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## TITLE PAGE

Title:

Avant-Garde Performing Arts Meet the Mechanical Theater: A Dispositive Analysis

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**Abstract:**

Performance without (or partly without) performers is a well-known artistic practice and concept but it has not been researched in all its complexity as a dispositive transformed through the ages. In this article, the author considers one area of these historical and mediatic transformations—connections between the mechanical theater as a popular 19th-century spectacle and selected examples of performative avant-garde works. The paper claims that without a deep, long-term approach, we may miss the emergences and disappearances of dispositive in history, and concern too often on innovativeness, declared by the artists. The article interprets the former mechanical theater as part of the intermedial performing arts heritage. The author analyses the mechanical theater as a dispositive and uses a media archaeological approach to investigate the chosen area. The article points out several connections: creating machines and systems, working on hybridized or even partly autonomous performing objects, and making the virtual or grotesque world of motion figures and images. It will allow us to point out that the idea of the mechanical theater, in which performers are replaced by (partly) autonomous objects, turns out to be a topos, a dispositive that reveals itself at different moments in the history of performance and media.

Keywords: *mechanical theater, avant-garde, popular performance, dispositive, media archaeology*

## MAIN TEXT

### INTRODUCTION

*Oh, marvelous automatons, magnificent robots,  
astonishing mechanical toys, monkeys that jump,  
birds that move, frighteningly large bees,  
all at the turn of a key.*

Gellu Naum, *Întrebătorul*<sup>1</sup>

In the beginning of the last century visual and performing avant-garde artists used the term 'mechanical theater' and its variations quite often. A project titled *Abstract revue of moving surfaces (mechanical theater)* (figure 1) by the Hungarian Bauhaus student Andor Weininger is one notable case. The artist created a series of sketches and descriptions for an *Abstract Revue*<sup>2</sup>. The performative form combines—the popular performative genres' elements with some Bauhaus principles of color, shapes, and movement. Finally, he created the concept of a complex composed performance in which mechanically synchronized light, forms, and figures built the sequences that revealed themselves on stage. The design of Weininger allowed stage elements to move sideways, up and down, backward and forwards. Moreover, the *moving surfaces* could evoke impressions of perspective with a moving point of confluence and breaks in the picture frame. Therefore, Weininger designed an atypical visual ordering of the theater stage, which was closer to features of *De Stijl* paintings than to the conventional proscenium stage with a system of moving coulisse.

As a visual and conceptual artist experimenting with the basic notions of performing arts Weininger did significant work, but his projects from the 1920's remained little known for most of his life. He was mainly known as a member of The Bauhaus Band and its legend. In recent decades,

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1 Gellu Naum (1915-2001) was a Romanian writer and surrealist. In his work *Întrebătorul* [The Questioner], he describes a surrealistic journey through a fairground where he encounters magic shows, attractions with curiosities, and various automata, as mentioned in the citation. This dream-like experience inspires the protagonist to contemplate several themes, including speculations on singularity, the reality of artificial objects, the hidden secrets of demonic machines, and reflections on the subconscious and the mechanical sense of time.

2 The word 'revue' in Weininger's title holds significance. As Jeffrey Weiss notes, the café, cabaret, music hall, and revue played a vital role in the intellectual history of avant-garde collage. According to Weiss, popular music performance served as a ready-made aesthetic system' and a fashionable comedic genre already established as a tool of modern style (Weiss 1994, XIX). Pablo Picasso, Filippo Tommaso Marinetti, Jean Cocteau, and others (mentioned later in the article) were also captivated by the unique modern entertainment and its capacity for novelty and surprise (Ibid., 5). In the case of Weininger, it is important to recognize the connection between avant-garde collages and revue. As Weiss writes, 'The vocabulary of the revue is the vocabulary of collage, a period lexicon of technical language specific to both: the actualité; the pun, the allusion and the à peu près; the sous-entendu and entente; irony, satire, and grivoiserie; newspaper, advertising, and song' (Ibid.,36).

his work was revalorized by a series of exhibitions. Theatrical experiments were the most significant part of his oeuvre. They included his contributions to the theatrical workshop, together with Oskar Schlemmer; the non-realized concept of *Das Kugeltheater* stage, and the previously mentioned series of *mechanische Bühne-Revue*. All these works were not individual pieces but rather elements of the process of creation (Weininger et al. 1991, 2000)

Culturally, one of the most significant factors in Weininger's artistic life in the 1920s was the inspiration he derived both avant-garde and popular performance. On one hand, he worked as a showman in the band and was also a scriptwriter and stage designer of the cabaret group. On the other hand, he was looking for his interpretation of *De Stijl's* features on stage, elements of the concepts by Schlemmer or Walter Gropius. The relationship between Weininger and Bauhaus has been studied well by curators and art historians (Schlemmer et al. 2020, Schmidt et al. 2019, Weininger et al., 1991, 2000). However, no researcher has systematically tried to answer why he called his concept 'revue' and 'mechanical theater'? Did he refer to the world of popular performances in the 19th century? In this text, I will explore this interpretive track.

The work of Weininger may confuse the researcher who is familiar with the history of popular performances of the 19th-century due to the concept of *Mechanisches Theater*—which also emerges from 19th-century press, posters, some museum collections, and a few papers and chapters about puppetry history. Mechanical theater—as characterized by these sources —was a form of popular entertainment. It was a cross-genre form of attraction that made 'use of tableaux with mechanical marionettes moving laterally across the stage along rails' (Huhtamo 2019). In the contexts of these two usages of the mechanical theater concept, I want to ask: Are there any connections between the avant-gardist and the popular 19th-century discourses about mechanical theater?

The role of 19th-century popular performances as a notable context of avant-garde performing arts is known. The importance of popular performative genres like a circus, puppet theater, and fair entertainments was symptomatic for László Moholy-Nagy, Erwin Piscator, Filippo Tommaso Marinetti, Vsevolod Meyerhold, and many less well known avant-gardists (Pizzi 2012, Segel 1995, Schlemmer et al. 2020). On the other hand, in the 21st century, we could observe the tendency to interpret the oeuvre of the theatrical avant-garde as a prophetic or pioneering practice of new intermedial 21st-century performing arts. Researchers who have discussed the relationship between media technologies and the performing arts – for example Johannes Birringer (2013), Matthew Causey (2006), and Sally-Jane Norman (2015) – interpreted Schlemmer's works as the pioneering 1920s experiments at the intersection of dance and technology. While Sue Broadhurst (2019) sees Moholy-Nagy's experiments as pioneering in digital performance, and Steve Dixon (2003) emphasizes the role of the introduction of new technologies to the stage by the Italian

Futurists. Through this way of thinking we can better understand the avant-garde theater. If artists present themselves as innovators, it is normal that we want to describe their art as such. However, the theatrical avant-garde of the first half of the 20th century was a product of its times in terms of how the artists perceived contemporaneity, utopian visions of the future, and attempts to measure themselves against the past of performance history.

In contrast to interpretations put forth by scholars of digital performance, Jeffrey Weiss emphasizes that in the case of the techno-enthusiastic, futurist-like avant-garde:

technology and science (...) may not be readily separable from parody and burlesque; that the characteristics of modernism are more complex (even as expressed in the futurist manifesto) than a positivistic belief in progress. The comic element is not a mere frivolity, but an essential subtext of the modernist enterprise. Beyond satire, it appears to have been an agent with which the modernist might dismantle and recombine the swift experience of modern times (Weiss 1994, 42).

To fully understand the intermedial avant-garde experiments, it is important to recognize their connections not only to contemporary media culture but also their ties to popular performative art genres.

In this text, I propose outlining a broader continuum of transformations beyond those represented by the aforementioned scholars of digital performance. In this sense, I am not trying to deny the originality of the avant-garde; I aim to point out that a deeper, long-term analysis may be overlooked. At this point, we can provide a few examples of the perspectives offered by art and media scholars referring to deepening avant-garde genealogies. Sixten Ringbom (2022) wrote the book in the 1970s about Kandinsky's theosophical connections. Alexander Nagel (2012) about the relationships between sacral relics and ready-made. Jan Briksted (2009) developed a comprehensive genealogy of the occult and Masonic influences on Le Corbusier. Erkki Huhtamo traced the topos of peep media in the works of Frederick Kiesler and Marcel Duchamp. The scholar delves into the culture of attractions and various peep media phenomena spanning the past five hundred years—showing the nuanced historical dependencies of avant-garde art and other areas of optics (Huhtamo 2006). Another researcher, Siegfried Zielinski, considers Meyerhold and Sergei Eisenstein actors training concepts with the larger context of body and time quantifications (especially the 19th-century theories regarding the economy of time) (Zielinski 2006). In this article, I am trying to practice this kind of long-term perspective.

I do not want to ask naive questions like ‘who was first’? Popular performance creators or avant-gardists? I want to ask again about the interconnections between earlier radical performative conceptions that have influenced avant-garde theater, dance, and other performances. The oeuvre of avant-garde artists was the product of multiple influences. It demands a more nuanced assessment

than seeking proclaimed innovations, which are often stereotypically equated with new media technologies.

One sphere of these connections could be the relations between the mechanical theater of the 19th-century and avant-garde theater concepts. It remains an under-researched topic. It could be understood better by analysis of dispositive that existed in both worlds: popular mechanical theater shows and experiments of the avant-garde. Avant-gardists observed mechanical theater performances (or fantasized about them). And, after that, back to their work, drawing inspiration from such experiences. What were the implications of this for their art? In what sense, we may say, do the avant-garde and entertainment-performing machines meet each other?

## **MATERIALS AND METHODS**

### **Approaches: dispositive and media archeology research**

Taking together 19th-century dispositive<sup>3</sup> of mechanical theater and avant-garde of the first half of the 20th century could be intellectually productive. Thanks to dispositive analysis, we can understand better the mechanical theater. Not only on the esthetical but also the epistemological level. Huhtamo proves that mechanical theater has mutual connections with the cultural history of the 19th-century and earlier. On the other hand, we could try to reconstruct the later career of the topos of mechanical theater in avant-garde art of the early 20th century. The historical-aesthetic analysis, which has been focused on quite often so far in the study of mechanical theater, does not allow us to grasp many cultural-historical dependencies of this form of creativity. For this purpose, it is also necessary to reconstruct the epistemological construction of mechanical theater as a form of media communication.

A dispositive analysis of media culture phenomena implies that non of them is 'in one piece'. To shift our focus on mechanical theater, we can recall the five (depends on each other) layers of dispositive delineated by François Albera and Maria Tortajada (2015). Researchers distinguish two 'internal' layers of dispositives: (1) 'the system internal to the machine, a number of mechanism operating with their own coherence' (Ibid., 22–23); and (2) 'the machine itself, or the appliance, as an assembly of various clusters of mechanism, of the different internal system' (Ibid., 23). These two layers connect with others, the external ones. Further layers seem to be more contextual when material. Albera and Tortajada describe—(3) consequences of technical arrangement, a sum of final

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<sup>3</sup> There is a debate about whether to use the word 'dispositive' or 'dispositif.' In this article, I have chosen to use 'dispositive' because I am referring to the semantic field, context, and usage of the word established by scholars I have cited below. However, it is worth noting that some researchers may prefer the original French spelling, (See Kessler 2007). According to François Albera, Maria Tortajada, and Franck Le Gac, an awareness of the historical consciousness of words is necessary, as well as the ambition to co-create the meaning of a concept that can still be subject to revision (Albera and Tortajada 2015: 11-14).

outputs, practices, and relations of users, environments, and machines. This discourse analysis leads us to the next layer related to the power-knowledge complex(4). On this level, we could ask for 'whom the device operates'? (Ibid., 26). Machines, together with the arrangement, produce ideologies. On this level, we can ask: how the representation came to the subject? What is the technology of the observer? The last layer described by researchers is (5) an issue of 'subjection', which is opposite to the meanings of subjectivity. On this level, we can ask: how does the machine show us the social or institutional arrangement? As the researchers resumed:

The dispositive is a schema, a dynamic play of relations which articulates discourses and practices with one another; a schema which is to be elaborated out of this basis, this apparently modest work tool describing the dispositive in three terms which, in each case, in every research project, have to be entirely redefined and understood in their reciprocal relations: the spectator, the machinery, the representation (Ibid., 44).

Thus, the concept of dispositive seems to be a dynamic model—a modular schema of potential, material, and discursive relationships with the media culture phenomena. Dispositive analysis (and before apparatus theory) (Zielinski 2018 [2010]) was received well by media archaeologists (Elsaesser 2015, Huhtamo 2016, 2017). As Huhtamo note: 'media archaeological analysis should ideally examine both gadgets and practices, persuading them to illuminate each other. The idea of the dispositive can help in reaching such a goal' (2016). The researcher proves that dispositive analysis may be productive in studies about mechanical theater<sup>4</sup>(Huhtamo 2019). In another place, he said that media archeology could consider: 'the dispositive functions in the manner of a topos, as a formulaic idea traversing media culture where it is reinstated and re-interpreted over and over again' (Ibid.). It guides us to consider the mechanical theater as a 'traveling' dispositive, emerging and disappearing in different moments of history constantly changing.

Frank Kessler and Sabine Lenk were researching one of the popular performances of the 19th-century (*féerie*)—in a media-archeological perspective analysis of dispositive. They mention that it:

Allow to draw parallels to other spectacular—and often popular— media forms and the way in which they articulate the relationship between, on the one hand, the foregrounding of effects to highlight the powers of the technology involved, and, on the other hand, a diegesis that flaunts the display of 'probable impossibilities' (2019, 96).

This performance theory context adds the possibility of speculations about the heterogenic effects of powers. This perspective seems to fit well for the topic of this article. Mechanical theater of the

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<sup>4</sup> Huhtamo wrote: 'will treat the mechanical theater as a medium—a manifestation of media culture. I will discuss it as a dispositive, a system of relationships between the pavilion, the exhibits, the technological infrastructure, and the human operators and the audience (2019).'

19th and 20th centuries is a polysemic field. The dispositive analysis and media archeology perspective seem to fit this heterogenous field of research. Let us, therefore, analyze the mechanical theater in broad contexts as devices and arrangements, practices, and discourses.

### **Mechanical theater as a dispositive**

The sources suggest that the mechanical theater was a medium: identity unstable, experimental, popular and commercial, optical and mechanical, virtual, partly-autonomous and reactive. The term mechanical theater was quite common in 19th century Europe to name the genre of the popular attraction. We can find it in the press from the period, posters, and other historical sources. However, it is hard to divide the shows—created by Tschuggmall, Gierke, and Van De Voorde families— from the heritage of automata, trick puppets, nativity scenes, or charlatans secretly animated 'automata'. The history of the Théâtre Morieux, described by Huhtamo, shows the technical and communication features of the mechanical theater that were changing through the decades of the 19th-century. Finally, it is hard to say about the kind of media consensus or the stabilization in this case.

Historical sources from the last decades do not create the full image of mechanical theater. Historians and theoreticians of puppetry treat its form as one of the roots of the puppet theater or one of the genres of puppetry (Jurkowski 1970, Waszkiel 2018, Böhmer 1971, Blumenthal 2005). From time to time, it also appears as a small mention in pre-cinema discourse. The 19th-centuries posters announcing the mechanical theater shows are featured in certain exhibitions on cinema history—together with shadow theater, magic lanterns, or camera obscura. It suggests that the mechanical theater should be membered as a background or one step to the invention of cinema. On the other hand, Huhtamo analyzed Théâtre Morieux as a dispositive and medium, having specific features and roles, connected with many forms of communication from ancient to contemporary times. As he wrote in this context: 'instead of trying to identify chains of cause and effect, it is better to conceive of a field, where many things coexist and come into contact' (Huhtamo 2019). The researcher considers possible contexts of the mechanical theater from the 19th-century and before. On the same field of attractions were, among others: Pierre Jacques-Droz or Jacques de Vaucanson automata shows for the kingdom and nobility, clockwork automatons for townspeople, moving nativity scenes, Bergwerks, panstereoramas, shadow theaters, variety theaters, magic lantern shows, *Theatrum Mundi*, famous mechanical theater in Hellbrunn near Salzburg, baroque theater stage technologies, Eidophusikon of Philip James de Louthembourg. We could probably expand this list to include particular types of shadow theater, toy theater, or flat trick and transformation puppets. All this makes: 'The nineteenth-century mechanical theater a hybrid form, a kind of multimedia spectacle *avant la lettre*' (Ibid.).



However, mechanical theater and its nearest cousins, *Theatrum Mundi* or automata, are different dispositives. Technically, the systems and partly elements are unlike themselves. Automata is primarily clockwork, hydraulic, or steam-driven mechanisms (Bailly 1993). Theoretically, this type of device is independent of the movement of humans when they work (Tillis 1992). Operating by mechanical puppets had more immediacy and interdependent character. In the case of many automata, the crucial elements of the systems were cams. Or rather, the shapes and their configuration of them. These elements can have the role of memory or input of the machine. The way of moving was a program by the systems based on cams. In this context, generally speaking, we could say that the degree of autonomy may be less in the mechanical theater (however, pointing out the differences seems to have more sense on the single level).

The mechanical theater has another one, specific internal instruction. The figure movement was probably often founded on the mechanism (gear wheels, cranks, rails, etc.). But it seems to depend on nonmechanized, performative factors. Like muscle memory, sense of rhythm, and time of the operator. Thus, the arrangement is not similar to the toposes of the mechanism and *Theatrum Mundi*. The mechanical theater could be more related to moving tableau and variety programs, as Huhtamo suggests (2019).

The performance space was also significant, mostly 19th-century cities, fairs, and markets—in other, non-elitarian places. On the other hand, *Theatrum Mundi* shares with the mechanical theater space of the show and folk, popular characters. Sometimes, both types of performances were presented in the same program (figure 2). It may indicate that the audience recognized the differences between them. Mechanical theater does not mean marionette performance in many cases (Jurkowski 1970, Drábek 2014).

The representation mechanisms also seem to be specific in the case of mechanical theater. They do not suggest that through observing motion figures is possible to understand how humans or animals work. It also did not implicate the way of seeing reality as the playground of god. It seems to have a more simultaneous and virtual relationship with the primary reality. In other words, mechanical theater can be a medium, more than the philosophical or theological device of wonder. In particular, when performing historical events, scientific discoveries, or distant lands<sup>5</sup>. All this implicate different issue of power. Many automata show was an extension of baroque prices of the XVIIIth century (Schaffer 1999). The Wasserspiele in Hellbrun (Austria) showed the vision of a

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<sup>5</sup> We can notice a few examples. Théâtre Morieux presented in Poznan (Poland) 'The terrible fire of the steamship (Austria), in the Atlantic Ocean, on September 13th, 1858' ('Teatr mechaniczny', *Gazeta Wielkiego Xięstwa Poznańskiego*, 23 October 1858, 6). In March 1892, another mechanical theater entrepreneur was shown, in the same city, 'two performances of Oton Nebel scientific theater with demonstrations and electric lighting.' The program included: 'in the afternoon: Earth and its natural wonders. In the evening: The formation of the earth' ('Hotel de Berlin', *Dziennik Poznański*, 15 March 1892, 6.). In Krakow (Poland), mechanical theater of Oskar Gierke presented a program including 'Winter Landscape in Norway with sleigh rides, procession, moonrise and snowstorm' ('W niedziele 9 sierpnia nieodwołalnie ostatnie przedstawienie Oskarka Gierkiego', *Czas*, August 9, 1891, 4).

monarchic society. The rulers moved slightly, unobtrusively, and slowly. The movements of workers are extensive and fast. *Theatrum Mundi* may have affirmed the dualism of human and transcendent realities. Meanwhile, mechanical theater—as an early capitalist, popular performance—whose aim was profit (see Huhtamo 2019), desires to entangle the audience to the power of the look and kind of attention economy.

Huhtamo takes mechanical theater credit for a notable role in media culture. In this context, he wrote about 'familiarizing audiences with "self-acting"', and „revealing the world through pictorial representations, often set in motion' (2019). However, notice that the end of Théâtre Morieux after inventing the cinematograph was catastrophic for the creators. We may suppose that mechanical theater creators created the dispositive of perception and distribution of further moving images phenomena. Confirmation of this suspicion may be the history of mechanical theater from Austria directed by the Gierke family.

The mechanical theater started in the 1860s. It was managed by Herr Friedrich Gierke and, after him, his son Oskar. Shortly after the invention of the Lumiere cinematograph, Oskar bought it and changed the formula of his performances (c. 1887). After that, he showed movies as an extra attraction to the mechanical theater program. Further, the movies dominated the evening program. Over the next few years, Gierke ran a traveling cinema. We could suppose—his experience with traveling attractions helped him with new challenges. Finally, in 1905 he settled in Graz, where he operated Gierke's Bio. In turn, in the 1920s, when he did not obtain a cinema license, he took up the production of popular variety and cabaret shows. He returned to the cinema in the middle of the decade but ran the stage successfully until the 1930s— parallel to a movie theater (Florian 2005<sup>6</sup>).

Cultural processes—from mechanical theater to cinema, back to performing arts, and then back to the cinema... were not as direct as the career of Oskar Gierke. Nevertheless, we can mention that mechanical theater was an entanglement with the processes of the actualization of features between cinema and the performing arts in the period from the last decades of the 19th-century to the 1930s.

The dispositive of mechanical theater did not disappear in Central European culture in the 20th-century. Although it has nearly been forgotten as a genre. It is worth mentioning that the wording 'mechanical theater' appeared in press articles in the 1920s to name a cinema in different countries and languages. Meanwhile, it was re-discovered by avant-garde artists of the first decades of the past century.

### **Avant-garde meets the mechanical theater**

Throughout the history of the avant-garde, we can find several connections with the dispositive of

<sup>6</sup> The description of private archive documents about Gierke's family history and Annenhofkino (founded by Oskar) was published by great-granddaughter Verena Florian.

mechanical theater described above. At this point, we try to name just a few names, pieces, and concepts connected to them.

Remained at the beginning of this text, Weininger was not only the Bauhaus artist and performer but also the student of Theo van Doesburg. As he mentioned in memories, in 1922, he familiarized himself with *De Stijl*, the art of Piet Mondrian, the artistic circle of this movement, and—what is most important for this article—Vilmos Huszár (Weininger 1991, 29). The aforementioned Hungarian artist, two years before Weininger, published the scenic design concept, *Gestaltende schauspiel* in September *De Stijl* journal from 1921. It was partly a sum of his earlier performing art-based experiments, the series of pieces named *Mechanisch Tanzende Figur* (1917–1920) (figure 3 and 4). The artist created mechanically driven schematic figures against abstract backgrounds. His work influenced the students of Schlemmer at the Bauhaus (Tory 1984). However, the teacher from the experimental Bauhaus stage was a strong opponent of mechanical theater ideas. He worked more with the idea of being in space and creating hybrid, organic, and mechanic performers existing on stage (Schlemmer 2020). Despite this, he allowed his students for their style experiments. Kurt Schmidt, Xanti Schawinsky, and some other students created pieces where mechanical movements of forms, colors, and shapes replaced performers (Schmidt et al. 2019).

But not only Bauhaus-related artists were fascinated by ideas of mechanical theater. It is no exaggeration to say that nearly all avant-garde movements were more or less fascinated by the concept of replacing a performer with managed objects. Alfred Jarry and Edward Gordon Craig were pioneers of this kind of approach. The first one, because of his fascinations—masks, grotesque aesthetic, fetishized and animated performing objects in *Caesar Antichrist* and *Ubu Roi*. The second one, because of the best-researched idea about removing the actor from the stage, *Übermarionette* by Craig. From their early beginnings, most avant-garde movements refine their relation of the objects or machines with performers (Shershow 1995). So, not only Bauhaus made this concept their own.

Italian Futurists developed another, worth mentioning, way of making and thinking about performing objects. One of this line was Fortunato Depero, who was famous because of his apotheosis of automata (Depero et al. 2014). According to him, the new stage technology could, for example, 'multiply a character to make him different sizes multiply a character to make him make him different sizes' (Depero et al. 2017). Depero used to structure his vision of performance within the framework of variety. He did not concern himself with the way of animation of the marionettes a lot. As a visionary artist, he dreams about automation. In his famous *Plastic ballets*, he also explored the idea of 'new fantastic' (Ibid.), which set out the performances where every figure and element 'live in an absolute, pure atmosphere of creation'—as a simultaneity, mechanic reality. We

cannot overlook Marinetti and other lesser-known futurists—many of them want to see the marionettes as pre-robots that could be partners of humans, synthesizing stage expression.

A portion of the avant-garde in performing arts was interested more in creating partly-autonomous moving spaces with or without figures. In the 1920s, most of the circle of these artists presented their works in events organized by Kiesler. I mean *Internationale Ausstellung neuer Theatertechnik* (International Exhibition of New Theatre Technique) in Vienna, 1924, and The International Theatre Exposition in New York, 1926 (Kiesler 1924, Theatre Guild 1926, Bell 2008, 86-89). These two, and other exhibitions, in the 1920s, presented utopian models or plans of stages and set designs—most assume the moving in the realization or were models that incorporated moving elements. We can here name a few examples—*Ring Stage* by Oskar Stand, models of *Synthetic Scene* and *Plastic Scene* by Enrico Prampolini, and *Endless Theater* by Kiesler.

Dada artists also created or conceptualized moving machines (and sometimes surreal) artists. The most significant creator was, of course, Marcel Duchamp, together with him *Le grand Verre* or *Rotary Glass Plate* exploring optical and mechanical contexts of perception. However, the most symptomatic for dadaism (in the context of this article) was maybe creating the avant-garde puppets and exploring the idea of a hybrid of man and machine, which Matthew Biro termed 'dada cyborg' (2009). The concept emerged in *Mechanical Head* by Raoul Hausman. But it is also significant for many other dadaists collages and objects by Hannah Höch, Otto Dix, and Max Ernst (Dickerman 2005).

However, most notable, from our perspective—could be George Grosz, who utilized the mechanical theater technology in *Die Abenteuer des braven Soldaten Schwejk* (1928) by Erwin Piscator. The director (famous for early cinematograph usage on the theater stage) decided to mix three plans—living actors, mechanical figures or set designs, and a screen in the background with animated graphics (Arjomand 2018). The artists placed puppets and stage elements on two moving conveyer belts parallel to the stage (figure 5). This solution was an opportunity to experiment with many different forms of expression and ways of montage in the early intermedial performance.

Grosz and Piscator may not have explicitly mentioned being inspired by mechanical theater features, but there are visible connections between their work and old media spectacles. Previous performances by Piscator showcased perhaps a greater technological ambition. The use of moving belts in *Schwejk* could be attributed to limitations in budget and space for more elaborate scenography, unlike their previous works at *Schaubühne*. Treadmills (or conveyor belts) were also in later performances such as *Der Kaufmann Von Berlin* and *Rivalen* (Pisactor 1968) However, the most significant example is *Schwejk*. Piscator explained that the purpose of the treadmills was to maintain constant movement for the protagonist. The actor was to portray the role while continuously driving, walking, and running on stage. Human-scale flat figures were on the

treadmills alongside live actors. It is worth noting that at one point, Piscator planned to have only one actor, Schweik, while mechanizing the world around him through film, puppets, and loudspeakers. Ultimately, the director chose to involve other human actors—but the stage environment was still crucial in his endeavors. Piscator described the scenic form of *Schwejk* as a novel based on constant movement. The artists placed the protagonist at the center of the stage. While soldiers, priests, politicians, and God appeared on the treadmills or film, Schweik remained in the same place throughout the performance. Grosz and Piscator appear to have been highly aware of the media-related consequences for the performance structure. Piscator referred to the approach as the *dramaturgie am laufenden band*, a method that required exploration and utilization. He termed this type of performance *neuen mathematischen Art des Theater-spiels* (Ibid., 203)—where sequences were meticulously timed down to the seconds and synchronized with the movement of the treadmills.

## RESULTS

Based on the short synthesis of selected works of avant-gardists related to the mechanical theater above, we can propose three contexts where the features of both forms meet. The artist came into dialog with the oeuvre of popular performances whose strategy was—generally speaking—getting to live objects or giving them the appearance of living. (1) Avant-gardists created machines that deconstructed or abstracted the visual forms—moving images with figures, forms, light, and shades. (2) The artist considered and experimented with the issue of replacing the performer with a machine or hybrid of man-machine, literally or conceptually. (3) They created virtual or/and grotesque spheres with their own synthetic rules.

There may be numerous other specific intersections between avant-garde performing arts and mechanical theater. The strategies of Huszár, Weininger or Grosz seem to take together the optical, mechanical, and performative issues. These artists broadened the plasticity of their works, bringing about an unstable and intermedial state. Moving objects of these artists produce the forms, shapes, and visual projections, unbelievable without mechanical dispositive created or conceptualized by the artist. These kinds of work are mechanical because of their systems and partial autonomy. The pieces aimed to reconsider the way art is viewed and the role of agency of objects through the inclusion of optical and performative components.

Some of the described artists were automata enthusiasts, just like the mechanical theater creators, nonetheless—both were conceptual, more or less. The mechanical puppets from the 19th-century are not like automata but sometimes are advertised and probably perceived as autonomous. We can assume that many viewers were aware that some figures were not automata but still

watched the show due to a sense of disbelief. However, mechanical puppet dispositive of avant-garde did not have to play this way. First of all, because of the speculative or utopic features of the works.

Mechanical theater and avant-garde owe much puppetry, especially the trick and transformative one. Some of the artists were not interested in animation but rather in the puppets and their mechanisms themselves. Jurkowski, as a puppet historian, blames the creators of this performing object because 'trick puppets discovered extremely, sometimes exaggerated and unartistic, what is the essence of puppet theater. Thus, they are an example of the soulless animation of a puppet. And it is why they can only amaze, not "enchant"' (Jurkowski 1970, 31). It is worth adding that the issue of 'enchant' is the consequence of very well communication circumstances. The enchanting in puppetry seems to be the sum of moods, sensitivity, cultural skills, animator talents, environment, and many other unstable factors. Moments like this occasionally occur, but it is impossible to claim that they are inherent to the puppet theater dispositive. From this point, we can argue that trick puppets do not have to amaze or enchant them. Sometimes the audience is simply curious about the methods of arrangement. In this sense, mechanical theater and mentioned avant-garde artists were interested in the spectrum of experiences, more nuanced, and not always succeed—rather than by the constructions or systems, than something very uncertain like animation, and the psychological effect.

Mechanical theater shares with the avant-garde the concept of autonomous objects. According to Elizabeth Ann Jochum,

the plastic construction of these objects follows a specific law of motion that characterizes their bodies. This plastic power is inherent to the objects themselves and closely tied to their organic substance, determined by attributes such as color, temperature, consistency, and form (...). The object's plastic power represents its force or primordial psychology, enabling the creation of new subjects in paintings that do not aim for narrative or episodic representation. Instead, it facilitates the coordination of different plastic values of reality in an architectural manner, devoid of literary and sentimental influences (Jochum 2013, 96-97).

Autonomy in modernist objects encompasses both material features and aspects of human perception. Theoretically, the avant-garde performing objects could not represent anything beyond the plastic values of reality; they functioning more like structures rather than vehicles for narratives. The avant-gardists sought a performance without humans but with the motor and rhythmic powers contained within the objects themselves (comes from human-machine relationships). This introduced new types of animated figures on stage, ushering in novel conceptions of both the mechanized body and the mechanical performer. All in all, thus introducing the possibility of (partly)autonomous acting agents.

However, the inspiration likely stems not only from marionette or mechanical theater but also from the intermedial sphere of popular performances in the 19th century. Generally speaking, many avant-garde artists do not build the wall—between artistic practices and popular performances—but see the continuations. There are no single answer to the question: Why the theatrical avant-garde are sometimes closer to the popular genres than theatrical 'high' culture? One of the key reasons is commonly known—rejecting the naturalistic traditions of performing arts by avant-gardists, anticipation of *blague*, grotesque or virtuality. Other, like Harold Segel mentioned, are maybe more practical—the small dimension of spaces to perform, could be the reason why the marionette theater, shadow theater and other moving object-formulas were warmly hosted by the experimental-cabarete creators. However, contesting the mainstream theater by the popular forms is still also important here<sup>7</sup>.

We can also mention Jarry's enthusiasm for Guignol, *The Fairground Booth* of Meyerhold, or the apotheosis of the circus by Moholy-Nagy and Calder. The avant-garde artists did not want to create modern performances within old buildings and institutions. In this context, some artists could argue that drawing inspiration from popular performance genres may be more relevant and suitable for modern times. Not just to provoke the bourgeoisie audience but to transform selected media features (or imaginations about them) in their way. Significant is, for example, the case of Meyerhold—whose aim is catching the spirit of the fairground show and strategy of variety spectacles. The Russian director, by this, wants to create performances that could be an apology for the grotesque. Furthermore, have communication features like brevity, depth, expressiveness, and extractives (Meyerhold 2020).

It leads us to the next similarity in the dispositive, which concerns the ways of representing reality. We can again recall Meyerhold, who in this context talks—similar to above mentioned Depero—creating the magic worlds of marvelous inventions. The Russian director wants to take the viewer to a magical land through some features of popular performances. Of course, this strategy is not single in the avant-garde—significant for Italian futurists or surrealists, especially for Antonin Artaud. Primary because of his famous idea of the virtual reality concept from *The Theatre and Its Double*. The avant-garde artists, similar to the creators of mechanical theater, aimed to capture the viewers' attention by employing occasionally similar, yet distinct solutions. For example, many dadaists tried to subvert and neglect the media reality of newspapers, especially in the contexts of human figures printed inside (in works of Hausmann, Höch, Man Ray, and others) to contest the

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<sup>7</sup> Segel wrote that 'Craig's enthusiasm for puppet and marionette was echoed in the contemporary cabaret. As a refuge for serious artists, and as an alternate performance environment, the cabaret- or what the French refer to as cabaret artistique ('artistic cabaret')-dates only from the late nineteenth century. It was by and large a product of those same impulses that gave rise to modernism. Although cabarets as tavernlike drinking places with often rudish impromptu entertainment had existed for centuries, the new cabaret of the turn of the century emerged as an expression of a changing sensibility. It was antibourgeois, antitraditional, antiacademic, and oriented toward the symbiosis of 'high' and 'low' cultures' (Segel 1995, 57).

way of producing the world by this medium and its effects on society. Other artists, Piscator and Gropius, wanted to remediate performing arts in their *Totaltheater*. They wanted to transform the performing arts features through modern media systems and devices—to gain new values of art and life. They didn't aim to create performances that resembled cinema or radio. Generally speaking, the theatrical avant-garde aimed to reform or dismantle the media worlds of their time.

## DISCUSSION

This article considered selected crossovers of mechanical theater and avant-garde topos traces. The analysis of the mechanical theater dispositive shows the avant-garde artists entangled with the past. At this moment we can go back to Weininger's idea of *Mechanisches Theater*. Huhtamo in his text *Art in the Rear-View Mirror* argues that artistic practices are sometimes related to the process of media-archeological excavations. They [artist] 'compare, conclude, and leap between times and places—or between real and imaginary thing' (Huhtamo 2016: 72). The artworks like that:

Often re-enact features of the excavated object itself. References to other media, and even to imaginary projections of utopian futures as they have been filtered through the artist's mind, are added to the mix (...). Such works can be treated as 'metacommentaries' on media culture, its motifs, its structures, and its ideological, social, psychological, and economic implications (Ibid.).

We can suppose that Weininger, and other described here artist, traveled throughout the space and time of media culture seeking for the new form of performance and media expressions. The case of modern art is notable here, because it postulatively neglected the past (Marinetti is the most significant example). However, the historical avant-garde links their artworks with the history of media culture and technology, even if they sometimes hidden it. They showing the rupture between the 19th and 20th centuries media. Huhtamo mentioned Joseph Cornell's thaumatropes (Victorian optical toy), the connections of peepshow boxes with set design innovation by Kiesler, and Duchamp's experiments with chronophotography and stereoscopy. In my article I was trying to describe the traveling through the space and time by Weininger, Grosz or Huszár in simmilar way.

We can suppose that the avant-garde preserved within themselves, a cultural intermediality of 19th-century popular performances, a sphere of unstable, diverse performative attractions. The media-unstable popular performance formulas were maybe this, what the avant-garde desired—because of seeking new forms of communication with the audience.

Patrice Pavis, a famous performance scholar, when describing the theme of mechanical theater, wrote that: 'theatre people's fascination with stage machinery may stem from the taboo of the presence of the living, which they take pleasure in breaking as if to better reaffirm their



technical expertise' (Pavis 1998, 206.). Possibly, many of the works mentioned here were a display of skills. Someone may get the impression that many of mentioned abovementioned artists were full of hubris. Any performer can feel slighted by not being needed. This way, it is easy to suspect Craig, El Lissitzky, or Prampolini of throwing the baby out with the bathwater—assume that they did not handle the figure and scale of the actor in their visions, so they had to get rid of it. Therefore, should we treat these ideas as mere historical excess or curiosity? In this text, I wanted to offer a different perspective. The broaden dispositive analysis may us observe—performance without human beings is an intermedial topos, emerging and disappearing in cultural history. The processes described in the article are a part of an intermedial heritage of art straddling audiovisual, performativity, and plasticity.

We could blame the theatrical, techno-oriented, and left-wing avant-garde for: bad fairground-like taste, totalitarian politic of the form, dehumanizing the performance, propaganda-related practices, anti-intellectualism, anti-literatim, naive technophilia, occult and magic irrationalism, false egalitarianism and many other sins of theatrical communes and utopian imagination. However, all these tendencies also have the other side of the coin. It is unfair to dismiss the contribution of machine-fascinated avant-gardists in media, art, and cultural history based solely on psychological motivation. If we consider only the psychological reasons here, This distracts from the significant role of avant-gardists who created performances without actors and were a part of a longer story. For this reason, too—a more epistemological approach to the mechanical theater seems to be more cognitively productive.

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## **DECLARATION OF INTEREST STATEMENT**

No potential conflict or interest was reported by the autor(s).

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## APPENDICES (AS APPROPRIATE)

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TABLE(S) WITH CAPTION(S) (ON INDIVIDUAL PAGES)

FIGURES

Figure 1:

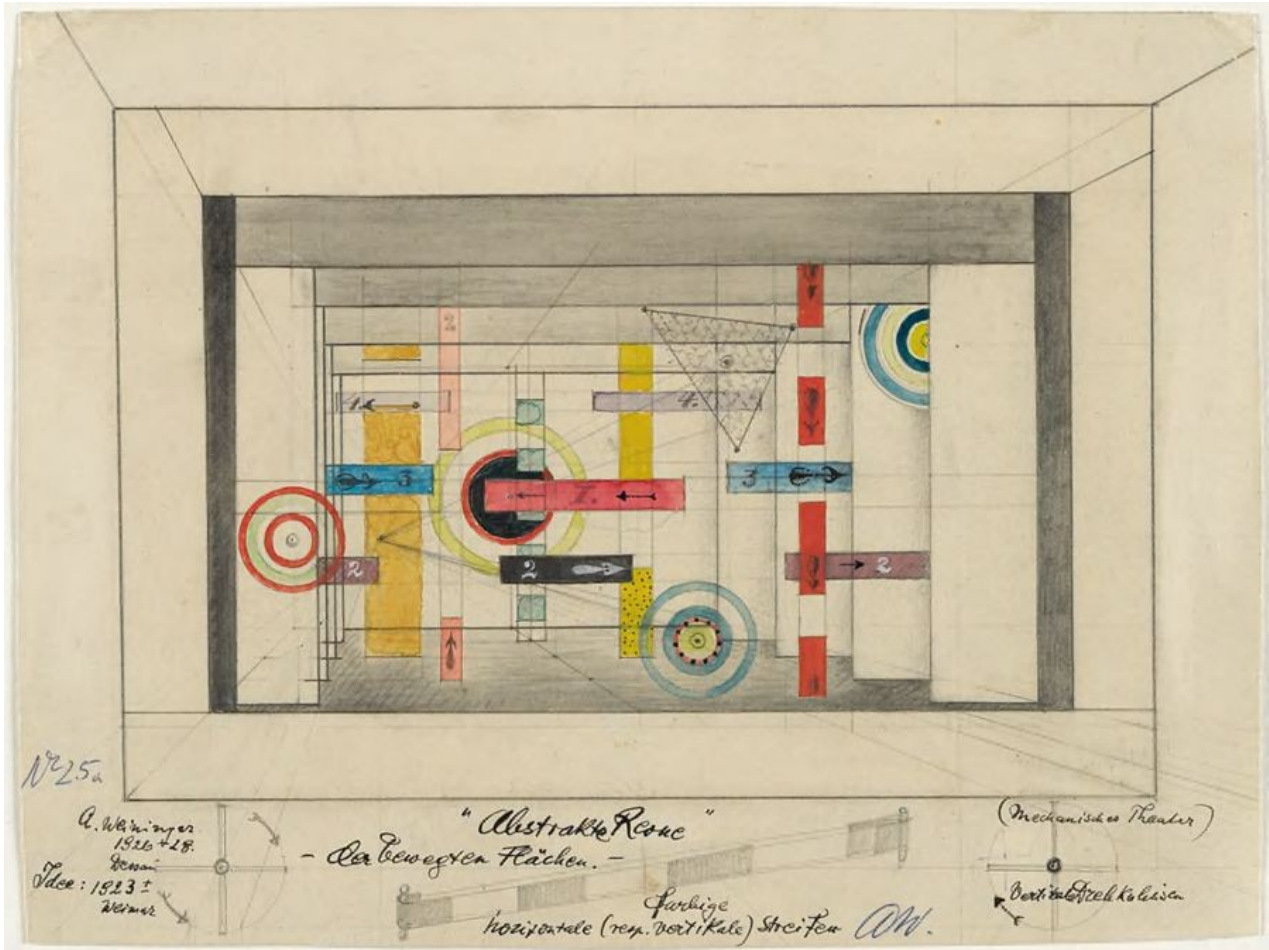


Figure 2:

**Im Theater des Gewandhauses.**  
 Eingang nur große Frohnungasse in Folge des Massenquartiers.  
**Mechanisches Theater und Theatrum mundi.**  
 Freitag, den 10. Februar:  
**Die Walpurgisnacht,**  
 oder: Kaspar als Schmiedelehrbursche. Lustspiel mit brillantem  
 Feuerwerk in 4 Acten.  
 Zum Schluß im Theatrum mundi: Der Oster-Deilige-Abend in Neuedig.  
 Einlaß 6½ Uhr, Anfang 7½ Uhr.  
**Nächsten Sonnabend und Sonntag zwei Vorstellungen.**  
 Sonntag, den 12. Februar, unwiderruflich Schluß.

Figure 3:

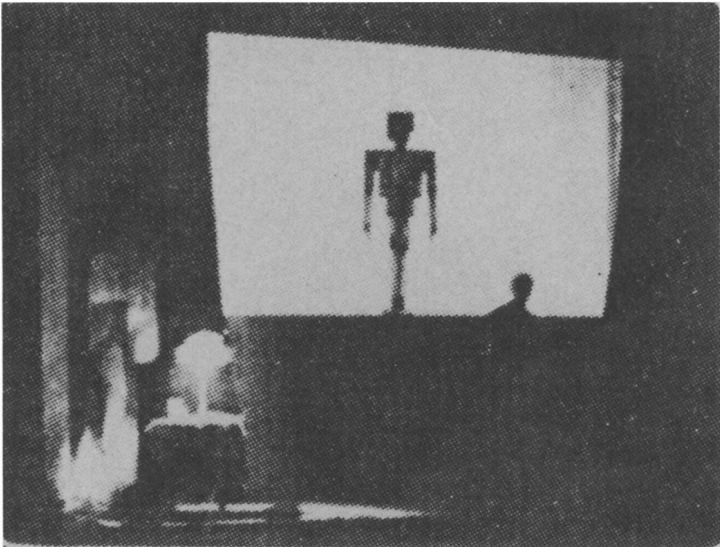


Figure 4:

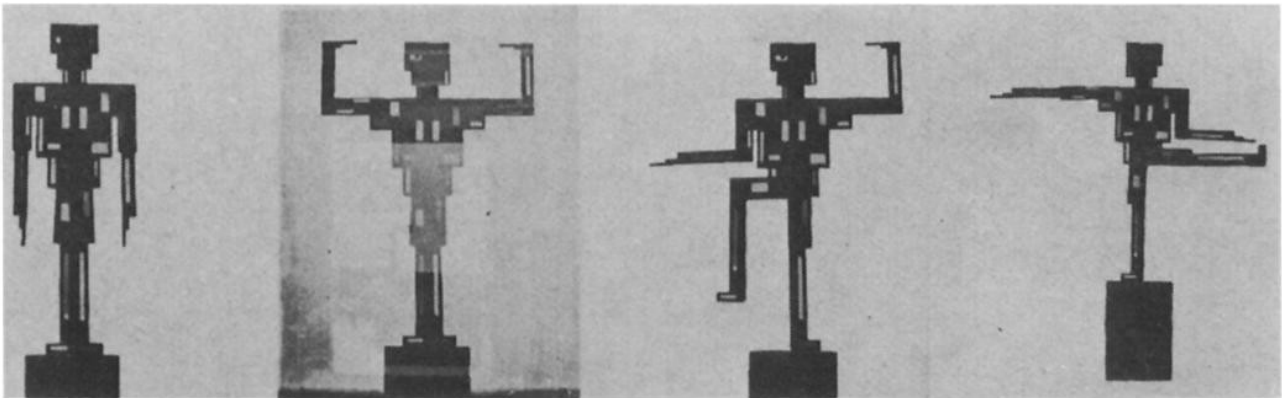
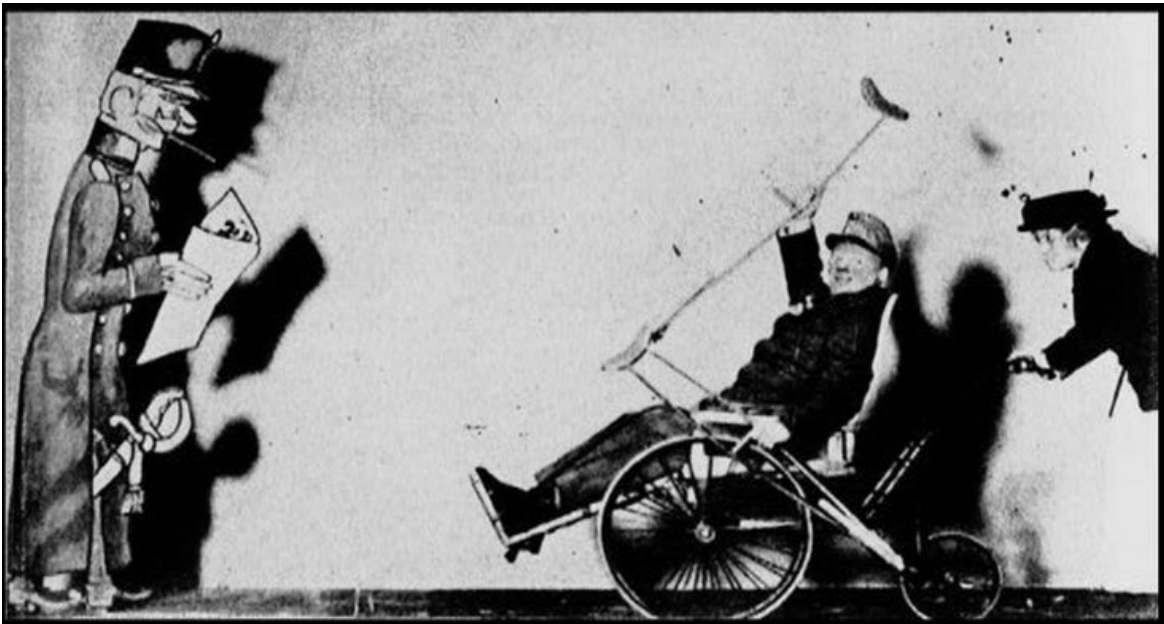


Figure 5:



## FIGURE CAPTIONS (AS A LIST).

Fig. 1. A. Weininger, “*Abstract Revue*” of *Moving Surfaces (Mechanical Theater)*, 1926–1928.

Fig. 2. Advertisement. Source: *Dresdner Nachrichten*, 10.02.1871, 4.

Fig. 3. Huszár's *Mechanical Dancing Figure* in performance. Source: illustrated magazine *Het Leven*, 27 January 1923.

Fig. 4. Huszár's *Mechanical Dancing Figure*, 1925. Source: *Tory* 1984, 650.

Fig. 5. *The Good Solider Schweik*, directed by E. Piscator, set design by G. Grosz, 1928.

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