“The Value of Art” – Transforming User Attention into Monetary Value in a Series of Interactive Artworks

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Abstract
Attention is becoming the new currency in our information and media society. The art market is using art as commodity that can be invested in, and on which one can make profit. That profit can be increased with the help of marketing and attention-accumulation strategies. We will present a series of our recent interactive artworks that deal with the economy of attention and the evaluation of art value on the basis of user attention.

Keywords
value of art, art market, economy of attention, interactive art

Introduction
In this paper a series of interactive artworks will be described. In an ironical fashion they deal with creating value by transforming user attention into monetary value. In the context of participatory art, general issues of the attention economy and its link to the art market will be discussed.

1. Value in Art and the Art Market
For a long time there has been a connection between art and monetary value. In the feudalistic and clerical system of the Renaissance, royals, aristocrats and clerics commissioned works of art and artists had to adapt them to their tastes and requests [1]. Often there was no clear distinction between craftsmanship and art, and entire artist workshops were put under contract to portray and document religious and political motifs. In the Age of Enlightenment artists started to become more independent and the notion of the artist as a free creator and genius was born. It was generally believed that anyone could become an artist if he or she had enough talent. On the other hand, that also meant that artists had to struggle on their own to survive economically and come to terms with an evolving art market system [2].

Michael Findlay [3] writes about the connection between the value of art and its social and economic function. To him the monetary value of an artwork is an expression of various art historical circumstances, the artist’s biography, the art dealer, collectors and the influence of the museums.

Jean-Joseph Goux [4] analyses the price of an artwork in relation to its aesthetic value. He focuses on the discrepancy between the labor embodied in an artwork and its market price. In his view, its market value is determined by individual demand to a much greater extent than by its aesthetic value.

Money has always been important for artists. Even though the cliché of the poor, unsuccessful painter or sculpturer is still widespread, there is considerable evidence that artists proactively deal with money and value when they create artworks. Andy Warhol’s statement that “Good business is the best art” [5] illustrates that economic success was not taboo for American artists in the mid 20th century. This was quite in contrast to the European ideal of the poor artist genius, a cliché that has been a common assumption since the Romantic epoch.

Several artists have employed money as a motif in their works of art [6]. Edward Kienholz, for example, wrote the presumed value of his painting directly on its surface (“For $13200,” 1969 [7]), thereby suggesting what the value of his work should be. John Baldessari also ironically dealt with the process and the material of art making in a work entitled “Quality Material” that he produced in 1966-68 [8]. There he states that good art is composed of quality material, craftsmanship, careful inspection and the artist’s motivation to create good art. He clearly refers to the common belief that an artwork is more valuable if it takes


a lot of time to make it, contains expensive materials or has been made by a highly skilled craftsman.

In recent years art has also become a commodity for investment. Goux [4] points out the strong connection between the art market and the stock market. Similar to the bourse where securities are sold, the group behavior of art dealers and collectors determines trends through copycat effects, contagion or inverse investment strategies. Art is now widely accepted as an investment that can be stored until prices rise. In a capitalist system the artist is becoming a kind of stock that can rise and fall according to market trends and demand. Since the quality of an artwork is often hard to judge and not really obvious, the opinion of experts and gate keepers such as art dealers, gallerists and curators is becoming an important criterion in which investors trust. This can even lead to self-fulfilling prophecies, cascading information systems and snowball effects. Certain star artists will emerge when a large number of people invest in them, and a “winner takes all” phenomenon leads to skyrocketing values for a lucky few, while the value of the works of many other artists remains quite low.

Jacqueline Nowikovsky [9] points out the intricate interaction between the primary and secondary markets, the influence of experts such as critics and curators and their effects on the establishment of an artwork as a masterpiece within the art historical cannon.

2. The Economy of Attention

While there are many components that contribute to the determination of the monetary value of an artwork, attention is certainly a key factor.

According to the Austrian professor Georg Frank, attention is the new currency in our media-based society [10]. Our epoch is characterized by an overwhelming amount of information. But information itself is becoming outdated faster and faster and needs to be permanently replaced. In online platforms and social media we are constantly asked to react to new information, remain attentive and stay informed.

At the same time our epoch is also facing a serious information overload. Unfortunately, we as humans are organically limited in respect to the amount of information we can deal with. Our attention span is short and we have to economize it if we want to avoid sickness or burnout. Attracting the attention of others is thus becoming more and more of a value. A flourishing advertisement industry has professionalized this attention factor, fighting for every second of our brain space with the help of billboards, TV spots, online banners, Twitter messages and other subliminal strategies. According to Franck, gaining attention is now becoming even more important than earning money.

As there is more and more information surrounding us, getting attention is becoming increasingly difficult.

In Franck’s view, our economic system is moving towards a mix of an attention and information economy. Attention is increasingly assuming the role of a currency, and can even surpass money in its universality.

In this immaterial economy of attention, wealth of attention can amount to prestige, reputation, stardom and fame. These are the new forms of capital in our attention economy.

We can witness this in our media based society: attention is the new currency in social platforms such as Facebook and Twitter. We are constantly being asked to evaluate our surroundings, products, services as well as other people. Followers and “likes” are becoming the new drugs for self-created stars, who acquire increasing fame only because they are famous. Socialites such as Paris Hilton are known for being known, children of stars turn their inherited accumulated attention capital into real capital. The new elites today are those who invest their attention capital cleverly and reap the benefits by increasing their accumulated attention stocks.

According to Georg Frank, the basis of the financial market is its trade with credits [10]. Even the art system resembles a bank in a certain way: its invested capital can, for example, be the artist, the exhibition, the performance or the concert. By accumulating attention, this invested capital can become more valuable, just like a stock that increases in value. Ultimately well invested cultural capital will increase in value through increased attention.

In the opinion of Franck the cultural industry is a capital market of attention. We can also witness this in the so called art rankings, which show the monetary value of an artist and his or her artworks. According to Dossi, these systems do not inform us about the quality of an artist or his/her artwork; they just tell us about the amount of attention he or she has been able to accumulate over time [11], and they often have the additional effect of creating more attention. Once the reputation of an artist is established, it will develop its own dynamics and create guaranteed investment returns.

But the connection between attention and the monetary success of an artist is not a new phenomenon of the media society. Even in the Renaissance artists had to be entertainers and fight for the attention of royals and clerics. According to Vasari, the Italian painter Sodoma became famous and eventually was accepted as a protegée by Pope Leo the 10th, because he engaged in all sorts of crazy entertainment activities, and was a good painter as well [11].

In our times we have similar personalities. When Brat Pitt, who is both a movie star and a star collector, collects the
star artist Damien Hirst, the fame of the collector is transferred to the artist and, vice versa, the fame of the artist benefits the movie star. Rich people collect art not only for the sheer love of art or for philanthropic reasons; often their motivation comes from a wish to gain more prominence and improve their reputation. When they buy expensive (and thus already confirmed „Blue Chip”) art, their own attention capital is enhanced; their social status is confirmed, and the interest rate of their own attention capital skyrockets.

This can also explain spectacular auctions where star collectors bid enormous sums of money for artworks. Art has become a trophy that has to be hunted down, as it can ultimately enhance the status of the buyer among the attention-and-monetary-elite. Art becomes a commodity, and the artist becomes a brand. Dossi states that “The economical construct of the brand has replaced the romantic notion of the artist as a genius, and the ‘divino artista’ of the Renaissance has been transformed into a pop star within the global capitalistic system” [12].

Famous collectors even now have the power to influence the decisions of well known museums as to which artworks they will display by lending their collections to them or becoming their patrons. Only in rare cases is this done completely selflessly and without monetary interest. When an artwork, which is in ones own collection, is exhibited in a famous museum, its value will significantly increase, as it can now become part of the art historical cannon. The work can later be sold at a much higher price. An expert in this process is the British art collector and gallerist Charles Saatchi, who is a member of various commissions of famous British art museums. There he influences their exhibition decisions, places his own artists in them and thus increases their value [13]. While insider trading is forbidden in the stock market, trading with and with the use of insider information is widely practiced in the art market.

In summary, gaining attention is one of the key factors that enables an artwork to become recognized and valuable in the art market system. Strategically accumulating and increasing this attention through trading and auctioning will make the value of the artist increase. This will attract even more attention and eventually lead to the artist becoming a brand. His or her accumulated attention stocks (fame, reputation value) will rise and fall in the purely capitalistic art market system.

### 3. From Participatory to Interactive Art

Let us now turn to the context of our own art practice. In media art, interactivity has become a main feature that has done away with the strict borders between the artwork, the artist and his/her audience. Since the 1950’s, participatory art has led to the creation of artworks that can be open and process-based [14]. Instruction-based art by Fluxus artists such as Yoko Ono [15] put audience participation in the foreground, leaving ample room for free interpretation and individual creativity.

In strict contrast to the traditional notion of the artist as a genius who presents the artwork as a finished product, participatory art involves its audience in the completion of the work to a considerable extent. Roland Barthes’ text on the “Death of the Author” [16], Umberto Eco’s writing on “The Open Art Work” [17], Sõke Dinkla’s “Pioneers of Interactive Art” [18], Ryszard Kluszynski’s [19] analysis of interactive art, and Erkki Huhtamo’s list of common misunderstandings about interactive art [20] are important sources of reference to this development.

Interactive art became popular in the 1990ies. It combined concepts of participatory art, feedback mechanisms, cybernetic principles, sensor technologies and computing processes. Interactive art interprets and transforms various sensory inputs from the participating audience. That can, for example, be their gestures, touch, voice input, or various other multi-modal interactions. Although the artists here do provide interactive scenarios and various interfaces and sensor technologies, they leave a big part of the completion of the artwork to the audience. Through dynamic adaptive systems, feedback mechanism, evolutionary algorithms and learning systems they transport the idea of user participation to a higher level.

Although feedback systems and early forms of audience interaction were already practiced in early cybernetic art and some forms of kinetic art from the 1950’s onwards, it was in the 1990’s that ideas of interactive art really caught on.

Many of the artists working in this field deliberately handed over some of the creative work to their audience. This is similar to what Fluxus artists did in the 1950’s and what some relational aesthetics artworks [21], as described by Bourriaud, are now doing. Christiane Paul writes about these connections and points out that there is still a “continuing disconnect between new media art and the mainstream art world.” Besides historical baggage, she sees the reason for this in the “challenges that the medium poses when it comes to 1) the understanding of its aesthetics, 2) its immateriality (a key element of the medium’s aesthetics), 3) its preservation, and 4) its reception by audiences. All of these factors require in-depth consideration to explain the ongoing tensions between new media art and the art world.” [22]

A common feature of interactive art is the changing role of the artist and his/her relationship with the audience. This is also linked to Joseph Beuys’ claim that “Everyone is an artist” [23] (a concept he borrowed from Novalis). In this democratic involvement of the audience, one can also see connections to early forms of communication art as pioneered by Roy Ascott [24].
The focus of art as an interactive process involving the audience also poses a question as to the value of art itself. When the artists voluntarily retreat from their powerful position of determining the preferred interpretation of their work, they also need to consider how the value of these artworks will be determined.

In Information Aesthetics, Max Bense and Abraham Moles have already tried - in different ways - to offer a method to determine the value of art on mathematical, scientific and empirical bases [25]. Referring to the theories of David Birkhoff about mathematical aesthetics and Claude Shannon’s Information Theory, art was considered to derive its purely aesthetical value from the relation between order and complexity, or respectively between information and redundancy. Combining these with Norbert Wiener’s Cybernetic Theory, we come to the conclusion that the process of art criticism should no longer rely on subjective opinions, but follow rational scientific criteria. This theoretical framework (which Max Bense proposed in his Information Aesthetics beginning in 1954) challenged the «Stuttgart School of Computer Art » to not only consider information aesthetics as an art critical tool, but as a method for generating art with the help of a computer. Bense distinguished between four phases of an aesthetic object: the numerical aesthetics, semiotic aesthetics, semantic aesthetics and the generative aesthetics [26]. Abraham Moles, however, claimed that subjective evaluations of the observers should be added to the equation [27].

Interactive art with its connection to information aesthetics and open artwork concepts of participatory art is of course in stark contrast to the artist star cult practiced in the current art market system. Here we are not talking about the hyped pop star artist, whose lifestyle and branding is more important than the work of art itself (as pointed out by Dossi [28]). Instead, shared authorship and audience involvement, as well as generative software and sensor technologies lead to the consideration of contemporary cultural issues where interaction and participation are the new metaphors and trends in our media and information society.

4. “The Value of Art” Series

Based on these complex considerations concerning the economy of attention, the context of value creation in art, as well as the questions surrounding authorship and value in interactive art, we created a series of interactive art works called “The Value of Art” in 2010 [29]. The aim of these systems was to deal with value creation in the art world in a symbolic, critical, pragmatic and ironical manner. Building on our background in interactive art, we aimed to raise awareness of the complex topic of value creation and its link to the attention economy by physically involving the visitors in art experiments.

To do this, we transformed existing paintings that we bought at auction houses. We equipped them with sensor technology that can measure the exact time viewers spend in front of them. A small thermal printer is also attached to the frame of each painting. One of them is shown in Figure 1 along with attached sensor technology and a printer.

![Figure 1. This shows a close up of “The Value of Art/Unruhige See” painting with the attached printer and sensor. ©2010, Christa Sommerer & Laurent Mizonnnaue](image)

We know the exact price we paid for each painting and also the amount of money we spent on interface materials. Besides, we add the value of our working time, which we have fixed at 60 Euros an hour. On this basis, we can calculate the exact initial value of each system and print it out on the thermal printer. For example, the initial value of our first “The Value of Art/Unruhige See” painting was 2,078.70 Euros. This figure included all of our expenses; it was printed out on the paper from the thermal printer at the beginning of the first exhibition. This is shown in Figure 2. As we can see, the paper slip is still quite short.

Once the “The Value of Art/Unruhige See” interactive painting was exhibited, the work started counting the number of visitors and the amount of time they spent looking at it. We have set the value of user attention at 1 Euro for each 10 seconds. This is based on observations that the
average attention span of visitors towards art works in museums lays somewhere between 4-10 seconds. The conversion of 10 seconds into 1 Euro shows visitors their immediate impact onto the work, as the painting keeps printing the new value as soon as he or she stand in front of it.

In the example of the “The Value of Art/Unruhige See” painting, its initial value was 2078,70 Euros. After several exhibitions in which a large number of visitors looked at it, its value has increased to currently 24.000 Euros.

Figure 2. A visitor interacting with “The Value of Art/Unruhige See” painting. ©2010, Christa Sommerer & Laurent Mignonneau

Our sensor system constantly updates the value of the painting, making the whole process of value creation for this artwork totally transparent.

Visitors can see how the value of this artwork increases. The more they look at it, the more valuable it becomes. At the end of each exhibition “The Value of Art” will have reached a certain monetary value. The artwork could then be sold for exactly that value, or sent on to the next exhibition, where its value would undergo a further increase. The newly printed value is shown on the paper slip, whereby the value increase is proportional to the size of the pile of paper emerging from the painting. The more people look at the painting, the bigger it will become. In Figure 3 we can see a visitor contemplating it; the pile of paper has already grown significantly, compared to Fig. 1.

Figure 3. “The Value of Art/Unruhige See” painting at the ZKM Media Museum in 2011. ©2010, Christa Sommerer & Laurent Mignonneau

We have several paintings in our “The Value of Art” series. There is a portrait of a lady, a portrait of a sheep, an abstract lithograph as well as a portrait of a cat. The choice of which paintings we adapted to our “The Value of Art” series was based on our attempt to find different motifs and determine which of them are more popular in an exhibition setting. So far the “The Value of Art/Unruhige See” painting, which depicts a seascape, has been the most popular one; it has been shown in most of the exhibitions. Because it was the first artwork of this series and has been seen by more people, it also appears to have become more popular than the other motifs. Whether this is related to the self-fulfilling prophecy that Dossi and Franck describe still needs to be discussed.

In each exhibition of the “The Value of Art” works, the visitors told us that they enjoyed the fact that their time and attention has become an issue and part of the concept of the artwork. While many museum-goers intuitively choose which works to look at longer, this system made visitors more aware of their behavior and their attention span towards art in general. On purpose we have kept the sensor technology of “The Value of Art” system simple, as we did not want to create a technical demonstration of high-end camera tracking or sophisticated face detection technology. In “The Value of Art” the attention of all visitors is also treated equally. No difference is made between the art collector, the curator or a layman’s time and view. This is also done on purpose to in fact raise this issue of differentiation.
as well. From having exhibited the system many times in various countries, we come to the conclusion that most people understood the irony of the system and accepted the fact that the link between attention span and monetary value creation is made up by us to create provocation and criticism about the current art market system and the economy of attention.

5. “The Value of Art/Albertina” Intervention

“The Value of Art/Albertina” is an artistic intervention at the permanent exhibition of the Batliner Collection [30] of the Albertina Museum in Vienna, which has been proposed for 2015/2016.

As one of Europe’s greatest private collections of classical modern art, it contains works by such established artists as Claude Monet, Pierre-Auguste Renoir, Paul Cézanne, Amedeo Modigliani, Henri Matisse, Pablo Picasso, Ernst Ludwig Kirchner, Alberto Giacometti and Francis Bacon.

Each of the historic masterpieces has its individual provenance. Their high monetary value is an expression of various art historical circumstances, the artist’s biographies, the influence of art dealers, collectors and the museum system. They are all classics in art history.

According to Georg Franck, there are four criteria that a work of art must meet in order to come to be regarded as a classic:

1. The work has to gain a significant amount of attention.
2. The work has to become fashionable and also to attract attention outside of the circle of experts.
3. After a certain amount of overexposure and the thereby resulting inflation, the work has to loose its newness, and seem to be dated. (Franck calls this the "acidic bath").
4. The work has to remerge from the "acidic bath" and again become fashionable. Ultimately it is qualified as a "classic."

Franck observes that once an artwork has reached this level, it will remain a classic forever. The catalog of the classic works of art and the values of those acknowledged masterpieces are some of the most stable values that can be found anywhere. [10]

For the “The Value of Art/Albertina” intervention we will equip certain paintings in the Batliner exhibition with small sensors and printers. These interfaces are not intrusive; they do not touch or harm the valuable paintings and can be removed at any time. A set-up scenario is shown in Figure 4.

Each sensor/printer interface detects the viewer when he/she looks at the painting. The amount of time he/she devotes to it is measured and transformed into a virtual value increase. The new value is then directly printed onto the paper of the thermal printer interface. The initial value of the painting can be set to the actual insurance value of the work. 10 seconds of viewer attention can add a value of 1 Euro to the painting.

This time has been set by us based on studies which show that the average attention span of museum visitors fluctuates between 4-10 seconds, depending on the exhibition and space design. Studies undertaken by the Kunstmuseum St. Gallen [31] demonstrate several patterns of viewer behavior in museums (the expert type, the admirer type, the social type). These studies also reveal a strong connection between the attention of the viewer, the way in which the paintings are hung, the distances between the paintings as well as the motives in the given exhibition.

Figure 4. “The Value of Art/Albertina” intervention ©2014, Christa Sommerer & Laurent Mignonneau

“The Value of Art/Albertina” is not intended to be a scientific study but rather a conceptual artwork that introduces viewers to the concept that their gaze has an influence on the value of the painting they are looking at. Nonetheless,
it will provide some information about the frequencies with which paintings are gazed at and create awareness of one’s own attention span in respect to artworks. Some metainformation might emerge, such as which motifs or painting sizes are most popular, what type of motif preferences which painting etc.

Conceptually „The Value of Art/Albertina“ intervention re-discusses canonized artworks by famous painters and artistically points out the connection between the artwork, and accumulated attention. It also deals with the role of the museum as a place where accumulated attention is becoming canonized and integrated into the art historical discourse. The role of the museum, which serves as a gate-keeper and an educational and public institution that requires significant amounts of visitors, is also addressed. Museums are increasingly being asked to present blockbuster exhibitions in order to gain attention and ultimately obtain more monetary support. „The Value of Art/Albertina“ touches upon these complex issues and aims to bring these topics to our attention.

Figure 5. A possible scenario in “The Value of Art/Albertina” intervention ©2014, Christa Sommerer & Laurent Mignonneau

Summary:

“The Value of Art” series and “The Value of Art/Albertina” intervention are critical reflections on the economy of attention, the relationship between the artist, the artwork and the viewers, and the question of how monetary and ideological value are related to the time and attention the viewers devote to an artwork.

In our information economy we are now witnessing a shift; attention is increasingly becoming the new currency. We can also observe a paradigm shift in the art world: the star cult is losing its allure, as audiences and viewers come to demand more participation in contemporary culture and media art. This will also have an impact on the established canonized art system and the art market. The value of art can thus again be subject to discussion, based on new concepts about what really constitutes that value, methods for measuring attention, remarks made by visitors, sensing technologies and critical conceptual frameworks that broach these issues in an artistic fashion.

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Thank you for YOUR attention!

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Authors Biographies

Christa Sommerer and Laurent Mignononneau are media artists and researchers. They studied with media art pioneers Peter Weibel and Roy Ascott. After an artist-in-residency at NSCA in Champaign/Urbana, USA, they worked 10 years in Japan as researchers at ATR Research Laboratories in Kyoto and as associate professors at the IAMAS Institute of Advanced Media Arts and Sciences in Gifu. Currently Sommerer and Mignononneau are professor and heads of the department for Interface Cultures at the University of Art and Design in Linz, Austria. Sommerer is also an Obel Guest Professor at Aalborg University’s Art &Technology Department in Denmark. Mignononneau and Sommerer have created around 20 artworks, for which they received numerous awards such as the Wu Guanzhong Art and Science Innovation Prize by the Ministry of Culture of the People’s Republic of China and the Golden Nica Prix Ars Electronica Award. They have exhibited in around 250 exhibitions worldwide and their artworks are in collections such as the ZKM Media Museum Karlsruhe, the NTT-ICC Museum Tokyo, the Itau Cultural Foundation Sao Paulo, The View Contemporary Art Space Switzerland, the Contemporary Art Museum Lyon and Hermès Paris.