against the corporate systems and anything packaged by those systems exploiting individuals for financial gain”. Genco Gülan observes that New Media Art “could have started a global cultural revolution”, but it lost that chance because “the system sacrificed its own son”. The most radical argument regarding this subject comes from Bager Akbay; he claims that New Media Art cannot be defined on medium-based terms since medium-independency is its defining quality:

“New Media Artists can use so many technologies and can learn them so fast that it becomes the first art form that can be evaluated independently of its technology. All other art forms depend on their respective technologies and are categorized as such, so they are actually more technology-driven. [...] Contrary to the common belief, New Media Art is much less medium-dependent than traditional art forms”.

²¹⁵ It is no coincidence that Ebru Yetişkin and Bager Akbay have systematically been collaborating in the last five years.

In terms of functional characteristics, Uğur Engin Deniz mentions “interactive”, “real-time”, “open to intervention” and “unpredictable”, while Genco Gülan mentions “real-time” and “translocative”.²¹⁶ Kerem Ozan Bayraktar highlights “programmability” and “interactivity”²¹⁷, but he adds that it is better to address each artwork separately to avoid overgeneralizations. In addition to medium and function, some artists also mention the New Media Art community itself as a third defining factor²¹⁸, and Ali Miharbi identifies a similarity between the New Media Art community and that of Photography:

“Indeed, the New Media Art category has its own group. They have their own institutions, academic departments, conferences and publications. They have a characteristic separating them from the rest of the contemporary art world at large. But such things also exist within the field of photography. Many photography exhibitions and festivals regularly take place outside the realm of contemporary art [...]”.

Likewise, Kerem Ozan Bayraktar observes a technofetishism in the New Media Art community similar to the one in Photography:

“[...] The only reason we do not regard New Media Art as a photography club, is because we are less familiar with its technologies. But we will probably regard it as such a century later, or even earlier [...]”.

²¹⁶ “Real-time” was also emphasized by Yetişkin in her article from 2012.

²¹⁷ His choice of terms is reminiscent of Dietz’s description of Net Art.

²¹⁸ Here, Quaranta who addresses the “New Media Art world” takes center stage.

Bager Akbay does not agree that there is a community spirit in the New Media Art territory; yet, despite criticizing the medium-based taxonomies, he defines a “New Media Artist” persona much more “down to earth” than the painters, and refers to the field as “a place where weirdos come together”.

As of terminology, “Electronic Art” and “Digital Art” enter the discussion in several accounts as New Media Art’s earlier versions and closest alternatives that may or may not outlive it in the long run. In fact, Genco Gülan observes that “people did not use the term [New Media Art] until the 2010s”. Bager Akbay points at the unpredictability of the terminology that will remain in use in the future in reference to our present day, whereas Can Büyükberber and Selçuk Artut suggest using the term “Art and Technology” instead of “New Media Art”, as the former is more flexible and devoid of temporal limitations. Some interviewees also propose alternative terms tending towards a Post-media perspective. Didem Yalınay proposes “Planetary Art” and Uğur Engin Deniz suggests “All Media Art”, while Selçuk Artut proposes “the Art of the Information Age”²¹⁹, and he argues “the birth of the Internet had as much impact in our history as the emergence of writing”. Finally, both Ahmet Said Kaplan and Refik Anadol prefer the term “Media Arts”, but Anadol adds that he uses it for he finds the “new” in New Media Art problematic, an issue addressed in more depth in the following section.

²¹⁹ Artut’s approach is reminiscent of Manovich’s idea of Info-aesthetics.

5.2.1.2 The Scope and Relevance of the Term “New Media Art”

Regarding the term’s relevance, the artists present two contradictory arguments that cannot be addressed in isolation from the problem of the medium. The first group argues that, although it was not so when it first emerged, New Media Art is currently a medium-based term only useful for practical purposes and a hype, a buzzword, and this is why they prefer not to identify with it even if they use new media in their practices. One such artist is Burak Arıkan:

“[...] Keywords like New Media Art [...] are like putting a surfing board on a wave within a certain flow, a trend. [...] The use of such terms also helps you to more easily explain certain concepts to people. Beyond these, it has never been a title that stuck with me. I guess many artists would say they share my experience [...]”.

Ali Miharbi agrees that terms like “New Media Art” are “temporary labels as superficial as tags you add in a social media post”, and help the artist explain the work to “the viewer to have a rough, generic idea on what to expect, at first sight”. For this group, the biggest problem with the term is its “new” part. In fact, Miharbi asks “New in comparison to what?”, and Bager Akbay finds the term dangerous since it is impossible to predict “what will happen when [New Media Art] gets old”. Can Büyükberber observes that “referring to something as ‘new’ is in itself a very old approach”, and “the term New Media Art [...] implies that media emerging before a certain point are old and they are new after that point on”. Similarly, Selçuk Artut finds the term “allergic” for “it speaks the same language with modernity

criticism, in the sense of advocating the complete destruction of the old, longing for and accepting the new unconditionally”. Even though she is a painter working with traditional media, Şifa Girinci observes that “the term New Media remains weak in the face of temporality”. According to Refik Anadol, “to argue that something is new is conceptually problematic”; he explains this is the main reason behind his adoption of the term “Media Arts” instead of it:

“[...] The Media Arts’ profound advantage is its ability to generate an inclusive perception both for the artist and the viewer. I have no limits here; when using a medium, technology, screen or AI algorithm, I do not care whether it is old or new [...]”.

The second group’s argument, on the other hand, is that New Media Art’s ideology is in fact all about experimenting with the newly emerging technologies, so it is by definition oriented towards the new. Süleyman Yılmaz belongs into this group, as he says that “New Media Art has a grammar of its own that has not been used in fine arts in the past”, and “if what the artist wants to express can only be expressed using new media, there is no problem in calling it New Media Art”. Candaş Şişman summarizes this approach very clearly:

“[...] to me, the excitement and the difference brought about by New Media is its undefined and constantly shifting form. The artistic movement X has a finished form like stone but New Media is like water or liquid. [...] its form can change depending on where you place it; at the same time, it can absorb the new techniques and technologies that are constantly developing, turning

the liquid into a solution, which illustrates that it is made of constantly changing components [...]”.

Ozan Türkkan’s motivations are similar to Şişman’s:

“[...] a completely unexpected technology might emerge in ten years from now. In that case, I will be excited about it, will want to experience it, and will think about the ways in which I can transform it and use it for artistic purposes”.

Likewise, Ahmet Said Kaplan says:

“[...] [New Media Art] obviously develops in parallel with the technological developments, and studying this parallelism keeps us up-to-date and contributes to our professional development. [...] we are after discovering what types of new experiences we can create with the help of these newly emerging technologies”.

Taşkın Esin can also be considered part of this second group, as he regards New Media Art as a medium-based territory in which “alternative visualization languages” continue to emerge with the emergence of new technologies.

Finally, as an exceptional subject whose position can be associated more closely with the second group, Erdal İnci is one of the few subjects referencing the 19th century technological developments and discussing the issue from a history of technology perspective reminiscent of the overview in chapter 2. He approaches “New Media Art” as “a period rather than a movement”, during which “certain

instruments and technologies either previously non-existent or beyond the reach of the end user became much more accessible”, which allowed those users to “experiment with it with minimum production effort and material cost”. He identifies a similarity between the birth of New Media Art and “the status of oil painting during Renaissance” as the latter was “very expensive and considered ‘advanced technology’” until “its supply increased and it reached a broader consumer profile”. He refers to the filmmakers as the “New Media Artists of the early 20th century”²²⁰, and film is now able to produce the same effects that were already being produced during the 19th century via other means, an example for which is the hologram effect found in magic lanterns and phantasmagoria²²¹.

The artists also have various predictions regarding the term’s future scope and relevance. Çağrı Taşkın from Oddviz agrees with his teammate İnci that “there has always been a New Media since the beginning of history”:

“in half a century from now, what we do today will not be referred to as New Media but something else, and New Media will refer to something else in return”.

Similarly, for Selçuk Artut, it will take at least fifty years to determine “whose work will remain”, and whether the term will continue to exist to denote a past or a present. According to Hakan Gündüz, we are currently experiencing New Media

²²⁰ In fact, Weibel categorizes film under the “old technological media”.

²²¹ İnci says: “A hologram effect was possible to obtain as early as thirty years ago; it was even possible two centuries ago thanks to a technique still used by the artists of today. They put a piece of glass on stage tilted 45 degrees and an image or object under the stage was reflected on it via backlighting, so it looked as if it was actually on stage. Instead of using the actual object with the backlight, however, now they use the images on a screen”.

Art's "adolescent stage", and the "debate around its definition" might both become "more ardent" or "disappear altogether". Moreover, the majority of the artists say it is the art historians' and the curators' job to discuss terminology anyway, and they are the ones who will give the artists their proper place that they deserve in history.

5.2.1.3 The Relationship between New Media Art and Contemporary Art

The majority of the interviewees describe a complicated relationship between New Media Art and Contemporary Art where the former can neither be considered the latter's subcategory, nor as a field completely autonomous from it. In fact, Ali Miharbi identifies some "intersecting areas" between the two territories, but adds that New Media Art has certain areas "that extend beyond the contemporary art territory at large". According to Can Büyükberber, the term "Contemporary Art" already has its own shortcomings as a "product of the nineties and the early 2000s". Nevertheless, according to the subjects in the first group described in the previous section, the relationship is currently evolving from distinction towards integration. Bager Akbay observes a transition towards a Post-media condition:

"Contemporary Art is at the center and New Media Art is at the periphery, but now we are at a point in history in which the term New Media Art will begin to decline, because artists have become simply 'artists' again [...]"

For Burak Arıkan, the territorial schism was more evident in the "past decade", but "if we extend this period so as to include the next ten years and a longer period in

the past”, we can hardly identify a New Media Art territory distinct from the rest of the art world; the current territory can be referred to as “simply Art with its constantly developing methods and questions”. Likewise, Genco Gülan believes that New Media Art as a territory autonomous from Contemporary Art has completed its mission. Yet, “it continues to occupy a crucially important niche corner” in the broader art sphere.

The interviewees working with traditional media have a tendency to consider the territorial distinction null and void from the beginning. For instance, Hazal Fırat says she “cannot separate New Media Art from Contemporary Art”, for “the latter involves such a variety of practices, and the main criteria are the subjects they tackle and their methodologies and not their media”. For Şifa Girinci, “New Media Art definitely needs to be under the umbrella of Contemporary Art”, for the latter “has no boundaries and every newly emerging thing can become part of it depending on how it addresses a specific issue”. Despite working with new media, Doruk Kumkumoğlu has a similar position; he argues that New Media Art already emerged from within Contemporary Art’s realm. Taşkın Esin’s position is also closer to this perspective:

“The term ‘Contemporary’ evidently has a connotation of timing. I think if you use the media of a certain historical period, then you become ‘Contemporary’ for that period and your work belongs there [...]”.

Süleyman Yılmaz believes that New Media artists avoid the Contemporary Art territory on purpose, for the latter has a “snobistic, elitist nature” and a “bad

reputation". On the other hand, the E2 working with new media blame New Media Art's distance from the Contemporary Art world on the discriminatory attitude in the latter. For example, Candaş Şişman considers New Media Art as "a branch evolving within the Contemporary Art sphere", but he observes that, according to the "Contemporary Art professionals", New Media Art is "too techno-pornographic, aesthetic and design-oriented". Ozan Türkkan who is another E2 claims that such discrimination also exists at the institutional level. In his view, contemporary art institutions are intimidated by the "unfinished works or works in progress" that New Media artists produce using the newest technologies, and their responses to such unfamiliar practices is "too slow". Therefore, New Media Art professionals are "compelled to establish" their "own institutions and platforms like Ars Electronica".²²² On the other hand, Refik Anadol approaches the issue from a Media Arts' point of view, arguing that "more institutionalized and well-established activities and discourses exist around Contemporary Art", so Media Arts institutions are at a relative disadvantage in terms of "cultural investment". He adds that Media Arts' visuality initially stood "somewhere in between Contemporary Art and Postmodernism", and it was integrated into the broader art sphere "in the 1970s", while the early 1980s saw them "go their separate ways"²²³ due to the scientific and technological developments, but he observes that they are currently "reunited"²²⁴. Finally, Uğur Engin Deniz's prediction is completely different from the rest of the

²²² This discussion is reminiscent of Başak Şenova's earlier remarks that contemporary art institutions in Turkey initially pushed New Media Art practices to the periphery, and Yetişkin's observation that the same institutions later became interested in it as they needed a new source of audience attraction.

²²³ Contemporary Art's market-driven nature might also have had an effect in the same direction during this decade.

²²⁴ Anadol actually points to a Post-media condition.

subjects'; in his view, New Media Art has the potential to declare total independence from the Contemporary Art sphere and its patronage models thanks to the technological changes on the horizon.

5.2.2 New Media Art's Historical Origins

5.2.2.1 References to the History of Technology

According to the artists, the most decisive technological development in the history of New Media Art is the invention of the computer, followed by the Internet and television. Kerem Ozan Bayraktar also mentions the radio, which is at least as important but seldom addressed in historical narratives. Erdal İnci mentions the 19th century optic experiments, and Hakan Gündüz mentions the “watchmakers making 'The Writer' automaton in the 18th century”²²⁵. Burak Arıkan offers one of the most comprehensive narratives of how technology and art history interact within the context of New Media Art, also explaining why the latter's boundaries with the design territory are so blurry:

“[The history of New Media Art] is the history of the artists working with computers, and we may trace it back to the 1960s and 70s. As computer technology develops, artists adapt to these changes, use these technologies in alternative ways and learn new skills. In the distant past, their practice was referred to as ‘Computer-Generated Art’. Other terms followed, including

²²⁵ The Swiss clockmaker, Pierre Jaquet-Droz devised this instrument as a writing machine, and it is considered one of the earliest ancestors of programmable computers. For further information: <https://www.chonday.com/15454/the-writer-automaton>

‘New Media Art’. [...] But in the 1990s, as the graphic processing performance of the ordinary computer increased, many designers using these powers became artists. They began to perform various on-screen experiments with typography and graphics. Towards the end of that decade, McIntosh released its new series that revolutionized the publishing and magazine sectors. These instruments had a considerable impact on the visual communication practices of that time and the artists began to use them as well. [...] But the major turning point was the birth of the Internet”.

Can Büyükberber traces the field’s origins in the emergence of new technologies as well:

“[...] [New Media Art’s] roots are more in the area of new technologies and cybernetics. Its history is more about the history of electronics, digital technology, computers and even television; [...] once the personal computer became more widely available, it also became a creative tool, and these creative users tried to develop an umbrella term under which they could group themselves and describe the new works they did”.

Genco Gülan associates “New Media Art primarily with the communication technologies, the Internet and dematerialization of information²²⁶”; like Arıkan, he touches upon the impact of computers and new printing technologies on the field’s evolution, addressing the developments in Turkey as well. Selçuk Artut, on the

²²⁶ This brings to mind both Artut’s comments on the “Art of the Information Age” and N. Katherine Hayles and her *How we became posthuman: Virtual bodies in cybernetics, literature, and informatics* (1999).

other hand, is against trying to build a single, Western-dominated narrative based on a sequence of genius inventors:

“[...] This civilization was built by so many people, each putting one brick in the wall. You cannot ignore or exclude Al-Jazari in this picture if you are talking about robots or algorithms. We are lucky that knowledge is more accessible nowadays and people became aware of the fact that the civilization they admire is not solely based on Leonardo da Vinci’s work [...]”.

5.2.2.2 Art Historical References

The art historical movements and the artists that the subjects report “feeling close to” are illustrated in Table 10. This table presents the data collected from the standard questions, but in the analysis, they are addressed in combination with the subjects’ articulations of art history in their responses to the tailored questions.

Table 10: The art movements and the artists the subjects say they feel close to or find influential

NAME	ART MOVEMENTS/ARTISTS FELT CLOSE TO
Ali Miharbi	Performance Art; Fluxus
Awesome Brothers (Süleyman Yılmaz)	Dada
Bager Akbay	Dada; Fluxus
Burak Arıkan	Cinema (Jean-Luc Godard); Duchamp; Miles Davis; Debord and Situationist International; Fluxus (Nam June Paik, Yoko Ono); Instruction Art; Hans

	Haacke; Vito Acconci
Can Büyükberber	Carsten Nicolai; Carl Gustav Jung; Buckminster Fuller; George Lucas; Renaissance polymaths
Candaş Şişman	Natural sciences and the universe
Decol (Ahmet Said Kaplan)	Earliest shadow plays; Duchamp's <i>Anemic Cinema</i> (1926)
Decol (Hakan Gündüz)	20th-century Digital Art; 1960s, works in the "Cybernetic Serendipity" exhibition and Nam June Paik
Didem Yalınay	Constructivism
Doruk Kumkumoğlu	Joseph Kosuth; Conceptual Art (to less extent)
Erdal İnci	Big Masters (Leonardo, Michelangelo, Rembrandt); Lautrec, Van Gogh, Picasso, Klee, Jackson Pollock, Andy Warhol; Gerhard Richter, Anselm Kiefer
Genco Gülan	Orlan, Marina Abramovic, Nam June Paik, Antoni Muntadas, Tony Oursler, Miguel Chevalier, Oleg Kulik, Christian Boltanski, Mona Hatoum, Picasso, Dali, Osman Hamdi, Burhan Doğançay, Komet, Hale Tenger, Bedri Baykam
Hazal Fırat	Yoko Ono; Cindy Sherman; art involving activism and performance; Constructivism
Kerem Ozan Bayraktar	Post-1950 Western art; Post-1970 Conceptual Art (critical of Kosuth); impressionists; 18th century Ukiyo-e; post-1950 Minimalism, Conceptual Art, Post-Conceptualism, Post-Minimalism; post-2000 art
Nihat Karataşlı	Fluxus; Dada
NOHlab (Candaş Şişman)	Design
Oddviz (Erdal İnci, Çağrı Taşkın, Serkan Kaptan)	Arte Povera; Fluxus
Ozan Türkkan	His contemporaries; Manuel Mandelbrot
Özcan Saraç	Any contribution starting with cave paintings; but especially Conceptual Art
Refik Anadol	ZKM culture; the post-WWII technological movement involving Generative Design and Coding (James Whitney and other Engineers/Artists with basic coding skills); Expanded Cinema; Light and Space Movement

	(Dan Flavin, James Turrell and Robert Irwin); Cinema, Science-Fiction (William Gibson, Carl Sagan)
Selçuk Artut	Italian Futurism (aesthetically); Dada; Fluxus; Constructivism; post-19th century art movements at large
Sergen Şehitoğlu	1960s; Düsseldorf School (Thomas Ruff); Conceptual Art
Şifa Girinci	Cannot position her work in art history; influenced by Dada in school years
Taşkın Esin	Duchamp; İlhan Koman
Uğur Engin Deniz	Maximalist styles

The E1's multidisciplinary educational background is also reflected in their reference lists, mentioning the 20th century movements like Dada and the Fluxus more frequently than the E2. It is not possible to identify any other significant correlation between the subjects' education profiles and art historical references, as the latter manifest immense variety across individual profiles. Furthermore, references to the Pre-modern art history either focus on the optic experiments already addressed in the section on the history of technology, or the Renaissance masters. In other words, the data is another evidence in favor of the Polymath model. Bager Akbay describes the historical roots of this analogy very well:

“[...] Vermeer designed mirror systems to make photorealistic paintings. Da Vinci designed machines; someone else designed Camera Obscura... All these men made machines. We can rightfully consider Da Vinci as the New Media Artist of his time”.

Can Büyükberber identifies a connection between his oeuvre and “the Renaissance and its polymaths”, and he feels close to them for “they exercised their mental

faculties at the intersection of science, art and technology, based on an effort to understand man, life and the cosmos”.

With regards to the modern art historical references, the most frequently mentioned 20th century art movement is the Fluxus, followed by Conceptual Art, Dada, Constructivism, Performance Art and the art of the 1960s. It is important to note that the movements at the top of the list have a strong performative element. Indeed, Ali Miharbi explains why the Fluxus has been so influential on him:

“[...] In Fluxus something happens and ends, it is not serious and has a ridiculous aspect, and yet its intentions and attitudes are very serious. The perfectly functioning, serious technological mechanism in my oeuvre doing something absurd corresponds to the serious Fluxus performer entering a room in tie and suit doing something absurd”.

He also draws an analogy between a program and a theatre script as both exist only when they are performed in real-time. On the other hand, Bager Akbay says he “enjoys Dada and Fluxus, and not the great masters of painting or sculpture”, because the former offer him “more mind-bending, experiential things with an alternative point of view”. This is also reflected in his works designed as “little games with a potential to provoke the audience in that direction”. Likewise, Nihat Karataşlı admits his recent oeuvre has “a strong Fluxus and Dada influence”:

“[...] I have particularly been revisiting Fluxus recently, for during this era of global crisis, I think we need to revisit the movements that reacted to such crises effectively in the past. Similarly, in Dada, we see how the artists

reacted to fascism and violence following a world war. In other words, I am interested in those movements based on more collaborative practices with no particular emphasis on authorship [...]”.

Selçuk Artut highlights the role of his dual identity as an artist and musician in his artworks’ performative nature involving “temporality and flow”, while admitting he is influenced by a variety of post-19th century art movements like Constructivism, Dada, the Fluxus and the aesthetics of the noise culture and Italian Futurism. He refers to his works as “either generative, dynamic or time-based”. Constructivism also appears in Didem Yalınay’s account as a bridge between art and science, while Özcan Saraç has a particular interest in Conceptual Art also due to his educational background; still, he approaches art history more holistically than the majority of the subjects:

“Starting from cave paintings, every art historical phase counts for me. I do not believe in utopias such as ‘this is the highest form of art’ etc. [...] I believe in constant change and progress. Every phase brings about a widening of perceptions. But for me, the emergence of Conceptual Art in 1960s is particularly important [...]”.

Kerem Ozan Bayraktar, however, refers to a more specific period in the history of Conceptual Art:

“I am deeply influenced by Conceptual Art; on the other hand, I am very critical of Joseph Kosuth’s approach to the relationship between art and

information, for instance. It is extremely problematic to argue that art is nothing but analytical propositions. [...] Therefore, when we talk about the kind of Conceptual Art that inspires me, we should think of the post-1970 period. They have a problem with the world and they use art to try to solve it, and that influences me deeply”.

Erdal İnci’s influential figures belong into the world of painting:

“I always take the big masters as an example. Leonardo, Michelangelo, Rembrandt. I can identify with them not because they are big; I feel like I understand them and compare my oeuvre with theirs. Lautrec, Van Gogh, Picasso, Klee, Warhol... I also love Kiefer and Richter as my contemporaries. I generally admire painters. There are no digital artists whose work I truly admire”.

But he highlights in them some concepts such as time and movement that are generally associated with the moving image, illustrating the synthesis between his fine arts background and his involvement in photography, video and new media:

“Time and movement are also essential; for instance, Pollock registers movement through painting. [...] And Warhol constantly repeats certain things. Painters have already used countless times those elements like time, movement, rhythm and repetition that I use in my works. They are not new discoveries. [...]”

For Oddviz, the references are in a different place, i.e. “Arte Povera and Fluxus”, but again point to an acknowledgment of the continuities in art history:

“[...] We use ready-mades and build collages. We take an artistic method used time and time again throughout art history and reinterpret it by using new technologies [...]”.

Burak Arıkan says he was particularly influenced by the “very popular and highly international Net Art movement” during its heydays in “2002-2005”, while Genco Gülan finds a relevant departure point in Pop Art for it is “fast and fresh” as well as “instantly understood”.

Among the artists working with new media, Candaş Şişman and Ozan Türkkan are the two interviewees refraining from sharing any art historical references. Şişman claims his work is based on “direct experience and observation”, and Türkkan identifies the majority of his influences “in this current epoch” and among his contemporaries. Some subjects also mention disciplines other than art and figures other than the artists as their main sources of inspiration. Cinema and literature with a particular focus on science fiction are key influential areas for several interviewees. For instance, Can Büyükberber mentions “film directors, musicians, philosophers, psychologists, writers...”, and Burak Arıkan believes that such cross-disciplinary influences in his work such as Jean-Luc Godard from cinema and Miles Davis from music are partly due to his lack of formalist concerns:

“[...] As you may have noticed, none of these are direct translations. My inspiration [...] is generally at a much more intellectual level [...]”.

Cinema and science fiction have a particular place among Refik Anadol's art historical influences:

“The most mind-opening movement is the ZKM culture; every work in their archive is a pioneer for me. The second is the post-WWII technological movement involving Generative Design and Coding, with Artists like James Whitney and other Engineers/Artists with basic coding skills. I am talking about the earliest days of Art and Technology, a great source of inspiration. Third is the Expanded Cinema, a movement born in California and based on audiovisual experiments. Another is the Light and Space Movement, particularly the experiments done by Dan Flavin, James Turrell and Robert Irwin here at UCLA in Santa Monica. These were very interesting for me, but above all, I surely have to mention Cinema and Science Fiction. [...] It would be terrible not to mention figures like William Gibson and Carl Sagan”.

In the artists' articulations of art historical references, Nam June Paik and Marcel Duchamp are the two most frequently mentioned figures, followed by Yoko Ono and Pablo Picasso. Ahmet Said Kaplan regards Duchamp's *Anemic Cinema* (1926) as “an experience design with a projection mapping”, and Burak Arıkan references Vito Acconci's *Following Piece* (1969) as a great example of improvised performance. Although not directly mentioned in the lists of influences, Hans Haacke appears in several accounts, especially in the discussions regarding New Media Art's interactive, process-based and participatory nature. The list also

features artists from Turkey, but they are all mentioned by Genco Gülan with the exception of İlhan Koman being mentioned by Taşkın Esin. Yet, Burak Arıkan finds this absence of references normal:

“The people we are talking about are the artists using computer technology as their main instrument. And not much within that realm has been done in Turkey in the past [...]”.

Refik Anadol, on the other hand, attributes it to a “lack of memory” in the field due to which a local narrative cannot develop. In his opinion, Turkey does not have a “reference culture”, and despite being a pioneer in several New Media Art practices, his works do not receive the proper credit when other artists and studios create work using similar approaches. These “creative individuals and groups” only pursue commercial interests and their “technofetishistic” works do not have any “intellectual depth”:

“[...] In 2011, after I did the first data sculpture in Turkey at Yapı Kredi Culture Center in collaboration with Alper Derinboğaz, I truly expected it to become an academic reference point. If you design and develop a data sculpture in public space today, you have to refer to this sculpture, but if you bypass it, it means you have other motivations [...]”.

In terms of more specific artistic movements, genres and technologies associated with New Media Art, the subjects mention 3D printing, Animation, Artificial Intelligence, Augmented Reality (AR), Bio Art, Bio-cubism, Computer Art, Data Art, DIY (Do-It-Yourself), Experience Design, Generative Art, Glitch Art,

Hologram Tools, Idea Art, Machine Learning/Machine Intelligence, Motion Design, Net Art, Photogrammetry, Pixel Art, Post-Internet Art, Projection Mapping, Low-poly Art, Robotics, Sound Art/Sonic Arts, Virtual Reality (VR) and Wearable Art.

5.2.3 Theoretical Affiliations

5.2.3.1 Artistic Positions

Even though the subjects' artistic positions manifest a great variety, it is still possible to identify two artistic profiles paralleling the two profiles identified in the curators/producers and their career orientations. However, the positive correlation identified between curatorial positions and career orientations does not exist in the artists, and a third profile that fits neither of these two has also been identified. The artistic positions are clustered as follows:

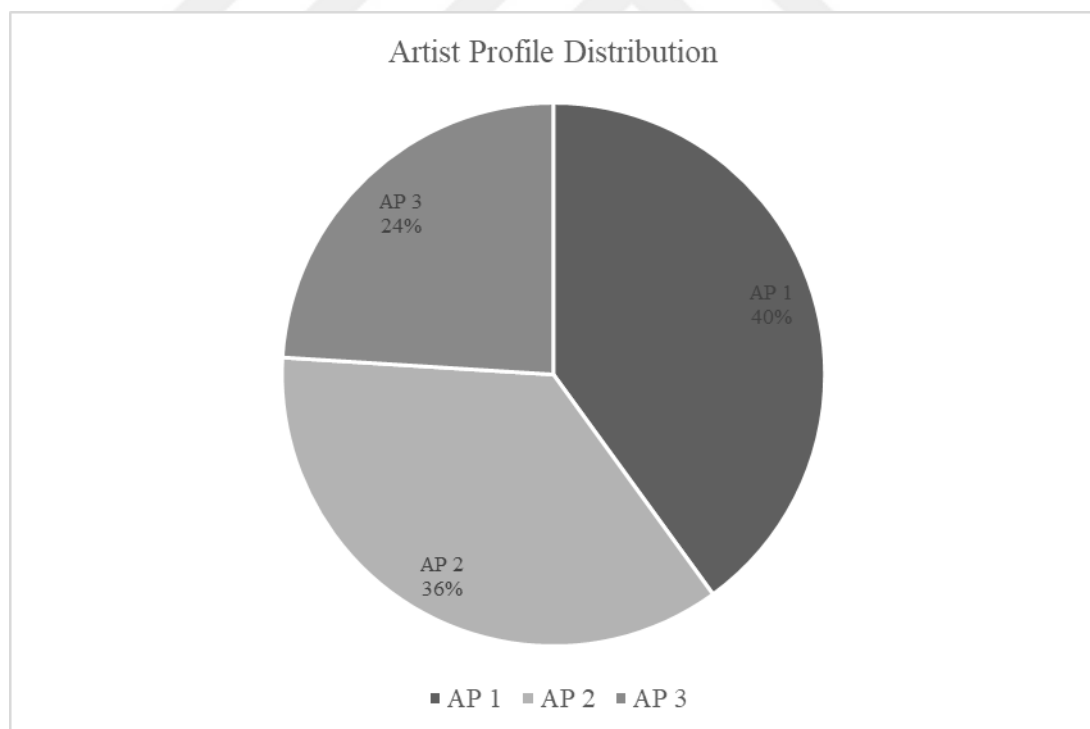
AP1 (10 subjects): Artists and studios whose oeuvre expresses an interest in sociopolitical issues such as power relations, social control mechanisms, political transparency, surveillance, censorship and open source. Their main art historical affiliations feature Dada, the Fluxus and Conceptual Art. They associate themselves more closely with independent initiatives and universities. Their cultural repertoire is more similar to that of the curators/producers with an academic orientation, or variant 1.

AP2 (9 subjects): Artists and studios whose oeuvre expresses an interest in understanding the cosmos, the laws of physics, the patterns found in nature,

alternative forms of perception and multisensory experiences. Their art historical affiliations either feature their contemporaries, the Renaissance masters, or figures from other disciplines such as film and literature. They associate themselves more closely with the creative studios in other parts of the world and the international New Media Art festivals. Their cultural repertoire is similar to that of the curators/producers with a managerial orientation, or variant 2.

AP3 (6 subjects): Artists and studios that fit neither profile, whose cultural repertoires feature a combination of elements from both variants.

Diagram 8: Artist profile (AP) distribution



Apparently, two of the four common principles of the curators'/producers' professional ideology, i.e. the intersections of art, science and technology and

interdisciplinary/transdisciplinary collaboration, are also valid in the common professional ideology of the artists. However, while potential for democratization in the meaning used by variant 1 is a more dominant principle in AP1, interaction/interactivity in its meaning in variant 2 is a more dominant principle in AP2. No significant correlation exists between the subjects' artistic profiles and their educational backgrounds or professional titles.

The disciplinary territories the subjects perceive either as “friendly collaborator” or as “pseudo-art” are science and design²²⁷, i.e. the artists' boundary-work takes place around their relationship with these domains. Science poses a bigger demarcation problem for the artists compared to the curators and particularly for AP1, as they often borrow some research and presentation methods from the scientific realm, including the data visualization techniques overviewed earlier. Meanwhile, design poses a bigger demarcation problem for AP2 since they share too many tools and stylistic languages with that territory and they occasionally visit that territory for commercial projects. New Media Art's professional ideology needs to be differentiated both from science and design, but it cannot be completely isolated from them either, for it needs the former's methods and the latter's tools to build its own professional identity.

The subjects propose a variety of criteria when they are asked to distinguish art from science. Some of them find the distinction irrelevant, undesirable or even impossible

²²⁷As entertainment and advertising generally appear in the debates around design and the artists' commercial projects, they are also addressed as part of that discussion.

to begin with.²²⁸ Bager Akbay distinguishes science from art based on the scientific experiments' repeatability and the former's ability to establish "a meaningful link with the scientific literature preceding it". Similarly, Burak Arıkan mentions the previous literature which makes science a "hierarchical discipline", but he also highlights the issue of causality. In his view, the "cause-effect relationship" in science is "linear and specific", whereas art is based on more "complex, abstract and indirect" relationships. Reminiscent of her skepticism towards self-teaching, Şifa Girinci considers science a territory of certainty. She thinks "an artist does not have to say something true, after all, whereas a scientist must do so", thanks to which she as an artist has the liberty to "not have a purpose like reaching the truth", and her works "start and end with a question" rather than reaching definitive conclusions. Unlike Girinci, Kerem Ozan Bayraktar observes that science is not a territory devoid of grey zones either, and he admits these are the very areas he likes to explore in his artistic practice:

"In his book *How Images Think*, Ron Burnett²²⁹ talks about how doctors read the x-rays. He says they do something scientific, but what they do is still interpretative. It sparked something in my mind back in the day, and I have recently begun to think about it again. The idea of creating the history or even the world with the images seemed to be the dominant theme there. Actually, it is not science doing it, but the other disciplines around science,

²²⁸ In fact, as already mentioned in chapter 2, Weibel advocates "an alliance of the mechanical media arts with the natural sciences" for a better future.

²²⁹ Burnett, R. (2005). *How images think*. Massachusetts: The MIT Press.

and science becomes intertwined with them. I think I like to navigate those meta-areas [...].”

Moreover, his idea of a scientist is not a purely impartial character doing experiments in a lab, but someone with “a critical stance as highly pronounced as that of an artist”. Like Bayraktar, Şehitoğlu says he prefers the kind of art “exploring art’s boundaries while also trying to make them blurry”, and he explains in detail why the two territories are not that clearly distinguishable to begin with:

“[...] People generally think that science is much more intellectual but art is more inspirational and intuitive. This is incorrect in two ways. First, scientific knowledge is very intuitive as well, which you can see in a mathematician. Almost no mathematician discovering a new formula can explain to you how they did it. [...] Vice versa, Duchamp’s *Fountain* did not emerge with a sudden inspiration, a momentary impulse to send a urinal to an exhibition. It has a very long intellectual structure behind it. In sum, both art and science share certain characteristics and have a bit of both intellect and intuition in them. [...] so their production methods are actually quite similar. They only have differences related to presentation [...]”.

Similarly, Uğur Engin Deniz points at science’s misunderstood image as a territory of certainty, and he refers to it as “an effort to eliminate the greatest amount of false assumptions as we can” and as “a generator of models” useful in exploring the reality around us. In other words, it is not a territory less mediated than art. Like Bayraktar, he criticizes the myth of the impartial scientist that “renders the scientist

invisible and irrelevant”. In his view, this results in the premature application of the scientific findings “in a way that impacts millions of people, before we even find the time to understand them or think about their ethical implications first”. Didem Yalınay, Özsan Saraç and Refik Anadol find the science-art distinction irrelevant as well.

Another important debate around the art-science relationship is about the assumption that adding a scientific element to an artwork increases its artistic value. Can Büyükberber observes that this is often the case with the data art practices:

“[...] at the end of the day, what we do is art or at least an aesthetic discovery. We do not do science; none of these data visualizations are scientific but they are often presented as such [...]”.

Kerem Ozan Bayraktar interprets this phenomenon as “another form of fetish” he particularly associates with the “Bio Art circles”. He says some of these artists act as if their “work is not serious enough, and it needs a pragmatic, scientific touch to become relevant for the world”.

Design is the second territory that impacts all the artists’ demarcation processes, but it becomes the key source of challenge in AP2’s boundary-work for two reasons: First, it is more difficult for them to distinguish their artistic practices from design²³⁰ due to the striking formalistic resemblances between them. Second, these artists are often compelled to do commercial work in the design territory to sustain their

²³⁰ As illustrated in the overview in chapter 2, this distinction was already open to renegotiation in the early 20th century thanks to the Avant-garde movements like Constructivism and Bauhaus. This is another explanation for why understanding the nature of the grey zone between the two professional territories requires a sociological approach.

practice in the long run. The greyest zones emerge around the artistic commissions as they involve some form of briefing even if the artist is free in his creation. As already explained in the section on the income sources, the majority of the disagreements among the subjects arises from the question of whether such commissions are to be considered art or design. Some subjects like Bager Akbay consider all projects involving briefing as design:

“[...] Perhaps you could have done it during Da Vinci’s time, for there was no talking of advertising agencies yet. If you do it now, they call you an advertising agency. When they ask you to do something glowing at the entrance of their company, you do it for the money; it is design. The main question is the following: Do we need to have a term like commissioned artwork in a world where advertising agencies exist? [...]”.

He also claims that the design territory acts invasive towards the art territory; the surplus of architects causes the unemployed ones among them to switch to the design territory, and some designers, in turn, switch to the art territory. Consequently, these designers “smart and very good at shifting their territory” actually do art, but they present it as “speculative design”. Hazal Fırat is another subject distinguishing art and design on the basis of briefing. Süleyman Yılmaz’s following remarks based on his conversation with his professor, Esen Karol, are also in line with the briefing perspective:

“[...] How come do some graduates become Graphic Artists while others become Graphic Designers? [...] At the end of the day, we call a Graphic

Designer the individual that takes somebody else's message and expresses it to the desired audience in the way desired by the client. On the other hand, a Graphic Artist chooses his or her own message, audience and medium [...].

Other subjects make the distinction based on the concept of "artistic intent" or "artistic consciousness", i.e. if you are aware of what you are doing, you can also do design and still make an artistic statement with it. Ozan Türkkan describes "artistic intent" as "the main distinguishing element between the work of art and that of design". Both Seren Şehitoğlu and Özcan Saraç use the term "artistic consciousness", and Şehitoğlu describes it as knowing "why you use a certain medium and with what kind of consciousness", since "no medium has an intrinsic quality of being artistic". Saraç agrees with him, but he also adds an element of social responsibility to this artistic consciousness:

"[...] In my view, purpose and consciousness, an artwork's contribution to humankind is key; every work that develops human perception for the better, or that has the purpose of doing so, can acquire artistic value [...]."

For Saraç, art is not about entertaining people, but an effort "to observe and discover phenomena" to bring change to the world and "more awareness to humanity". Moreover, he argues that art is not the object itself but what you say by using that object, or "conceptual functionality", which actually makes the art-design distinction irrelevant from an object point of view:

"[...] A work of design can very well become a work of art at the same time. Vice versa, an artistic work can have a design-related value as well [...]."

And he adds that the nature of this functionality can also change over time:

“[...] works can also become art unintentionally. I can say I am a designer and come up with a design product. A decade later the society can perceive it in such a way, that it might assume an artistic meaning [...]”.

Taşkın Esin has motivations similar to Saraç’s in his work in both territories:

“There are countless variables and factors we tend to ignore. If we understand them better, we also understand other situations around us, including global phenomena and politics. With more awareness, we might even be able to change things and make them better”.

He says he is comfortable with his identity oscillating between the two roles “depending on the main purpose” of his work, which “may be about design or art, or a combination of both”. He adds that the commissioned projects can also be artistic depending on the context; for example, an exhibition involving a curatorial briefing does not automatically become a commercial project or a work of design. For the same reasons, Burak Arıkan believes that an artist can indeed maintain a dual professional identity without making the public question the work’s artistic quality:

“I think it is more than normal for a New Media Artist to work at a design office during the day and to practice art by night. Such hybrid roles are very common these days. He or she might use the same techniques in both, but it does not make the work design if the work asks new questions. The key is to

be aware of what you are doing in both spheres. Frankly, these distinctions are not as clear-cut either [...].”.

Some subjects are much more skeptical about simultaneously assuming both roles and Can Büyükberber is one of them. He observes that “smart entrepreneurs use media artists to create interesting visual content which ends up in the gallery, museum and night club alike”. Although he admits this has financial benefits for the artists, he says “they should present themselves as entertainers or service providers” or “create ad agencies” instead of “abusing the idea of art this way”. When asked about his own approach to commissions, he explains that he is open to them if they are based on his “individual creative output” and not if he is expected to “visualize an idea or concept they had in mind”. On the other hand, Süleyman Yılmaz believes that such dual roles cannot be considered in isolation from each other:

“[...] I do not believe in the possibility of having two strictly separated identities, i.e. the artistic on the one hand and the commercial on the other [...]”.

This is exactly why Refik Anadol says he avoids all kinds of commercial projects, and his studio only accepts art projects:

“[...] if you do not make a clear distinction between the two realms, I do not believe that the outcome and its perception can be purely artistic. [...] Being interested in Art’s value and price is one thing, but creating a world completely based on a commercial brand’s priorities is another. In 2011, I made a clear decision to avoid the second [...]”.

He adds that his decision to move to the USA was partly due to the market situation in Turkey²³¹ compelling the artists to continue to do commercial work for a living. In fact, Süleyman Yılmaz identifies three reasons why the artistic and the commercial lines of work are so deeply intertwined in Turkey: First, “in countries where the mainstream media are under pressure, new media are more popular”. Second, “the changing dynamics in education” such as the establishment of VCD departments facilitate the emergence of such hybrid professionals. Third, Turkey’s marketing know-how is very highly developed, and “Turkey is the second in the world with its usage of social media channels for digital marketing”.

Although Anadol makes such a clear distinction between the two territories, he also adds that design helps him build the infrastructure necessary for his artistic projects, and a design perspective is a necessary part of the Media Arts practices. Moreover, although he says he only does artistic projects, he also did commissioned works with some commercial brands in the past, such as the data art piece he did for Nike²³². But in a way reminiscent of Elif Demirci and Erdem Dilbaz’s perspectives, Süleyman Yılmaz explains why it still cannot be considered design, and almost contradicting his own comments regarding briefing:

“That is the commercialized version of art and there is nothing wrong with it. At the end of the day, Refik [Anadol]’s field of art, his tool palette, his outputs and his expressive style are very clear. As someone who both managed the branding side and discussed the art side with Refik [Anadol], I

²³¹ As described by Yılmaz earlier in relation to the situation of the creative professionals in Turkey.

²³² <https://vimeo.com/330972475>

can tell you that the brand does not expect something from Refik [Anadol] that they expect from a designer. They want [him] to create something reflecting his signature style [...]”.

Put differently, in Yılmaz’s view, Anadol made this particular set of tools, processes and visual language his own, and the client cannot ask him to change them, so what he does becomes art and not design. However, a briefing does not only consist of stylistic or methodological expectations; an artist who receives a briefing is still expected to deliver a project the topic and content of which must relate to the brand and address the issues they want to highlight. This dilemma is the most problematic of all, as it pushes almost all the artistic commissions into the grey zone between art and design. Uğur Engin Deniz thinks he is able to easily distinguish “a work that does not involve artistry, that tries to capitalize on the existing commercial trends” based on his educated eye since such a work “replicates the aesthetic already used in” advertising; but for the average viewer unfamiliar with the technology operating in the background, it is a much more difficult task.

Finally, three prominent artists in the field, Bager Akbay, Burak Arıkan and Refik Anadol, offer some comprehensive criteria of distinction for the territories of art, science, engineering and design. Akbay proposes the following formula to distinguish these territories, at least in theory:

“[...] If the motivation comes from me, it is either art or science. If the motivation comes from the outside, it is either design or engineering. Finally,

it is science if the motivation is social; it is art if the motivation is individual.

This way, I can make a clearer distinction of these four areas”.

Arikan makes a similar pairing among art and science on one side vs. design and engineering on the other, and explains why:

“We normally tend to think of Science and Engineering as two areas closer to each other, and Design and Art as two areas closer to each other; in the first case, ‘both are intellectual’ and in the second, ‘both are visual’; or that would be our initial reaction. Yet, this is not the correct distinction. Science asks new questions, whereas Engineering offers solutions. Similarly, Design offers solutions to specific problems and demands, and involves briefing. Art has a visual aspect like Design and it often uses the same techniques with the latter, but it asks questions instead of offering solutions, and in this sense, it is much closer to Science [...]”.

Quoting John Maeda, Anadol agrees with Arikan that art produces questions whereas design looks for solutions. Art and science share the element of “curiosity”, and “if we take that curiosity too seriously”, the boundary between the two “might suddenly disappear”. Arikan and Anadol also agree that such modernist boundaries are destined to disappear, and they are no longer able to accurately describe the world we live in.

5.2.3.2 Approach to Technology

Approach to technology is analyzed under the same two categories used in the analysis of the curators/producers: the subjects' thoughts on the impact of technology on the society, and their ideas on the nature of the contemporary technological systems. Regarding the former, none of the interviewees makes an explicit reference to the theories discussed in chapter 2. The AP2 have a utopian attitude towards technology and a belief in its potential to create a better world, whereas the AP1 address both its positive uses and negative effects. The AP3's positions, on the other hand, manifest great variety. An example for AP2 is Ozan Türkkan, referring to new media as "our current common language" that will be "even more integrated" in the future. Likewise, Candaş Şişman believes in technology's potential to generate alternative languages via new sensory experiences independent of the sense of vision. On the more critical and less optimistic end of the spectrum we find Nihat Karataşlı, who says he is "against producing works that, in such an era of giant technofascism, praise and fetishize these technologies". Özcan Saraç is closer to this line of thinking, but Seren Şehitoğlu and Kerem Ozan Bayraktar remind us that we shall keep a neutral attitude towards technology, for it is the humans' actions that make technology either useful or harmful. In fact, Bayraktar says:

"[...] we confuse the medium with the politics. Television was criticized from a society of the spectacle perspective, and yet it also enabled the birth of video art. Therefore, we have to make a distinction between the

instrument itself and the political power relations in the society in which that instrument became widely available. The Internet is both a liberating medium and a place where our privacy is traded. All this means these qualities are not intrinsic to the media [...].

In discussing the nature of the contemporary technological systems, none of the subjects references the theoreticians discussed in chapter 2. Burak Arıkan mentions Deleuze, but in a slightly different context:

“[...] I always follow the movements in sociology, ranging from the Deleuzian idea of history to the Italian Autonomists. As a member of the latter, Maurizio Lazzarato is the figure who defined the concept of the immaterial labor, and his ideas influenced me deeply in the early 2000s, and around 2005-2006, I began to produce work around these issues [...]”.

This reference is also relevant to the problem of the medium. In *A Thousand Plateaus*, Deleuze and Guattari write that “history is made only by those who oppose history (not by those who insert themselves into it, or even reshape it)” (1987, p. 295). What they refer to as history is “the history of perception”, and “what we make history with is the matter of a becoming, not the subject matter of a story”. They describe “becoming” as a “machine” which is “present in a different way in every assemblage, passing from one to the other, opening one onto the other, outside any fixed order or determined sequence” (1987, p. 347). Put differently, the authors suggest a new term, “becoming”, as opposed to a linear historical narrative solidified in time and space, and this description is highly reminiscent of the

rhizome. This means the history of the technological systems itself can be approached rhizomatically, which then brings us to Fuller's model of media ecologies.

Italian Autonomism, the other theory mentioned by Arıkan, is a Marxist movement based on the idea that autonomous social movements are more effective than party politics in achieving democratization. This position is in line with the discussion of political activism in the curators'/producers' and artists' accounts on New Media Art's potential for democratization. Interestingly, one of this movement's theoreticians, Antonio Negri, is also Deleuze's friend. The former interviewed the latter on "Control and Becoming"²³³, where Deleuze says that he and Guattari "have remained Marxists" although in different ways, and that "any political philosophy must turn on the analysis of capitalism and the ways it has developed" (Deleuze, 1995, p. 171).²³⁴ Moreover, referring to *A Thousand Plateaus*, he talks about the "war machines" that have "a particular way of occupying, taking up space-time, or inventing new space-times", and he considers "artistic movements" as such (Deleuze, 1995, p. 172). These concepts are extremely parallel with the networking strategies and collective actions New Media Art professionals develop as a response to the growing anxieties about corporate control and art's capitalization. It is no coincidence that it is mentioned by an artist like Arıkan whose practice involves building online networks to expose and challenge the existing power relations. Even more importantly, in the part on "capitalism and technology" of Ross Abbinnett's

²³³ Available in Deleuze, G. (1995). *Negotiations*, Martin Joughin (trans.). New York: Columbia University Press.

²³⁴ We shall also keep in mind that Guattari is highly critical of postmodernism in his later writings on the Post-media age.

volume *Marxism after Modernity* (2006)²³⁵, a chapter is dedicated to Deleuze and Negri's works on "Civilized Capitalist Machines". Here, the author identifies a connection between Michael Hardt and Antonio Negri's *Empire and Multitude*, and Deleuze and Guattari's *Capitalism and Schizophrenia*. Hardt and Negri defend the position that new technologies gave rise to new forms of immaterial labor which, in turn, triggered the society's revolutionary drive, and Abbinnett traces the roots of these ideas in Deleuze and Guattari. These theoretical connections illustrate that a Deleuzian approach towards capitalism that combines a postmodernist approach with some key Marxist concepts has a strong presence in New Media Art in Turkey. These ideas are both in line with the theoretical background described in chapter 2 as well as variant 1's theoretical references addressed in chapter 4.

Selçuk Artut's following remark offers another theoretical thread worth pursuing:

"I am closer to Heidegger and his aftermath [...]. I also find Don Ihde's concept of Embodiment very interesting [...]"

Heidegger is one of the seminal philosophical figures in the theoretical debates around science, technology and society. Departing from his idea of phenomenology, he approaches technology as "a way of revealing" and "no mere means"²³⁶ (1977, p. 12). He says that "technology comes to presence in the realm where revealing and unconcealment take place"; modern technology is the way of revealing that is specific to our epoch, and every epoch has its own technological systems or modes

²³⁵ Abbinnett, R. (2006). *Marxism after modernity: Politics, technology and social transformation*. London: Palgrave Macmillan.

²³⁶ Heidegger, M. (1977). "The question concerning technology". In (W. Lovitt, Trans.), *The question concerning technology: and other essays*, pp. 3-35. New York: Harper Torchbooks.

of revealing (p. 13). Put differently, for Heidegger, technology is not only an instrument, but an all-encompassing interface, an event between us and the phenomena we try to understand, and the nature of this interface is context-dependent.²³⁷ Ihde, on the other hand, examined Heidegger's philosophy of technology from the perspective of today's technologies in his book *Heidegger's Technologies: Postphenomenological Perspectives* (2010). For Ihde, "Heidegger's philosophy of technology-already seen to be highly dated-has only regional or limited relevance, particularly with respect to contemporary technologies", and he proposes "a more phenomenological, or postphenomenological counterstrategy for technology analysis" which offers "a much more postmodern", "multicultural and no longer 'Eurocentric'" history of technology (2010, p. 128). Unlike the phenomenological view where the human being interacts with the world via technology, a postphenomenological view assumes that the human being, the world and the technology are able to form various relations with each other, including but not limited to the embodiment relations. Ihde is important, for he brings Heidegger's critical approach towards technology to the present day and pulls it towards a postmodernist viewpoint, i.e. exactly what a group of New Media Art professionals in Turkey try to do with their work.

Didem Yalınay mentions other two very important figures, Howard S. Becker and David Harvey. In *Art Worlds* (1982) the influence of which is obvious in Quaranta's work, Becker offers an explanation to why drawing the art worlds' boundaries is so

²³⁷ Debord's observation that the spectacle dictates the technologies of our time and not vice versa is both in sharp contrast with and complementary to this idea.

difficult, and his arguments are all the more valid for the New Media Art territory where collaborative work is not only desirable but necessary: “Art worlds do not have boundaries around them, so that we can say that these people belong to a particular art world while those people do not. I am not concerned with drawing a line separating an art world from other parts of a society. Instead, we look for groups of people who cooperate to produce things that they, at least, call art; having found them, we look for other people who are also necessary to that production, gradually building up as complete a picture as we can of the entire cooperating network that radiates out from the work in question” (1982, p. 35). Furthermore, Becker observes that these cooperative structures “change more or less continuously”, including the “art works art worlds produce, the cooperative activity through which they are produced” as well as “materials and surroundings” and the way “the people you cooperate with do things” (Becker, 1982, p. 301). This is all the more valid for New Media Art where these cooperative structures are extremely fluid, or “rhizomatic” by nature, and the available range of materials or products, i.e. technological systems or “media ecologies”, change constantly and very rapidly.

Becker has another observation extremely relevant in addressing New Media Art’s relationship with fields like design and science: “Art worlds typically have intimate and extensive relations with the worlds from which they try to distinguish themselves. They share sources of supply with those other worlds, recruit personnel from them, adopt ideas that originate in them, and compete with them for audiences and financial support” (1982, p. 36). In other words, Becker considers these disciplines “parts of a larger social organization”. Therefore, “even though everyone

involved understands and respects the distinctions which keep them separate”, a closer look reveals that “they are not so separate after all” (Ibid.). Becker is also aware of the tension between the corporate structures and the members of the art world, and he says conflict arises as the latter have more liberal political views and the two sides’ notion of “the correct relation between government, business, and the arts” are incompatible (1982, p. 106). His observation describes the status of New Media Art professionals in Turkey extremely accurately. David Harvey, on the other hand, is a Marxist economic geographer working on uneven development and urban theory, and he is well recognized for his interdisciplinary approach. In a recent interview with *The Wire*²³⁸, Harvey is asked about how the Internet’s current status as the playground of data-owner monopolies can be made liberal again as it used to be in its earlier days, and he replies: “There is no such thing as a good and emancipatory technology that cannot be co-opted and perverted into a power of capital. And so it is in this case”.

Bruno Latour’s Actor-Network Theory is one of the most frequently addressed, if not directly referenced theories in the subjects’ accounts, especially with its concept of the “black box”. In *Science in Action*, Latour says: “Apart from those who make science, who study it, who defend it or who submit to it, there exist, fortunately, a few people, either trained as scientists or not, who open the black boxes so that outsiders may have a glimpse at it. They go by many different names (historians of science and technology, economists, sociologists, science teachers, science policy analysts, journalists, philosophers, concerned scientists and citizens, cognitive

²³⁸ <https://thewire.in/economy/david-harvey-marxist-scholar-neo-liberalism>

anthropologists or cognitive psychologists), and are most often filed under the general label of 'science, technology and society'" (1988, p. 16). Just like variant 1 of the curators/producers, the AP1 deserve a place in this list, with their efforts to open up various black boxes of power relations and bring them to public attention.

5.2.3.3 Approach to the Medium

The majority of the interviewees either tend towards a Post-media perspective, or they are disinterested in the problem of media hierarchies; these issues have already been discussed in relation to the artists' professional identities and artistic positions, so they will not be readdressed here. Nevertheless, it is important to reemphasize that the subjects with an educational background in Fine Arts (E2) have a higher tendency to use a medium-based jargon and taxonomy, while the subjects with more interdisciplinary backgrounds exhibit the symptoms of a Post-media perspective on several grounds. First, they avoid the term "New Media Art" in their professional identities, for they think its current connotations are too technofetishistic. Second, a medium-based taxonomy is an old-school, modernist approach that needs to remain in the past, and it does not reflect the realities of our time. Third, new and traditional media can be part of the same artists' practice or even coexist within one single artwork, and discussions on the medium overshadow other important issues about the work. The most frequently cited figure in these discussions that also appears in the literature review in chapter 2 is Marshall McLuhan. For example, Bager Akbay says he does not adopt "McLuhan's path", and prefers using "the material at [his]

disposal in a variety of ways” instead of accepting the society’s ideas on how a medium can be used. Here, Akbay seems to refuse to accept the modalities of use that McLuhan says the media are able to dictate on the society. His criticism may also be related to McLuhan’s idea of the rear-view mirror.²³⁹ When discussing the impact of the choice of medium on content and authorship, Akbay turns to McLuhan once more to discuss the issue of medium conversion:

“[...] Who is the author? Is it the instrument making you do the work? Here we are back to McLuhan [...]”.

“[...] Returning to the subject of medium conversion, here the converter has extreme political power; as long as this conversion mechanism is not transparent, the work gives me nothing beyond its aesthetic result [...]”.

On the other hand, Refik Anadol refers to McLuhan’s ideas on how the world became a “global village” (1967, p. 63) with the emergence of the satellite communication:

“[...] as McLuhan says, Media Arts are destined to remain new since the day we have put the first satellite into orbit”.

Overall, he expresses a clearly Weibelian approach towards Media Arts:

“[...] as far as I know, ZKM is the first and the only Media Arts museum in the world fully dedicated to Media Arts. [...] [Peter Weibel] is literally a doyen in this field; not only did he contribute to the field at large, but he has

²³⁹ The idea that, in McLuhan’s words, “we look at the present through a rear view mirror. We march backwards into the future” (1967, p. 74-75). Fuller finds this approach too darwinistic.

also tried to institutionalize it and to build and maintain its memory lane.

[...] I agree with the majority of his ideas [...].”

5.2.4 Approach to Data as Artistic Material

5.2.4.1 Theoretical and Conceptual References

Like the curators/producers, the majority of the artists use the term “data” either as “code/digit” or “information”. Seren Şehitoğlu points out that people often confuse the two. Burak Arıkan and Şifa Girinci also use the term as “knowledge”, and Erdal İnci uses it as “image” due to the nature of his photogrammetry works with Oddviz. Two subjects, Süleyman Yılmaz and Uğur Engin Deniz, approach data as “noise”. Deniz says:

“If our purpose is not to critically approach the data, data is simply noise. You may extract a countless number of data sets from any field or direction, even from the room I am in [...]”.

Refik Anadol thinks of data as a medium in itself, like paint, in a way agreeing with McLuhan that the content of every medium is another medium:

“I also believe that I am the one thanks to whom the term ‘data painting’ entered the literature. [...] My purpose was not to irritate the Painters; I simply thought of Painting as something beyond some drying pigment [...]”.

Sergen Şehitoğlu too says that information is “a kind of material” and a third entity in contemporary physics in addition to matter and energy. None of the subjects makes a direct reference to the philosophical approaches to data visualization aesthetics summarized in chapter 2, but especially some AP1 and AP3 indirectly refer to some of the concepts addressed in them. For example, Burak Arıkan’s articulations point at a concern for increased individual agency finding its voice in collective civil action, resonating with Sack, Rey and Boesel’s ideas. Can Büyükberber describes data as a corporate PR tool and Hakan Gündüz criticizes the lack of transparency in the world of big data; Özcan Saraç warns against the effects of centralized authority on mass communication and its deliberate actions of misinformation aimed at social control and propaganda; Selçuk Artut observes the easy spread of misinformation on social media ultimately replacing reality, and Sergen Şehitoğlu addresses the impact of the extended surveillance mechanisms on our society. All these observations resonate with the main concepts discussed by Bridle, Fuller and Mosco and addressed in chapter 2. Didem Yalınay discusses Generative Art in a way reminiscent of Manovich’s concept of “hypernarrative”. Manovich’s proposition that Info-aesthetics is today’s dominant aesthetic paradigm has affinities with Artut’s symptomatic concept of the “Art of the Information Age”. The majority of the artists sharing these concerns are AP1, while the subjects in AP2 are more interested in data’s usefulness as raw material for audiovisual experiments, and they are more deeply involved with the scientific and technological realm rather than the social or political realm.

No consensus exists among the subjects regarding the meaning of the terms such as “Data Art”, “Data Artist” and “Data Scientist”. According to Bager Akbay, the artists working with data operate in the grey zone that emerged thanks to “the big conflict between data visualization designers and statisticians some fifteen years ago” on data conversion methods. For both Candaş Şişman and Didem Yalınay, data visualizations belong into the design territory, although for different reasons. Şişman says that the only artistic quality about them could be that they “reveal the invisible”, whereas Yalınay explains that “the earliest data visualizations belonged to the statisticians and computer scientists, and they were very beautiful”, but it is not enough to make them artistic as art should somehow serve humanity as well.²⁴⁰ Bager Akbay says that the title “Data Artist” might point to the artist’s “desire to remain outside the mainstream” by using it, whereas Genco Gülan finds the term “Data Art” problematic for it connotes too specific a genre. In fact, Doruk Kumkumoğlu, Hazal Fırat and Şifa Girinci all have the same specific genre in mind. According to Kumkumoğlu, the term refers to the “works like Refik Anadol’s, for instance, where data is directly taken and transformed into something else”. Hazal Fırat explains that in the past she used to think of “Data Art” as the “presentation of data independently of the medium”. But nowadays, she understands an exclusively digital genre “involving futuristic elements, special effects and movement”²⁴¹. Şifa Girinci’s understanding of “Data Art” comprises digital artworks by artists like Refik Anadol, Erdal İnci and Candaş Şişman; as she uses data to “better understand

²⁴⁰ Yalınay’s tendency to endow art with a “higher purpose” serving humanity is similar to Saraç’s.

²⁴¹ The very characteristics that the variant 1 and AP1 harshly criticize and label as “technofetishism” or pseudoart.

what is going on in the world or to offer a solution to some sociopolitical problems”, and expresses the data using traditional media, she refrains from presenting herself as a Data Artist. In other words, all three subjects’ understanding of Data Art overlaps with AP2’s practices. Süleyman Yılmaz, however, disagrees with the premise that data-based art forms must involve digital technology, and he refers to the “hand prints at the Altamira Cave” as “data visualizations”.²⁴² Furthermore, he makes a clear distinction between data visualization and data art:

“[...] Data visualization has a specific goal, and it is a strictly industrial practice. [...] Data Art is about adding an interpretation to the data and to translate it into a more poetic, affective experience”.

The kind of data art described by Yılmaz is a current hype according to artists like Bager Akbay, who observes a rising stylistic current in “the last decade” which exalts the polygon aesthetic associated with the “glitch or data”. As already mentioned, Can Büyükberber believes that abstract forms of data art are popular due to their PR value and the prestige they acquire by their perceived association with the scientific territory.

Some AP1 and AP3 criticize AP2’s data art practices for ideological reasons, one of whom is Nihat Karataşlı. He argues that big data is associated with the “capitalist and fascist dynamics”, and yet “some artists working with big data” continue to

²⁴² Yılmaz’s approach brings to mind Özkan’s description of data art, who says that data art is not a medium-based genre, and refers to the data art practices found in New Media Art as “Generative Art”. It is also important to note that Özkan is a variant 2 and Yılmaz is an AP2.

offer their services to them “in return for a huge amount of profit”.²⁴³ Uğur Engin Deniz adds that these works’ wow effect overshadows their content and imposes itself on the viewer:

“[...] One of my closest friends, Yetkin Yılmaz, identifies a serious top-down approach in such presentation methods. They place a serious distance between the work and the audience using a narrative based on intimidating sounds and images aggressively pulsing towards us and targeting our perception. What is more, they do not establish a correlation with the data, and they do not contain anything related to it; no one in the audience leaves the room with the intention to follow up on some subject [...]”.²⁴⁴

Similarly, Özcan Saraç considers such works as a form of entertainment, where the “so-called Data Artists make the data flow, fly, jump around”, but these cannot be considered art unless the viewer is able to “interact with the information it presents” and draw his or her conclusions from it. But the AP2 have their counterarguments as well. For example, poetry is such a crucial element for Ozan Türkkan that he proposes “data abstraction” as an alternative term to define his practice, purposefully distinguishing it from “data visualization and data sculpture”. Refik Anadol, on the other hand, uses the term “data dramatization”:

“[...] [Data dramatization] is not interested in knowing the data itself or in doing scientific work. It does not have a data scientist’s concerns. The main

²⁴³ Remember how Mosco refers to the current situation as “Surveillance Capitalism”, and Bridle finds the system’s “thirst for data” highly capitalist and colonialist.

²⁴⁴ Here, an analogy can perhaps be drawn between the viewing experience of such artworks and Debord’s television, the ultimate source of perceptual numbness.

motive here is to create an image that questions the existence of data as a method of memory generation and as a language between computers and the system at large. When I put it this way, the data becomes abstract, but it does not change the fact that it is still there”.

Indeed, a form of criticism that Anadol faces regularly is about the absence of a connection between the data and its sensory output. This is also why referring to such practices as “Data Art” is incorrect for Uğur Engin Deniz who is an AP3. But Anadol disagrees for two reasons. First, his artistic intent lies elsewhere, and the work’s final appearance is what it is thanks to the specific data set used in it, in line with Ertan’s observations on the subject:

“[...] In visualizing the data, my mission is to program the software, analyze the data, understand the reality it contains and finally its abstraction. My dream was not about making the data readable [...]”.

“[...] The reason behind the movements and changing colors you see in [the work] are all caused by the data. [...] the cause of the flow and movement was not a machine-based randomness or my decision; it was nature’s decision [...]”.

Another criticism regularly directed at Anadol is about his source codes’ lack of transparency. In the face of these claims, Anadol says:

“[...] All the code I use in my recent AI related work is publicly available on GitHub. The only difference is that I do sometimes have access to it six

months before the public does, for I experiment with it. But if I have spent three years of my life on a project, spent months with my team to write its core code, I do not want anyone to access it effortlessly and ready-to-use [...]”.

The variety of the works the subjects refer to either from their own artistic portfolios or the portfolios of other colleagues correspond to the variety of the artistic practices in the world summarized in chapter 2. The three international artists mentioned are Ryoji Ikeda, Casey Reas and Lawrence Abu Hamdan. The subjects also mention each other either as positive examples or as a target of criticism. Refik Anadol is by far the most frequently mentioned figure and the only example with both positive and negative references. Burak Arıkan is the second most frequently mentioned figure and always as a positive example, followed by Ali Miharbi and Bager Akbay. Candaş Şişman and Özcan Saraç are each mentioned once. Finally, Hayal Pozantı and Ouchhhh are the two names mentioned from outside the interview sample. In sum, Refik Anadol (AP2) and Burak Arıkan (AP1) emerge as the two most influential artists in the data art practices in New Media Art in Turkey, and each represents a different artistic profile with a different approach to data.

5.2.4.2 What Is It that Makes Data Art “Artistic”?

To allow the subjects’ arguments to gradually unfold during the interviews, the answer to this question was sought by breaking it down into the three questions presented below:

Question 1: Does Data Art have to produce knowledge? Is it necessary that the information in the data is directly accessible to the viewer?

The answer to this question has two versions:

Answer 1A: Yes, the data should be accessible to the viewer; otherwise it is not Data Art.

Hakan Gündüz and Ahmet Said Kaplan belong into this group. Gündüz argues that “there is no point in referring to [a] work as a work of Data Art” if the “final visual output” does not communicate anything on the data’s meaning. In this case, the final result shall rather be considered digital art. Kaplan adds that DECOL refers to its data-based works as “real-time, living installation” ²⁴⁵ instead of “data visualization”, precisely because these works do not communicate the information contained in the data. Uğur Engin Deniz’s earlier comments are in line with their views as well.

Answer 1B: No, it does not have to. The relationship between the data and its output involves artistic reinterpretation.

The answer B is more popular than A regardless of the subjects’ AP. Ali Miharbi argues that art does not have to “draw meaning out of data” like in a typical data visualization. In fact, he says his “own artistic approach is exactly the opposite of that”. Kerem Ozan Bayraktar explains that art is not a “communication device such as television”, so it does not have to produce scientific knowledge, and it already

²⁴⁵ This description implies “Generative Art” as well.

produces its own kind of knowledge and makes extensive use of the philosophical knowledge. Likewise, discussing his own data-based artworks, Selçuk Artut says:

“[...] in these works [data] does not become information for me. [...] otherwise it would be too didactic and would impose itself on the viewer. Instead, I want every viewer to conduct his or her own analysis and reach his or her own conclusions as a result of this experience [...]”.²⁴⁶

Süleyman Yılmaz leaves the task of producing knowledge to the “industrial tool” of data visualization, and Taşkın Esin thinks that “we are actually living within the knowledge represented in the data”, so we do not need it to produce knowledge.

Question 2: If Data Art has to produce knowledge, how is it any different from the practices within the scientific context?

The answers to this question focus on the artistic intent, both in the form of aesthetic interpretation and artistic consciousness. Once more, Şifa Girinci addresses science’s demand for certainty that is absent from art. Hakan Gündüz observes that “the artist adds an aesthetic presentation element to the data or intensifies the emotion embedded in the data without discarding its meaning”. The scientist aims at comprehensibility and drawing conclusions, while the artist does not have such responsibilities. Candaş Şişman believes the difference lies in the artistic and emotional aspect of the interpretation. Ozan Türkkan mentions the same criteria, i.e. artistic transformation and aesthetic preferences. Seren Şehitoğlu, however,

²⁴⁶ Duchamp also says that he wants his works to be interpreted as such.

distinguishes art from science based on their context of presentation, but still taking into account the importance of the artistic consciousness behind these choices:

“[...] To present [the work] at a gallery, as art. To use some of art’s already existing methods like hanging things on the wall. The twelve-minute chemistry presentation I did for Kerem Ozan Bayraktar’s exhibition, for instance, involved the definition of chemistry, molecules and compounds and all. There are only two things making this presentation art: me calling it art and doing it as an artistic performance, and the context of the art gallery. If I did the same presentation in a classroom, it would have been a lecture [...]”.

Question 3: If Data Art does not have to produce knowledge, what is it that makes it artistic?

The answers to this question can be clustered under the categories of form/medium, content/concept/function, artistic intent and context, and it can also be read as a reversed version of the second question. In fact, what distinguishes an artistic practice from a scientific one is also what makes that practice artistic.

Answer 3A: Form/Medium

Some subjects like Doruk Kumkumoğlu defend the position that the aesthetic element is crucial in making the data-based work a work of art. In his opinion, an artist is “naturally concerned with creating something visually pleasant for the viewer”, and “artworks generating an aesthetic experience and nothing more, or

exploring the possibilities of a technological medium can also exist”. In discussing his own practice, Ozan Türkkan refers to this aesthetic effect as “mental collapse” and the “momentary spark”.

Answer 3B: Content/Concept/Function

Özcan Saraç finds the answer in the data-based work’s functionality:

“Data is information. And information is not information if it is not functional”.

Answer 3C: Artistic Intent

Artistic intent is the most frequently obtained answer to this question which also overlaps with the answers to the second question. According to Bager Akbay, “the main distinguishing element in art is the artist’s intent, which could also be an aesthetic feeling”. Parallel to Şehitoğlu and Bayraktar’s earlier comments on the artists’ role in challenging art’s existing boundaries, he says that “visualizing data within the territory of a well-defined discipline and doing it in search for a new territory are two different things.” Indeed, Seren Şehitoğlu considers data visualization or the data-based art simply as a means to question art’s boundaries, and not as an object of art in itself:

“[...] Are you presenting this data as what? If you present it as art, it means you are actually doing something associated with the Conceptual Art tradition born in the 1960s. Data is not the main subject matter there; it is art. You have a concern about art’s scope; the context is about art’s limits [...]”.

His views partly converge with Saraç's too; according to his comments, what Saraç describes as "conceptual functionality" can also be the functionality of the data used for pushing the limits of art's definition, which brings us back to the artistic intent. Genco Gülan emphasizes the intent as well; if the artist calls the work "a work of art", then it becomes art:

"[...] since Marcel Duchamp's *Fountain* in 1917, you may use any ready-found material as art; Data is no exception. [...] For what matters since Duchamp is not what you exhibit or what the work of art is. Who says it is a work of art and puts a signature under it, is what matters".

Refik Anadol discusses his work *Archive Dreaming* (2017) at Salt Galata, where "the experience itself is the art, and not the process", and he adds that the viewers tend confuse these concepts rather easily:

"[...] Every data point inside *Archive Dreaming* came from Salt's actual library data. However, the moment we experience them as brought together like this is the Art part of it [...]".

Süleyman Yılmaz refers to this intent as the "artist's algorithm", i.e. a series of decisions made by each artist to define their own procedures for turning a data set into an artwork:

"[...] imagine we have a sound library for birds, and I determine how I will analyze this data set. I can analyze it in 35 channels according to length, tone, frequency, volume, etc. And I may discover that a complex sound has a

relatively low volume. How I analyze my data is again an artistic element. Ara Güler sees the sky in black and white, and Van Gogh does not. Güler has an intuition for skies that look good in black or white; that is how his analysis mechanism works. How you analyze it determines your artistic position, your algorithm as an Artist”.

Answer 3D: Context

This is the least popular answer to question 3. Şehitoğlu’s comments on the role of presentation in turning an object or performance into a work of art can also be included here. Can Büyükberber observes that many data-based works become art once they enter a gallery space, but he does not make further comments on whether he approves of this situation or not. On the other hand, Ali Miharbi explains that “data visualization can be done within a journalistic context, [...] with a political purpose, or within an artistic context”, but he adds that context is not enough to endow the work with an artistic status or to explain how it gained access to an artistic context to begin with:

“[...] I do not think that the work in different contexts is the same thing even if their appearance is the same. The context itself, the infrastructure, the viewpoint, something makes a difference [...]”.

In short, what makes data art artistic according to the artists is, above all, their own artistic intent.

5.2.5 Conclusions

The data obtained from the tailored questions offers valuable insight into the professional ideology of the New Media artists in Turkey. The artists' common ideology is based first and foremost on the intersections of art, science and technology and interdisciplinary/transdisciplinary collaboration, which is also in line with the emphasis they place on the concept of the "autodidact polymath" independently of their educational backgrounds, professional titles or artistic profiles. The characteristics they use to define New Media Art are similar to some of the scholarly approaches overviewed in chapter 2, but they especially highlight the terms "real-time", "code-based" and "interactive". These are also part of Christiane Paul's proposed list of functional characteristics²⁴⁷, but the interviewed subjects place a particular emphasis on New Media Art's characteristics that can also be applied to music and performance. An analogy can be drawn between the musical score, the code and their execution; what is more, they can both be experienced in real-time and/or interactively, i.e. performatively. When combined with the subjects' references to Dada and the Fluxus both of which are artistic movements combining visuality with sound and performance, this discussion immediately brings to mind Şenova's references to the concert venues and sound art practices in New Media Art's early days in Turkey, as well as Irmak Arkman's and Erdem Dilbaz's performing arts management degrees and job experiences in this particular field. Here, it is important to add that Selçuk Artut is also a sound artist

²⁴⁷ "computable, process-oriented, time-based, dynamic, real-time; participatory, collaborative and performative; modular, variable, generative and customizable"

and a musician, Özcan Saraç composes sound art and delivers live performances, Candaş Şişman conducts performative experiments to invent an alternative musical language and DECOL occasionally designs visual experiences for concerts and live performances. Apparently, these territories have a symbiotic relationship in Turkey, and New Media Art's historical development cannot be addressed in isolation from the developments in the other two realms. Furthermore, all three spheres use similar kinds of technologies, technical equipment and know-how that need constant maintenance and upgrading, and this is only affordable by a handful of institutions. The existence of Borusan Culture and Arts, Akbank Art Center and Zorlu PSM as patrons of music and performing arts but also as institutions with a focus on New Media Art supports this hypothesis as well.

The artists' cultural repertoires are not as sharply condensed as the curators'/producers'; they are more flexible and fluid and they cannot be clustered into two broad categories. The high variety in the artists' cultural repertoires reflects the variety of the New Media Art practices in the world, suggesting that the curators/producers are more strictly bound by the local conditions than are the artists. Still, two of the three artistic profiles (AP) based on the artistic positions have important connections with the two repertoire variants identified in the curators/producers. For instance, the curators/producers in variant 1 and the artists in AP1 have similar educational backgrounds involving multiple disciplines and no fine arts education. The educational backgrounds of the curators/producers in variant 2 and the artists in AP2 manifest some similarities as well, but they are not as similar as the first group. The AP3 exhibit even greater variety, and their

individual cultural repertoires are more heterogeneous in themselves compared to their colleagues' in AP1 and AP2.

Regarding the relevance of the term "New Media Art", the subjects exhibit two contradictory positions. The first group, the majority of whom are AP1, find the term irrelevant or obsolete, or they argue that its meaning changed in a negative way and they adhere to a Post-media perspective instead. On the other hand, the second group the majority of whom are AP2, use the term more willingly as their professional identity is more invested in their mastership of their medium of choice, although they do not dismiss the Post-media perspective altogether. Furthermore, the majority of the subjects describes a complex relationship between New Media Art and Contemporary Art that identifies intersecting areas between the two without a complete integration, in line with the overview in chapter 2. The Post-media condition is already a more natural state for all of them to be in as, in theory, they all have the liberty to experiment with an endless variety of media and it is the curators' or the art historians' task to interpret their place and meaning in the broader artistic context. This allows them to switch between variants if necessary or desirable and to navigate in the greyer zones that the curators/producers prefer not to. This, in turn, makes their cultural repertoires more flexible and heterogeneous compared to the latter. Nevertheless, the AP2 are more prone to approach the two territories as distinct, which is also reflected in their relative disinterest in the art historical connections with the 20th century, whereas the AP1 find those connections important and explain how the ideas and processes that emerged in the past continue to survive in new technological forms.

Regarding the history of technology, it is important to remember that throughout the 20th century, the arrival of the new technologies to Turkey took place later than they did in the West, with the biggest exception being the Internet. The latter's mass distribution took place almost simultaneously with the rest of the world. This might be one of the reasons why the history of New Media Art's emergence is so parallel to that of the Internet in Turkey, and most curators/producers in variant 1 emphasize its role more than they emphasize the computer's in their local art historical narrative. The artists, on the other hand, are more interested in the technologies available to them and their counterparts in the West at any given moment, including the computer and the Internet. Furthermore, the Internet brought about the emergence of a global New Media Art community, thanks to which the birth of new artistic trends in Turkey have been synchronized with the world from then on.

The New Media Artists in Turkey identify their territory's art historical origins in the Western canon, which is in line with the historical narrative presented in chapter 2. One of the most striking contradictions in the data is the absence of the Bauhaus from the artists' list of art historical affiliations. A great majority of the subjects criticize the existing medium categories and hierarchies, and some even do it starting from the education system. They praise self-teaching and interdisciplinarity, and they use various arts and crafts skills simultaneously. Even more importantly, they report that they use the same skills sets in their art and design projects. Still, none of them mentions the Bauhaus movement as one of their art historical influences. This might be due to the movement's strong association with modernism and the emphasis it places on function, and New Media Artists in Turkey mostly

operate on postmodernist grounds. Still, several subjects defend the position that art must indeed serve a function, although it is a more conceptual one compared to the function as defined in design. Furthermore, in New Media Art in pre-90s' Turkey, it is extremely rare to find figures that can be considered the equivalents of their Western counterparts. Hence, the subjects who explain why their accounts contain very few references to the local art history attribute it to New Media Art's status as a Western invention. But Yetişkin thinks it is also due to the artists' lack of interest in and knowledge of art history, a critique mostly targeting the AP2, whereas Dilbaz criticizes the artists for not leaving the local art scene, i.e. their comfort zone, to face global competition.

The analysis of the subjects' artistic positions reveals the existence of two neighboring territories presenting boundary-work challenges, namely science and design. Again, they are positioned both as "friendly collaborator" and "pseudo art" depending on the specific context. Artists and particularly the AP1 either distinguish science from art based on the former's dependence on previous scientific literature and the latter's lack of such a commitment, or they say they do not see an essential difference between the two. Appeal to science can either be a "lab fetishism" and a marketing strategy, or an alternative way of practicing science without the scientist's annoying disinterest towards his or her work's ultimate effects on the society in the name of impartiality. Perhaps, the most accurate observation regarding the art-science relationship comes from Genco Gülan, who says: "Science is more useful for art than art itself. Same is true for science. Art is more useful to science than science itself". Design, on the other hand, is a more problematic

territory, for the artistic commissions often inhabit the grey zone between design and art, and each artist conceptualizes these projects differently depending on the specific terms of their collaboration, and this is where the most intense boundary-work takes place within the population.

Although the actual references to the theories reviewed in chapter 2 are not plenty, the ones reflecting the artists' approach to technology have strong ties with the theories presented in chapter 2 and those put forward by the curators/producers. An adherence to the postmodernist paradigm is evident in both populations, but their articulations also present a curious paradox. On the one hand, a postmodernist approach advocates the dissolution of the modernist taxonomies and media hierarchies. On the other, the artists with a fine arts education still adhere to a medium-based approach, reflecting a more modernist approach towards the medium. However, their practices do not reflect a modernist ideology. Quite the contrary: Their close ties with the commercial sector are heavily criticized by the artists with a more multidisciplinary background as a sign of submission to the corporate capital, and, from a Jamesonian perspective, an adherence to postmodernism or to the cultural logic of late capitalism. However, the artists who advocate a Post-media perspective exhibit more postmodernist views regarding issues like gender, culture and disciplinary boundaries, but their attitude towards the involvement of the corporate capital in art is highly critical, if not modernist. Critical theory and the thread featuring Adorno and Jameson, therefore, are relevant theoretical contexts for them as well.

The artists' approach to data and its artistic use exhibits much more variety compared to the curators'/producers', which is not surprising considering that they are the ones who open new grounds for experimental artistic practices. Their boundary-work becomes intense around this issue as data is one of the most regular inhabitants of the grey zone between art and design. Artistic intent is the most dominant criterion of distinction reported by the artists, i.e. it is what makes a data visualization a work of art. However, it is such a generic concept that it automatically covers all the other criteria depending on the artist's declared purpose. The latter might be based on anything, from revealing the poetry in the data to producing knowledge. This also allows them to navigate across different disciplinary territories more easily. Artistic intent takes a data visualization and positions it within the New Media Art territory. To produce the work, the artist uses the methods offered by science and the instruments offered by design, but he or she uses the concept of artistic intent to clearly distinguish the work from the domains of these two territories. This is another illustration of the importance of the boundary-work taking place around this practice.

5.3 Professional Ideology of New Media Artists in Turkey

According to the analysis presented above, the practices of the New Media artists in Turkey develop in parallel with the developments in the global New Media Art territory since the Internet became widely available in the domestic sphere. The common concepts identified in their articulations illustrate that their professional

ideology is in tune with the professional ideology of the New Media Art field at large, and they do not express an interest in building a local art historical narrative like the curators/producers, or a style or language unique to this region. They do not cite any local theoreticians, and they always appeal to the Western art histories and theories in their articulations. Apparently, globalization worked full force in the New Media Art territory, and the homogenization of culture took place more easily in a field defined on the basis of some universally available and standardized media and communication technologies.

Considering the variety of their educational backgrounds and of the technical skills they have acquired from various channels as well as the authentic nature of their practices, it would be normal to expect that each artist's boundary-work process takes place through a cultural repertoire at least partially unique to his or her individual history. We shall remember that the artists are also expected to distinguish their works from the other artists' as creative individuals with their own authentic styles. Nevertheless, some generic repertoire variants have been identified that are partly parallel with those of the curators/producers, which can be interpreted as an indication that the local conditions affect their practices as well, although to a lesser extent than the curators'/producers'. The artists are less affected compared to the curators/producers because, first of all, they are also able to distribute or exhibit their works in the virtual environment, and they can participate to exhibitions and screenings organized abroad without the constraints of travel or logistics. Some works already exist only on the world wide web, so they are not bound by the local dynamics as much as the curators/producers in terms of their works' feasibility and

outreach. Furthermore, their works are generally open to multiple interpretations and can even migrate in between variants, so they can find a platform of visibility more easily in various contexts compared to the work of the curators/producers.

Mastering a medium or a media palette is a greater source of motivation for the artists with a fine arts and/or design education, whereas the artists with a multidisciplinary background find more satisfaction in exploring how and for what purposes these media are used in our contemporary society and how they can be dismantled or used differently. Most importantly, the concept of “code” is central to the debates around the creation processes in all these endeavors. Typically, the code can become part of this process in two ways: it can be the working principle behind the operations of a software that the artist uses to generate an output, in which case it is written by another individual or group; or it can be written directly by the artist to program his or her own chain of operations. Evidently, in the second scenario, the artist has more direct impact on the final result.

The language of code assumes an even more critical role when it is used to program an “algorithm”. Roman Verostko, the founder of the “Algorists” movement²⁴⁸, defines algorithm as “logical procedures for executing a task”²⁴⁹. Verostko presented his ideas first in 1994 at the ISEA (the Fourth International Symposium on Electronic Art) meeting in Helsinki, followed by the SIGGRAPH conference in Los Angeles in 1995. Here, he declared that programming was a form of art, but he made a crucial distinction between “algorithmic art”, which is “the procedure by

²⁴⁸ <http://www.algorists.org>

²⁴⁹ <http://www.verostko.com/alg-isea94.html>

which the artist creates algorithms” and “the procedures by which the algorithms execute the work”. He adds that an artist can only develop “an individual algorithmic style” if he or she is able to “customize one’s software” (Ibid). Here, we return to Yetişkin’s ideas once more, and understand more clearly why she highlights the ability to write one’s own code as the ultimate criterion in her professional ideology. In the light of Verotsko’s arguments, it is easier to understand why some artistic practices using the algorithms devised by some corporate third parties cause so much upheaval; the critics approach the subject as a matter of freedom of artistic expression, and to them, such a collaboration means that the artist agrees to devote his or her skills to the promotion of their intellectual product, i.e. their corporate ideology. Using an algorithm devised by a third party is not a problem as long as it is open source, for it does not involve a commercial agreement and it does not bring any material benefits to its creator. The artists using the corporate algorithms, on the other hand, customize them for their experiments, often with the condition that they will only use it for artistic purposes and will keep the algorithm only to themselves until it is officially released into the market.

Some argue that such collaborations are no different from any other artistic commission involving briefing on the part of the client. After all, when Michelangelo painted the Sistine Chapel, he had a clear idea of what his client, i.e. the Catholic church, expected him to depict. In principle, the two activities are extremely similar: in both scenarios, the artist collaborates with a powerful sponsor, he or she is given a specific spatial and/or thematic framework to operate in, and he or she offers his or her mastership in a medium to the service of the client. But we

shall remember that there is one more element in common between them: Both artists help their patrons show off their wealth and improve their institutional image. When we look at Michelangelo's work from today's perspective, we see a unique masterpiece, and perhaps we will see the same when we will look at Anadol's majestic oeuvre at the Disney Hall in the future. Here, the key question we shall ask is the following: is art supposed to be autonomous or not? If not, what is it that distinguishes it from design or craftsmanship? Is it the art historians' verdict that decides it after enough time passes from its creation? Or does the ultimate decision reside in the success or failure of the boundary-work of the professionals that are currently active in the field? This study defends the position that the former might have been more valid in the past, but the latter describes the current reality in more accuracy. In this world marked by postmodernity, history has ceased to exist; apparently, so has art history as we know it.

CHAPTER 6

CONCLUSIONS

This study has aimed at understanding the professional ideology of the New Media Art territory in Turkey by analyzing the qualitative data collected via semi-structured, in-depth interviews from a purposive sample of curators, producers and artists currently active in the field. It has used the theoretical approach offered by Thomas F. Gieryn's boundary-work to explore the similarities and differences between their professional ideologies and whether they parallel the developments in the international territory. To ensure the comparability of the data from the open-ended questions and to be able to observe the subjects' demarcation strategies more accurately, it has chosen data as an anchor concept due to its simultaneous presence in multiple professional territories and the ongoing debates surrounding its uses in artistic practices. Most importantly, it has traced the subjects' professional demarcation strategies and the cultural repertoires that they employ in this demarcation, exploring whether these repertoires exhibit any variations depending on the subjects' professional identities. It has also examined the impact of the local art sphere and the neighboring professional territories on the emergence of such repertoire variants.

The study's findings are summarized under the following three categories: the professional ideology of the Turkish New Media Art world, the latter's rhetorical tactics, and the study's contribution to knowledge.

Professional Ideology of the Turkish New Media Art World: The analysis illustrates that a common professional ideology exists in the New Media Art world in Turkey which is identifiable in the articulations of the curators/producers and artists currently operating in the field; however, this ideology is not monolithic, and exhibits variations depending on the subjects' career orientations. The latter, in turn, are determined to a great degree by the career options and funding sources available to them in the local art sphere.

The curators'/producers' professional ideology is characterized by four common concepts: potential for democratization, intersections of art, science and technology, interaction/interactivity and interdisciplinary collaboration. However, the subjects use these terms differently depending on their career orientations. The academically oriented subjects, i.e. the subjects identifying themselves as "educators" and whose main income source is teaching, use the cultural repertoire variant 1, where potential for democratization refers to critical approaches and political activism; intersections of art, science and technology refer to an interest in the scientific method's applications in artistic research; interaction/interactivity refers to the emergence of distributed networks and independent online communities; and interdisciplinary collaboration refers to the exploration of new possibilities of dialogue between various disciplinary territories. The managerially oriented subjects, i.e. the subjects identifying themselves as "project managers/creative producers" and whose main income source is project management, use the cultural repertoire variant 2, where potential for democratization refers to the abandonment of the traditional exhibitionary approaches; intersections of art, science and technology refer to an

interest in the newest technologies' applications and their usefulness in the creation of alternative aesthetic experiences; interaction/interactivity refers to the viewers' interaction with the artwork enabled by user experience design and interface design; and interdisciplinary collaboration refers to the division of labor making the artwork's creation possible with its technological components working in harmony.

The artists' common professional ideology is similar to the curators'/producers', but their cultural repertoires are more fluid and heterogeneous compared to theirs. Two of the four concepts identified in the curators'/producers' common repertoires, i.e. the intersections of art, science and technology and interdisciplinary collaboration, are also identified in the artists' common repertoires, so they emerge as the two defining characteristics of the professional territory at large. Thanks to the variety of their individual practices and professional identities, the artists are more flexible in switching in between repertoire variants or creating their own individual variants. They are already expected to do so, since the expression of an authentic professional identity is a necessity for artistic success. Yet, some clusters can still be identified. The two additional career paths available to the curators/producers, i.e. teaching and commercial projects/project management, are also available to the artists for financial sustainability, and their cultural repertoires are deeply influenced by which additional career they choose besides their artistic career. This choice, on the other hand, is positively correlated with their educational backgrounds.

The findings also indicate that, since the arrival of the Internet, the New Media Art territory in Turkey has developed in parallel with the developments in the global art

sphere. Before the mid-90s, the field was practically non-existent except for figures such as İlhan Mimaroglu and Teoman Madra, both recently being rediscovered and studied in more depth. For instance, the documentary “Mimaroglu: The Robinson of Manhattan Island” directed by Serdar K  k  eoğlu was released in 2020; based on the information in Mimaroglu and his wife’s personal archives, it tells the story of the couple’s departure for New York in the early 1960s. On the other hand, Sel  uk Artut recently undertook a project to digitally restore and document Teoman Madra’s oeuvre spanning over five decades.²⁵⁰ Hopefully, a better understanding of this history and its more systematic preservation has the potential to encourage the local artists and researchers to explore this territory with more enthusiasm and discover new sources of inspiration in it. Yet, despite the existence of such figures in the history of the local art scene, technological inventions like the computer and the Internet and the theoretical discourse that flourished around them still originate in the West. Turkey has skipped the early Avant-garde movements introducing the aesthetics of the machine into the artistic sphere, the participatory experiences of the Fluxus combining various media and the computer art experiments defining the field’s aesthetic language. The same holds for New Media Art’s functional ancestors such as Mail Art and Performance Art. Therefore, it is normal that the New Media artists in Turkey trace their ancestral origins mostly in the Western art history, be it the Renaissance or the 20th century Avant-garde.

It is also important to note that in the 21st century, the definition of the “West” as the technological hegemon has also changed. The Silicon Valley’s predominance has

²⁵⁰ <https://gazetesi.sabanciuniv.edu/sanat-ve-yasam/teoman-madranin-eserleri-gun-yuzune-cikiyor>

been challenged by countries like China which is expected to become the next “cyber hegemon”²⁵¹, while giant brands born in the Western hemisphere have been moving their operations overseas to minimize their production costs, which has resulted in the explosive growth of the IT industry in other countries, especially in Asia. Consequently, the “center” and the “periphery” of the current technological developments can be defined no more based on geographic location. The 21st-century “West” is transnational, transcultural, ephemeral, constantly migrating and shape-shifting, and most importantly, corporate. If the current technological systems inhabit such a distributed territory, then the art historical narratives emerging around them will also have to take shape accordingly. And if this study is interpreted not only as a momentary photograph taken of a local artistic territory but also as the predictor of the future global tendencies in the art and technology sphere, the dominant art historical narrative of the future will either be based on the translocal artistic communities operating via fluid networks of collaboration, or on the epic success stories of the tech giants patroning the arts. As the Turkish example illustrates, the two narratives currently coexist, and they are both in the pursuit of expanding their professional authority. Again, as this study illustrates, which one will eventually prevail depends first and foremost on the future of the funding structures in the arts and culture sector in the world, and whether they will prioritize artistic expression or corporate interests.

Finally, the study illustrates that the Post-media condition is quickly gaining ground in Turkey as in the world at large. However, it also demonstrates that the medium-

²⁵¹ <https://merics.org/en/analysis/chinas-march-towards-cyber-hegemony>

based approach is still alive in and around fine art schools. Kerem Ozan Bayraktar addresses this issue in detail in his article, “The Post-Medium Condition and Fine Arts Education in Turkey” (2020). Here, he observes that the fine arts curricula of the state universities in Turkey are still based on the modernist medium hierarchies (p. 3) with the exception of the “State Applied Fine Arts Schools” inspired by the Bauhaus model that emerged during the 1950s (p. 13). This makes the absence of the Bauhaus in the artists’ art historical references even more interesting, for a significant portion of them were trained in this second type of schools with an education system more in line with the Post-media perspective. In fact, Esra Çavuşoğlu’s remarks support this observation as well: “It can be argued that artists from the applied arts adapted more easily to the diversity of expression of Turkish art through different materials other than canvas, especially after the 1970s, than the Academies. Because in Applied Arts, diversifying artistic creation with different materials is not only supported but also encouraged” (as cited in Bayraktar, Ibid.). Bayraktar also observes a growing tendency in the more traditional academies to adopt a Post-media approach, confirming that the local developments parallel the global ones.

Rhetorical Tactics of the Turkish New Media Art World: The rhetorical tactics identified in the boundary-work of the New Media Art professionals in Turkey are also in line with some rhetorical tactics explained in Gieryn’s model. In his article on boundary-work in the scientific territory, Gieryn observes that the scientists attribute “selected characteristics to the institution of science (i.e., to its practitioners, methods, stock of knowledge, values and work organization) for

purposes of constructing a social boundary that distinguishes some intellectual activities as ‘non-science’” (1983, p. 782). But these characteristics are not always the same; their selection depends on the specific neighboring territory against which the boundary-work is taking place. In fact, Gieryn observes that “selection of one or another description depends on which characteristics best achieve the demarcation in a way that justifies scientists' claims to authority or resources” (1983, p. 781). He gives the example of John Tyndall’s public addresses in Victorian England, where he highlights science’s practical characteristics to differentiate it from religion, and its theoretical depth to differentiate it from mechanics (p. 283-287). In the New Media Art professionals’ boundary-work, we are able to observe similar patterns. For instance, the curators/producers in variant 2 highlight the artwork’s creation process, concept, content or message when discussing it as opposed to design, advertising or entertainment. But when the artists in AP2 discuss it as opposed to science, they highlight the aesthetic quality and artistic intent as its main distinguishing characteristics. When discussed as opposed to science, the artists describe art as a field aimed at producing questions rather than answers based on a more complex network of conceptual references compared to science. Artistic intent helps them distinguish their territory from both science and design, as the former demands objective conclusions and the latter is based on the briefing of the third parties.

The second example offered by Gieryn is the debate between the anatomists and phrenologists in the 19th century regarding the scientific value of their work, and the former label the latter as “pseudoscientists”, while the latter react by offering an

alternative definition of science (1983, p. 788-789). This is highly reminiscent of variant 1's approach towards some variant 2 practices as "pseudoart", claiming that true art offers a critical approach. Variant 2, however, detaches art's definition from the 20th century art movements and associates it more closely with the Renaissance masters, emphasizing aesthetic quality and medium mastery over conceptual sophistication and political criticism, even associating the latter with the "arrogant, elitist" Contemporary Art practices the incomprehensibility of which alienates the public. But they still continue to appear in Contemporary Art fairs and exhibitions and when asked about it, the focus of their articulations shifts towards the Post-media perspective.

What is more, "demarcation is routinely accomplished in practical, everyday settings" such as education curricula, funding structures and standards pushed forward by institutions (1983, p. 781). The same holds for New Media Art in Turkey. We have already addressed the influence of the funding structure in arts on these professionals' career choices. Moreover, they all come from a variety of educational backgrounds none of which is called "the department of New Media Art"; the field's educational departmentalization is very recent in Turkey compared to the West. This is an interdisciplinary territory by definition, and interdisciplinarity inevitably becomes one of its main assets for professional demarcation. The curators contribute to the demarcation process by writing scholarly articles and exhibition texts, and producers by constantly negotiating the terms of their collaboration with the clients to ensure that their artist's role does not shift towards that of a designer. Both types of professionals demarcate the territory

by featuring some artists and artworks in their projects and excluding others. The artists, on the other hand, demarcate the territory through their collaborations with a variety of art and technology institutions and their professionals, including curators and producers.

Gieryn also explains the relationship between the professional goals and the respective demarcation strategies required by each: “(a): when the goal is *expansion* of authority or expertise into domains claimed by other professions or occupations, boundary-work heightens the contrast between rivals in ways flattering to the ideologists’ side; (b) when the goal is *monopolization* of professional authority and resources, boundary-work excludes rivals from within by defining them as outsiders with labels such as ‘pseudo’, ‘deviant’, or ‘amateur’; (c) when the goal is *protection of autonomy* over professional activities, boundary-work exempts members from responsibility for consequences of their work by putting the blame on scapegoats from outside” (1983, p. 291-292). An example for the first scenario is the emphasis that the New Media Art professionals place on interdisciplinarity, which allows them to infiltrate any other professional territory without a perceived threat. A good example for the second scenario is variant 1’s approach towards some practices endorsed by variant 2, labelling them as design or entertainment. However, the protection of autonomy is achieved via other strategies. Variant 1 and AP1 achieve it by finding financial sustainability in education, while variant 2 and AP2 distinguish their design projects from their artistic ones to emphasize their autonomy in the second category. As illustrated in this analysis, boundary-work in New Media Art resembles a complex algorithm, a chain of decisions on the part of

every professional that never produces the same exact output, but allows him or her to maneuver within the territory with more agility.

Contribution to Knowledge and Future Possibilities: The study contributes to knowledge at least in four ways. First, it has produced a comprehensive and detailed picture of the early 21st-century New Media Art territory in Turkey based on the actual testimonies of the professionals constituting that territory. The data collected via in-depth interviews can be useful for other researchers who explore other interrelated topics around art, design, culture, technology and society with a particular focus on Turkey. Second, the theoretical perspective offered by Gieryn's boundary-work allows us to directly examine the rhetorical dynamics in this professional territory as opposed to the studies that concentrate on the philosophical debates around art's definition. Third, scholars exploring the New Media Art territories in other parts of the world can adopt the methodology proposed in this study, which would enable a comparative analysis between different geographic contexts. Similarly, the methodology proposed here can be used to identify the boundary-work processes emerging around concepts other than data that are currently popular but also highly controversial, such as artificial intelligence or NFT.

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