Decision-Making for the Conservation and Presentation of *Thermoelectronic Chewing Gum* (1970), a Political Environment by Wolf Vostell

Julia Giebeler, Gunnar Heydenreich, and Andrea Sartorius

Abstract The Decision-Making Model for Contemporary Art Conservation and Presentation (CICS 2019) was used for a case study on Wolf Vostell's interactive electroacoustic environment from 1970, *Thermoelectronic Chewing Gum* (*Thermo-Elektronischer Kaugummi*, *T.E.K.*), to establish to what extent it can assist in complex situations to weigh and structure arguments, to identify and clarify dilemmas and conflicts, as well as to document and justify decisions so that they are comprehensible for future generations. The process records how external factors and the personal viewpoints of the various stakeholders can influence the form, function and impact of an artwork and shape its identity. This study analyses how as a political environment *T.E.K.* was variously interpreted during the last fifty years, displaying it at times in an altered or reduced form. The application of the decision-making model illustrates this complex biography as well as selected considerations and decision-making processes aimed at the long-term preservation of this work and its future display in 2022 in the Museum Ostwall in the Dortmunder U.

Keywords Decision-making model · Biography · Subjectivity · Interactivity · Wolf Vostell · Migration · Emulation · Obsolescence

1 Introduction

Decision-making processes for the conservation and presentation of modern and contemporary art can be very complex and may constitute a crucial turning point that significantly influences an artwork's biography. Artistic concepts, the significance of materials, media, techniques and changes in condition, as well as attributed values, are frequently interpreted differently by the various stakeholders. In contemporary forms of expression like installations, new media art or performance art, the decision-making process for conservation and presentation is complicated by

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Fig. 1 Wolf Vostell: *Thermoelectronic Chewing Gum (T.E.K.)*, iteration in the Museum am Ostwall, 2010 (Photo: Jürgen Spiler © VG Bild-Kunst, Bonn 2021)

iterative, process-related, performative and participatory aspects which may be perceived differently by individuals with different cultural or professional backgrounds. With this in mind the Decision-Making Model (SBMK 1999) was recently expanded by a multidisciplinary group of experts (CICS 2019), taking into account the concept and material diversity of new artworks as well as current discourses in conservation theory (Castriota 2019; Celma 2021; Quabeck 2019).[1]

By applying the enhanced decision-making model to a specific artwork, this study explores the question of whether the framework reflects these discourses and helps to structure and weigh arguments, to identify and clarify dilemmas and conflicts, as well as to justify decisions and to make documentation more comprehensible for future generations. As a case study we selected Wolf Vostell's interactive electroacoustic environment from 1970, *Thermoelectronic Chewing Gum* (*Thermo-Elektronischer Kaugummi*, *T.E.K.*) (Fig. 1). The deceased artist's complex installation has been in the collection of Museum Ostwall in Dortmund since 1971 and poses numerous questions regarding documentation, conservation and presentation. This case study highlights how external circumstances and the personal opinion of different stakeholders can influence the form, function and impact of the work and how its identity is shaped by a series of complex considerations and negotiation processes with a far-reaching spectrum of options.

[1] Cf. also the chapter by Brian Castriota in this book.

2 Two Decision-Making Models in Conservation

The Decision-Making Model for the Conservation and Restoration of Modern and Contemporary Art was developed by a group of multi-disciplinary researchers in 1999 (SBMK 1999). It builds on Ernst van de Wetering's earlier model for decision-making in art conservation that was first presented at the 8th ICOM-CC Triennial Meeting in Sydney (Van de Wetering and Van Wegen 1987). Aiming for further professionalisation and refinement in conservation decisions, the model not only considers technical aspects but also other issues that relate to the artwork's authenticity, historicity, functionality, aesthetic and perception, as well as economical and technical feasibility, legal aspects and conservation ethics. Van de Wetering's model takes into account the fact that complex conservation decisions require a balance between various considerations that at times may conflict and involve compromises (SBMK 1999).

Van de Wetering generated his model with more "traditional" art in mind, while a need for expansion was identified in the mid-1990s, so that it could also be applied to "non-traditional" objects of modern and contemporary artworks, where the relationship between material and meaning is usually ambiguous. The expanded version of the model identifies two instances when the relationship between the material properties and the meaning of the artwork requires investigation and benefits from being graphically visualized (by circles): first, when addressing the question of whether a discrepancy between the physical condition and the meaning of the artwork exists, and secondly, when the conservation options and their consequences are considered (SBMK 1999).

The 1999 model consisted of a flowchart and seven focussing steps, each with instructions and a checklist. The first three steps concentrate on the artwork's metadata, its condition and meaning. In Step 4 the central question of the decision-making process in art conservation is addressed: whether the discrepancy between the work's present state and the artistic intention warrants a conservation intervention and what are the risks involved. Step 5 expands on the selected options, and in Step 6 their implications for the artwork are explored and compared, before a decision is made and documented in Step 7. The model is defined by a simple, flexible structure that prompts questions rather than supplying rigid answers. In an ideal scenario a wide spectrum of stakeholders would increase the variety of answers.

3 Reasons for Further Revision

Since the 1990s the diversity of new art forms and the accompanying discourse in conservation theory has begun to challenge the traditional concept of the "original" or "ideal" state of an artwork. Concept-based or kinetic art demands that the association of authenticity with the material properties of an artwork be reassessed.

Other art forms like installations or media and performance art may be reiterated in different locations that influence their meaning and identity. Their sustained life as artworks frequently depends on their re-enactment, but the decisions about their presentation may have repercussions for their conservation.

Both the artwork's material and intangible properties need to be considered when making complex conservation and presentation decisions. Taken from different perspectives, aspects like the artist's intention, sanctions, and installation instructions as well as the artwork's trajectory can be variously interpreted, and their meaning may change over time. Furthermore, different dynamics are introduced by the shifting roles of those involved and the non-linear process of decision-making. Finally, the terminology and definition of terms will require constant updating (Fischer et al. 2015; Giebeler et al. 2021).

Revision of the model was required:

- to take account of the complex trajectory and evolving character of many contemporary artworks.
- to identify which forms of presentation might affect the conservation of the artwork.
- to include important intangible properties in the decision-making process.
- to allow for subjectivity and dynamics in decision-making.
- to accommodate the evolution of terminology.

4 The Revised Model and the Concept of Perspectivism

The revised Decision-Making Model for Contemporary Art Conservation and Presentation was developed within the *NACCA* project (CICS 2019) by an interdisciplinary working group and differs in structure only marginally from its predecessor: it now comprises nine steps. The additional two steps are 1. the Point of Departure and 9. Implementation and Assessment (Fig. 2). A short text explains the aim of each step and provides a set of instructions, an example and a checklist. Relevant terminology is included in a glossary at the end.

Step 1 considers the specific point of departure, describing circumstances, initial aim(s), stakeholders and their individual interests. Data pertaining to the artwork is generated and registered in step 2. Step 3 and 4 aim to develop a profound understanding of the current and desired state(s) of the artwork. Step 5 addresses a possible discrepancy between the current and desired state(s) of the artwork. Should this be the case, in Step 6 the goals, e.g., to reduce the discrepancy, are specified and options for conservation and/or presentation are detailed. In Step 7 these are compared and weighted, after which a decision is documented in Step 8. Finally, Step 9 not only monitors the effects, but also aims at an overall assessment. A glossary in the annex of the model, authored by numerous researchers, reflects the current understanding of pivotal terms and underlying theoretical concepts in contemporary art conservation and presentation and builds a basis for future revisions of the model.

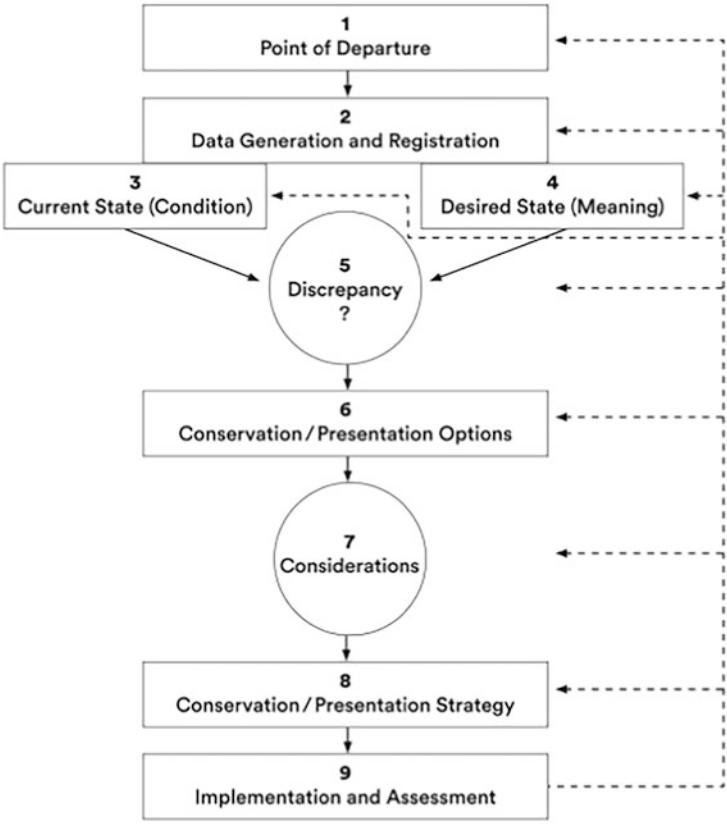

Fig. 2 The Decision-Making Model for Contemporary Art Conservation and Presentation, 2019

This new model is intended to enable a more dynamic process, permitting easy modification of earlier steps to facilitate a more nuanced reflection throughout the process.

The new Step 1, the point of departure, reflects the concept of perspectivism.[2] This concept suggests that all perception of the object of study, here the artwork, and the related decision-making regarding its conservation and presentation depend on the perspectives or interpretation of the stakeholders and their knowledge (Massimi and McCoy 2019). The principle is that in this context, aesthetics, functionality or changes of condition of an artwork are perceived differently from different perspectives, according to professional or cultural backgrounds, personal views and experiences. Considering the model of perspectivism in the decision-making process implies accepting limitations to achieve truly objective and neutral knowledge.

[2]The perspectival conception of objectivity is expressed in the writings by Friedrich Nietzsche (1844–1900).

Fig. 3 Wolf Vostell: *Thermoelectronic Chewing Gum (T.E.K.)*, iteration in the Kunsthalle Cologne, 1970 (Photo: Thomas Tilly © VG Bild-Kunst, Bonn 2021)

While perspectivism does not regard all perspectives and interpretations as equally valid, it also assumes that no stakeholder has a complete view. A combination of multiple theoretical and practical views, including various methods of analysis, may provide a more comprehensive understanding of a complex object of study and thus a more holistic foundation for the decision-making. This chapter aims to illustrate how the expanded model can be applied to structure the process. It provides an overview of the complex process, while also highlighting selected aspects when discourses and different perspectives of the stakeholders become apparent and influential. A complete report will be made accessible elsewhere.

5 The Case Study: *Thermoelectronic Chewing Gum*

Wolf Vostell (1932–1998) first realized the interactive electroacoustic environment *Thermoelectronic Chewing Gum* in 1970 for the Kunsthalle, Cologne, by using barbed wire to divide the exhibition space into narrow aisles and spreading out a large quantity of cutlery on the floor (Fig. 3). Visitors were invited to put a piece of chewing gum in their mouths, to attach a transmitter microphone to their cheeks and to carry a suitcase through the fenced off aisles. Chewing noises were amplified and played back through loudspeakers and from time-to-time radio programmes or piercing whistling sounds emanated from the suitcases.

Through a direct physical and psychological experience of this exceptional situation, this political work allows the visitor to become part of the artwork.[3] By the act of walking over the cutlery and the amplified chewing of gum the visitor produces the noise and as such actively influences the artistic manifestation, perceived by many as excruciating. Due to the interactive art experience Wolf Vostell's environment offers a unique access to important subjects such as the Holocaust or political internment camps. Visitors report that they felt particularly moved by this work and encouraged to reflect, which led to discussions about both historical crimes and contemporary political events.[4] After a period of fifty years during which *T.E.K.* was presumably displayed in a greatly reduced form, and without the chewing gum component referred to in the title, the museum decided to tackle its poor condition and develop an appropriate conservation and presentation strategy.

5.1 Step 1: Point of Departure

The first step of the model builds on the idea that a decision-making process arises from a particular question, an interest or a specific situation (Fischer and Funke 2016). Thus, the circumstances and the initial aim are described as well as the stakeholders, their intentions and their overarching goal.

5.1.1 Circumstances

The *Thermoelectronic Chewing Gum* environment was acquired in 1971 by the Museum Ostwall in Dortmund directly from the artist, and since then it has been displayed in different locations. In 2018 Lisa Schiller, conservator at Museum Ostwall, recognised the need to develop a conservation and presentation strategy and contacted the Cologne Institute of Conservation Sciences (CICS). An opportunity arose to record the condition of the work within the context of a collaborative research project with the TH Köln when it was deinstalled in 2019.

5.1.2 Initial Aim

The museum conservator and the curator expressed an initial aim to develop and implement an appropriate conservation and presentation strategy so that the environment could be included as one of the main works in the planned new display of the collection in 2022.

[3] Nicole Grothe, personal communication, April 2019.

[4] Regina Selter, personal communication, September 2019.

5.1.3 Stakeholders, Intentions and Overarching Goal

The case study involved the museum conservator and external conservators, the curator and the museum's management as well as specialists in electromechanics, electricians, an artist and the artist's son Rafael Vostell as basic stakeholders.[5] The group was partly expanded by consultation of witnesses.[6] Thus, taking into account the variety of different professional backgrounds and views listed at the beginning of the process. Decisions were prepared in numerous discussions within the core project team and subsequently in meetings with all stakeholders, partly in front of the objects. Finally, decisions were made following the recommendation of the museum's conservator in cooperation and consensus with the curator, the director and the artist's son Rafael Vostell. In the forthcoming display of the collection, the idea is to position the environment opposite of a group of Fluxus works that can only be shown as relics in a display case. Both museum employees and external conservators from the CICS placed great importance, in the sense of an overarching goal, on the functionality of the work and the interactive experience, while at the same time valuing the historical materials and conservation ethics. In addition, the museum required that maintenance be kept to a minimum.

5.2 Step 2: Data Generation and Registration

The objective of the second step is to find and register relevant data to provide the foundation for a comprehensive understanding of the artwork, paving the way to a well-argued decision process. Within the context of this study, we conducted research in a variety of archives including museums, municipal archives and newspaper archives, as well as special collections like the Wolf Vostell archive in Malpartida in Spain. Important photographs and descriptions of the environment were discovered that give information about past iterations and the interactive experiences involved. A further source was contemporary witness interviews. Examination of the work's component parts provided key information.

[5] Lisa Schiller (Head of Conservation), Julia Giebeler and Gunnar Heydenreich (external conservators), Nicole Grothe (Head of Collections), Regina Selter (Deputy Director), Günter Thorn (artist), Hans-Ulrich Faust and Maximilian von Blohn (specialists in electromechanics), Robin Lockhart (museum technician).

[6] Former museum staff members: Kurt Wettengl (Director), Marie Luise Körber (secretary), Ulrich Lueg (technician), Anke Klusmeier (Head of Conservation), as well as Thomas Tilly (photographer and friend of Vostell) and Winfried Reckermann (gallerist).

Fig. 4 Wolf Vostell (left) and the art dealer Helmut Rywelski (right), Kunsthalle Cologne, 1970; Rywelski has a microphone taped to his cheek (Photo: Wolf P. Prange © VG Bild-Kunst, Bonn 2021)

5.2.1 Description(s) of the Artwork

The space is partitioned into several narrow aisles, created by barbed wire attached to border posts, and more than 10,000 forks and spoons are spread out on the floor. At Vostell's request the visitors should put a piece of chewing gum in their mouth, attach a transmitter microphone to their cheek and walk through one or more of the dimly lit aisles of the environment, carrying a suitcase (Fig. 4). The chewing noises are sent to a radio receiver and played back in the room amplified over a loudspeaker. During the walk-through single ceiling spotlights activate the sound technology built into the suitcases via infrared sensors, causing a radio programme or a whistling noise to resonate.[7] The catalogues accompanying the first presentation of *T.E.K.* in the Kunsthalle, Cologne (1970), and its first iteration in Museum Ostwall (1972) differ considerably in their description of the work (Table 1). Notable is that 20 sacks of flour mentioned in 1970 are no longer listed two years later. The cutlery on the floor is clearly visible in the photograph from 1970 but is omitted from that list. Vostell may have planned to cover the floor with flour but could not implement this idea and spread out the cutlery instead. Furthermore, there are also discrepancies in the date and description of the room, as well as the dimensions, the number of spots and the instructions (Leppien 1970; Museum am Ostwall 1972; Figs. 3 and 6).

[7] Nicole Grothe, personal communication, April 2019. Cf. the following publications for further interpretations of the work: Museum am Ostwall (1972), Merkert and Vostell (1975) and Vostell (2012).

Table 1 Identity of the object *Thermoelectronic Chewing Gum* at Kunsthalle Cologne (1970) and when it was acquired by the Museum Ostwall (1972)

	The first manifestation of *T.E.K.*, 1970 (Leppien 1970)	The first iteration of *T.E.K.* in the Museum Ostwall, 1972 (Museum am Ostwall 1972)
Owner:	Wolf Vostell	Museum Ostwall im Dortmunder U
Inventory number:	–	A3/71
Artist:	Wolf Vostell	Wolf Vostell
Title:	Der thermo-elektronische Kaugummi [Thermoelectronic Chewing Gum]	Thermo-Elektronischer Kaugummi [Thermoelectronic Chewing Gum]
Date:	1969/70	1970
Genre:	A Happening-Room	Environment
Technician:	Peter Saage	B. Eng. Peter Saage
Spatial dimensions:	10 × 6 × 4 m (length × width × height)	13.48 × 5.36 × 4.37 m
Material:	• 5 microphone capsules with transmitters • 5000 pieces of chewing gum • 10 radiant heaters • 2 loudspeakers • 1 amplifier, 100 watts • 1 transducer • 20 sacks of flour • 30 metal posts • 150 m barbed wire • 5 suitcases with content • Transistor radios and heat sensitive microphones • 3 washbowls	• 5 microphone capsules with transmitters • 5000 pieces of chewing gum • 5 spotlights • 2 loudspeakers • 1 amplifier, 25 watts • 1 Super-Radio • 30 metal posts with barbed wire • 5 suitcases with radios and heat sensitive microphones • 13,000 spoons and forks
Instructions:	Take a transmitter capsule and put a Juici Fruit chewing gum in your mouth. Chew and walk with the electronic suitcase back and forth through the fences. Your chewing noises will be transmitted and amplified—heat sensitive microphones activate radio stations in the suitcase. After use put your transmitter capsule in a bowl where it will be sterilized for the next user. Thank you.	Chew gum—walk on the spoons—tape the transmitter capsule to your cheek—take a suitcase and carry it around the T.E.K. room In doing so chew gum Listen to amplified chewing noises Activate radio signals in the suitcase by exposure to light

5.2.2 History of the Work

After the environment was installed for the first time in 1970 in the Kunsthalle, Cologne (Fig. 3), three further iterations followed in Karlsruhe, Aachen and

Fig. 5 Audio technology from *T.E.K*'s first iteration, Kunsthalle Cologne, 1970 (Photo: Thomas Tilly © VG Bild-Kunst, Bonn 2021)

Frankfurt. We were able to trace illustrations only from the first presentation in Cologne.[8] The technical equipment was visibly displayed on a table (Fig. 5). Before Museum Ostwall acquired the environment in 1971 it was adapted by Vostell and his assistant Peter Saage († 2013). They fitted the equipment necessary for the playback of the chewing noises into a cabinet. In contrast to the first presentation in 1970, Museum Ostwall allowed the public access only to the central aisle (Fig. 6). Whereas, in the first three weeks, the media reported frequently about the chewing gum, this was soon no longer mentioned. It can be assumed that only a few weeks after the opening the playback of the chewing noises no longer functioned.[9]

In 1974/75 the environment was shown in Paris and in 1975 in Berlin (Vostell 1974; Merkert and Vostell 1975) (Fig. 7). Between 1975 and approximately 1995, the environment was displayed in various rooms of the museum, and most likely without the chewing gum component and the cabinet required for the playback and amplification of the chewing noises.[10] In 2007 the inoperable cabinet was rediscovered in the museum storage, Peter Saage was commissioned to rework the sound technology and from 2010 until 2019 the environment continued to be displayed in a reduced form (Fig. 8).

[8] The first presentation: Kunsthalle, Cologne: *Jetzt. Künste in Deutschland heute*, 14 February–18 May 1970; the second presentation: Badischer Kunstverein Karlsruhe: *Kunst und Politik*, 31 May–16 August 1970; the third presentation: Neuen Galerie im Alten Kurhaus, Aachen, 15 October–27 November 1970; the fourth presentation: Frankfurter Kunstverein: *Kunst und Politik*, January 1971.

[9] *Westfälische Rundschau* (23 February 1972), *Kirchlicher Anzeiger* (27 February 1972).

[10] Regina Selter, personal communication, February 2021.

Fig. 6 Wolf Vostell: *Thermoelectronic Chewing Gum (T.E.K.)*, iteration in the Museum am Ostwall, probably 1972 (Photo: unknown © VG Bild-Kunst, Bonn 2021)

5.3 Step 3: Current State (Condition)

The aim of this step is to develop a profound understanding of the artwork's current state by interpreting the results gained in the previous step and taking into account the artwork's biography, environmental conditions, and other information concerning the properties of the artwork that may be considered significant (Fig. 8).

5.3.1 Space and Interaction

In the past, depending on the available space, *T.E.K.* was installed in an area with variables of *c*. 55–72 m^2. Between 2010 and 2019 it was displayed in a dimly lit connecting room painted grey with a suspended ceiling and dimensions of

Fig. 7 Wolf Vostell: *Thermoelectronic Chewing Gum (T.E.K.)*, iteration in Paris, 1975, Vostell walking through the environment (Photo: © VG Bild-Kunst, Bonn 2021)

6.5 × 8.5 m (Fig. 1). Here three rows of barbed wire, each with eight metal posts of 237 cm in height, formed two aisles. For the duration of the installation two suitcases were made available to the visitors to carry as they walked through both aisles over the cutlery. At this point three spots mounted on the ceiling temporarily triggered the radios or the sound module in the suitcases. In accordance with the artist instructions, the suitcases were switched on and off by a museum guard. Chewing gum and microphones were not handed out, contravening Vostell's concept.

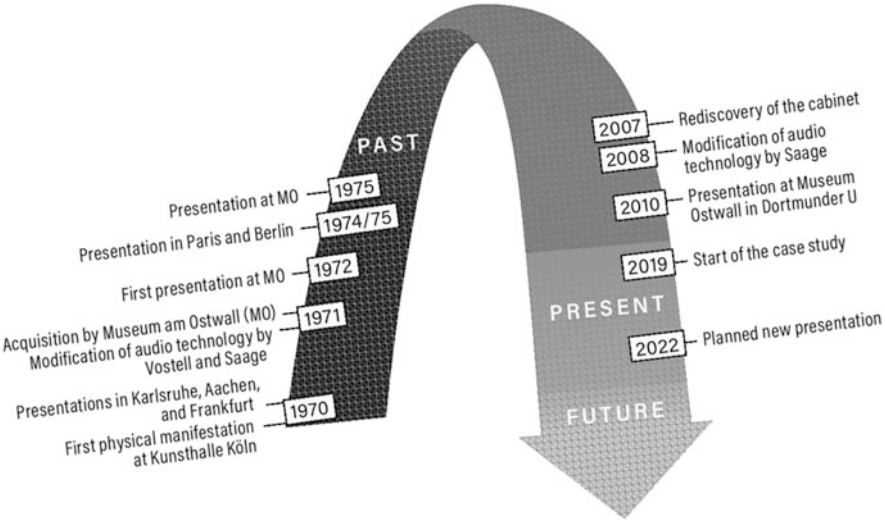

Fig. 8 A short biography of *Thermoelectronic Chewing Gum*

5.3.2 The Suitcases

According to the catalogue accompanying the first presentation of *T.E.K.* (1970), five suitcases with contents are part of the environment (Leppien 1970). Now there are four suitcases in the museum. The whereabouts of suitcase no. 1 is unknown. While there is a radio, a loudspeaker, batteries and an electronic control device in three of the suitcases, the suitcase marked 5 contains a sound module instead of a radio. All suitcases are activated by a side-mounted switch. Infrared sensors are fitted into circular openings on top of the suitcase. Infrared radiation from radiant heaters or spotlights activates the sensors and thus the built-in radios or sound module. Through this means sound is produced via an amplifier and a loudspeaker (Figs. 9 and 10).

Suitcase 5 comes with a microphone, rather than a radio, and it is mounted in a circular opening in the shell next to the loudspeaker, which currently does not work (Fig. 11). Originally the loudspeaker would have produced a sinusoidal whistling noise via audio feedback. As the microphone broke down in 2008, Peter Saage attempted to imitate the whistling noise—presumably associated in his memory with that of a train—by installing the sound module. In addition to the whistling noise, this module generates three other noises played in succession: the arrival of a steam train, that of points being changed and an acoustic warning signal at a level crossing, none of which are mentioned in previous work descriptions (Fig. 12). The suitcases are in fact temporarily operable, but the present component parts are subject to wear and time-consuming to maintain.

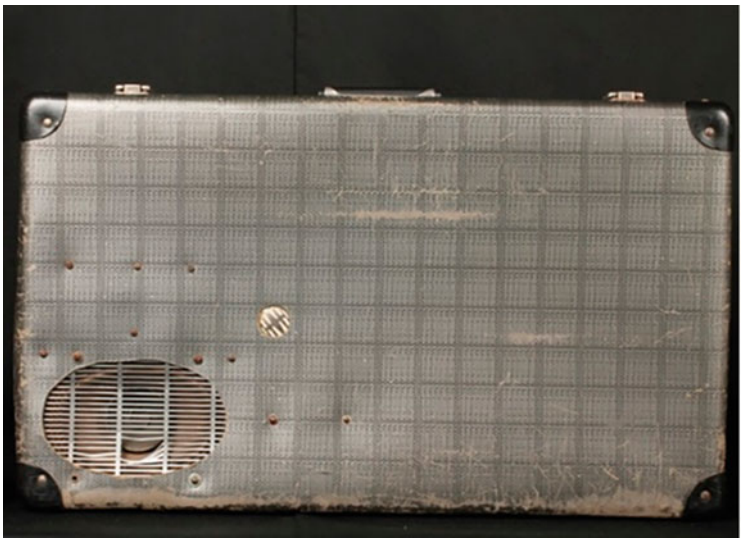

Fig. 9 Suitcase 5, closed, condition in 2019 (Photo: © VG Bild-Kunst, Bonn 2021)

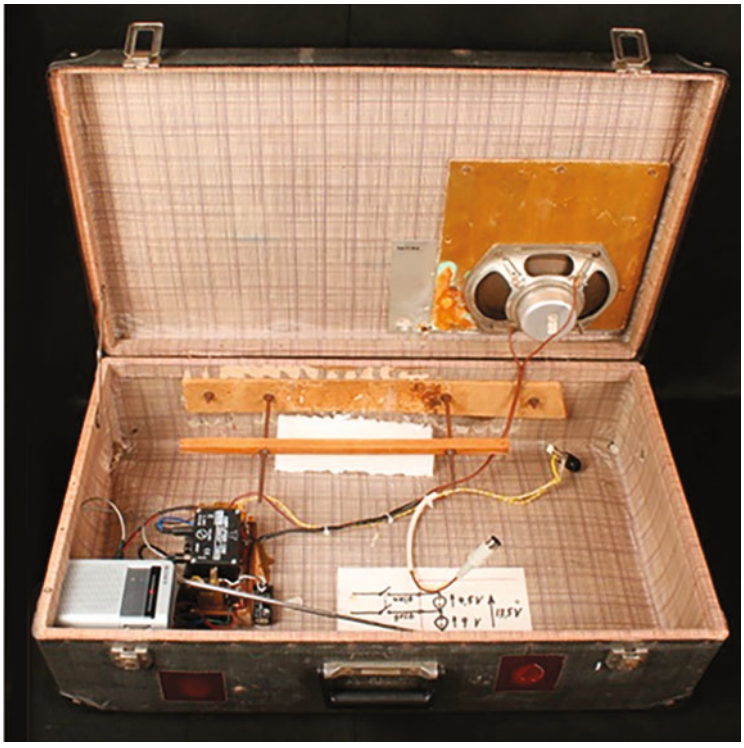

Fig. 10 Suitcase 2, open, condition in 2019 (Photo: © VG Bild-Kunst, Bonn 2021)

Fig. 11 Suitcase 5, detail of the audio technology, condition in 2019 (Photo: © VG Bild-Kunst, Bonn 2021)

5.3.3 Transmitter Microphone, Receiver and Playback System

The five transmitter microphones used to register and transmit the noise of the gum-chewing have not been preserved. In old photographs the microphones are not clearly identifiable. They probably originally came from the mouthpiece of a telephone and transmitted the chewing noise with the help of a home-made VHF transmitter to the receiving radio (Figs. 4 and 5). Before the acquisition by Museum Ostwall, Vostell and Saage fitted the technical equipment necessary for the reception, amplification, and the loud playback of the sound into a cabinet (Fig. 13). During storage in the museum this cabinet suffered damage due to moisture. In 2008 Saage renewed the external construction and replaced the loudspeaker enclosure with a new visually different model (Fig. 14). The reworked cabinet was placed in the exhibition space, but due to the missing microphone capsules it was not in operation.

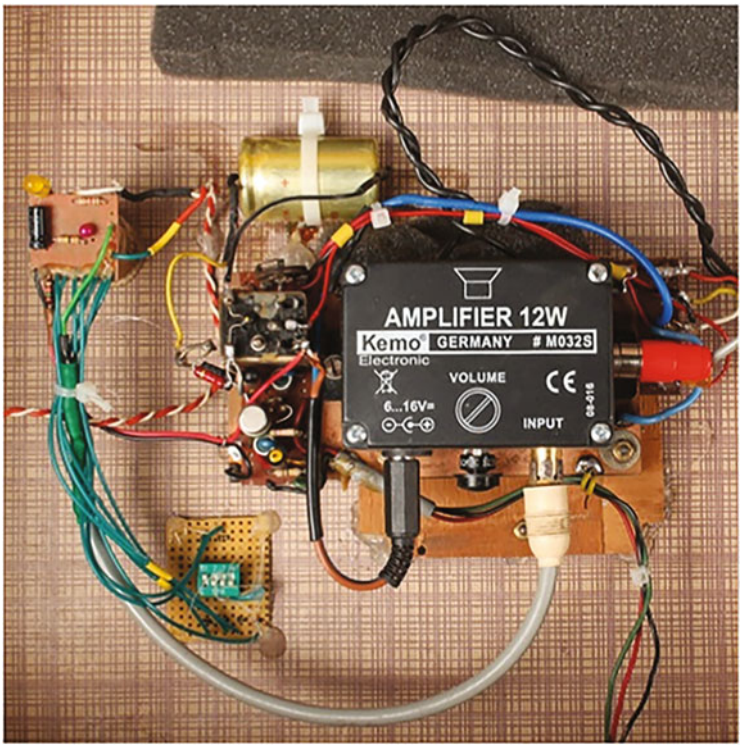

Fig. 12 Suitcase 5, detail of the audio technology, condition in 2019 (Photo: © VG Bild-Kunst, Bonn 2021)

A significant challenge when determining the condition is caused by the lack of documentation pertaining to the acquisition, iterations and early alterations. Information about the use of microphones and transmission technology can only be narrowed down by comparing the available photographs with components available on the market at the time. It is not known precisely how accessibility to the public, the lighting and the volume were regulated, whether suitcase no. 1 ever arrived in Museum Ostwall and whether Vostell's instructions were ever implemented again after 1975.

5.4 Step 4: Desired State (Meaning)

The objective of this step is to deepen the understanding of the artwork and to reach a consensus about its identities and the states in which the artwork is considered

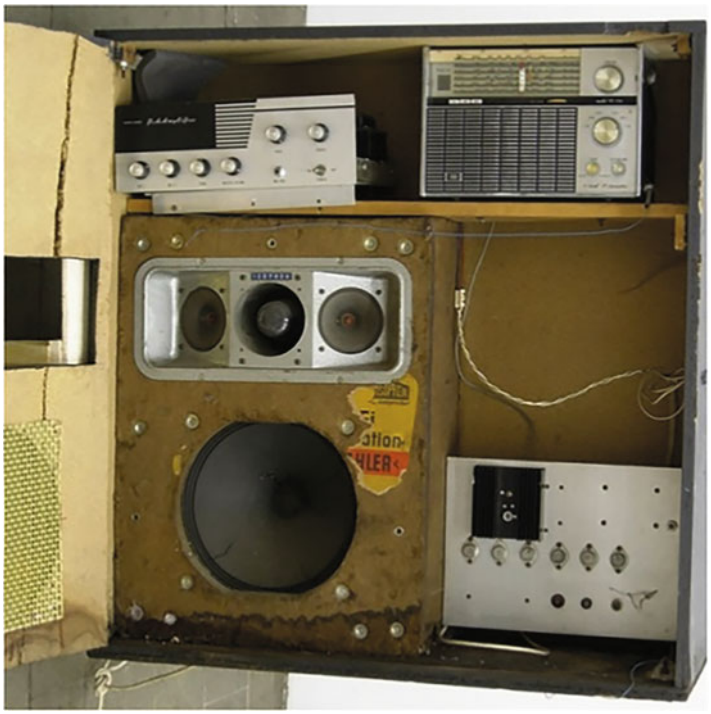

Fig. 13 Cabinet containing the audio technology shown open, condition in 2007 (Photo: A. Klusmeier © VG Bild-Kunst, Bonn 2021)

authentic. Therefore, this step is used to interpret which of the artwork's properties are essential to its identity. Different values may be appreciated that might have been attributed to the work in the past and that have changed over the years and which affect the current and future interpretation of the artwork.

In interviews, Wolf Vostell emphasised that with the deliberate integration of everyday objects like spoons and forks, or habits, like chewing gum, he wanted to trigger associations between concentration and prison camps in the past and the present that would continue to influence the visitor's daily life (Vostell 1970). In this way Vostell wanted to "embed barbed hooks in the conscious mind, so that they could assess the chaotic situation more acutely and accordingly act against it" (Vostell 1970).[11] He wanted "to allow the electronic phenomenon [. . .] to perform and thereby to facilitate awareness" (Vostell 1970).[12] As he added: "I have made efforts to have the electronics not only coming out of the loudspeaker, but to allow

[11] "Ich möchte durch meine Arbeit bei Ihnen [den Menschen] Widerhaken im Bewusstsein hinterlassen, so dass sie die chaotischen Zustände schärfer beurteilen und sich entsprechend gegen sie verhalten" (Vostell 1970, p. 2).

[12] "Ja, ich möchte das Phänomen Elektronik [. . .] praktizieren lassen und dadurch Erkenntnisse vermitteln" (Vostell 1970, p. 5).

Fig. 14 Cabinet containing the audio technology shown after adaption in 2008, condition in 2019 (Photo: © VG Bild-Kunst, Bonn 2021)

them to be directly influenced by people's behaviour. In other words, the people are responsible for the generated sound: a system or composition has not been imposed upon them, instead everything can be electronic, the chewing of gum is electronically amplified, as is also the sound of 10,000 spoons and forks; in addition, the public can choose whether to create sinus tones by walking past the photoelectric sensor; they can experience each element separately, or all the element simultaneously. As regards the composition it is left to the visitor's own initiative, as ít is usually only practised in Happenings and no other art form today" (Vostell 1970).[13]

[13] "Ich habe angestrebt, eben nicht Elektronik nur aus Lautsprechern kommen zu lassen, sondern sie direkt durch Verhalten der Leute beeinflussbar zu machen. Das heißt: die Leute sind selbst verantwortlich für die Klangerzeugung, es wird ihnen kein System, kein Kompositionsschema aufoktroyiert, sondern alles kann Elektronik sein, das Kauen eines Kaugummis wird elektronisch verstärkt, dazu der Klang von 10.000 Löffeln und Gabeln, dazu ist dem Publikum überlassen, Sinustöne herzustellen, in dem es durch Fotokontakte läuft, es kann also jedes Element einzeln erfahren oder erleben, es kann aber auch alle Elemente gleichzeitig erleben. Von der Komposition her ist dem Betrachter wirklich eine Eigeninitiative überlassen, wie sie eigentlich nur im Happening praktiziert wird und in keiner anderen Kunstform heute" (Vostell 1970, p. 5f).

By inviting the visitor to walk through the environment Vostell allows him/her to be a part of the artwork: "Memories of the concentration camp in Auschwitz, but also of prison camps of the present are evoked. He allows the visitor to experience fear, stress, confinement and noise, and prompts reflection: How does it feel to be at the mercy of others? At the same time the visitors generate the noise themselves by walking and thus contribute to this unbearable situation. In this manner Vostell addresses the question of individual responsibility for death and pain."[14]

All stakeholders agreed that the environment can only be fully experienced if accessibility is guaranteed, and all component parts are in operation. The threatening barbed wire border-fencing, the visitor's uncertain step over the erratically spread-out cutlery and the bearing of the weighty historical suitcases support the intended association with prison camps, suppression and flight. Previous iterations of *T.E.K.* differ with regard to the dimensions of the space, the number of metal posts as well as the number of aisles enclosed by barbed wire (Figs. 1, 3, 6 and 7). Specifications by Vostell are not known. Whereas in Cologne, Paris and Berlin the work was displayed in rooms with white walls, Museum Ostwall chose to exhibit in a room with grey painted walls, which were familiar to Vostell.

Both the material and the inherent aesthetics of the suitcases, as well as the guarantee of their functionality, seem essential for an authentic experience of the artwork. As the sound technology in the suitcases is not visible, it is attributed a functional role. However, the situation is different for the visible historical loudspeakers and switches on the suitcases, because in addition to a functional value, they also have an aesthetic and a historical relevance. The temporary playback of radio sequences or the generation of sinus-like noise interference in the suitcases, so far activated by three to ten spots is also assigned fundamental relevance. The microphone and the transmission technology necessary for the transmission of the chewing noises, as well as the receiver and the playback equipment concealed from view in the cabinet have primarily a functional relevance. The noises generated by this process were particularly loud, according to witnesses.[15] The acoustic quality was determined by the historical transmission technology that sent signals to a radio, after which they were increased by a tube amplifier attached to an external loudspeaker.

It is not known whether Vostell intended more than one visitor at a time to enter the environment. As five suitcases and five transmitter microphones originally belonged to the work, the stakeholders assumed that at any one time up to five visitors could enter the environment with chewing gum, a microphone and a suitcase. However, subsequent examination of the technical equipment in the cabinet revealed that with the existing construction it is technically impossible to simultaneously transmit multiple chewing noises to one radio receiver. This ranged from disturbance to overlap and interference, which disrupted, weakened or obliterated

[14] Nicole Grothe, personal communication, April 2019.

[15] Winfried Reckermann, personal communication, August 2019.

the chewing noise. Nevertheless, it cannot be ruled out that more than one person was permitted to enter the environment at any one time.

Wolf Vostell visited all the described iterations except the last one in the Dortmunder U from 2010 to 2019. It is not known whether he disassociated himself from any of these presentations. The stakeholders therefore assumed that for *T.E.K.* there are different desirable states that correspond to the meaning attributed to the artwork and that transmit its significant properties. All the well-known press and archival photographs of the various iterations (1970, 1971, 1974 and 1975) show Vostell with the transmitter microphone against his cheek, suggesting that he considered the chewing gum component to be a significant property. As Peter Saage fitted the sound module with the train noises into suitcase 5 only after Wolf Vostell's death, he could not have authorized this change.

Based on the research results, the project participants assume that the following parameters are required for the authentic experience of Wolf Vostell's environment:

1. The work should be installed in a defined rectangular space, measuring *c.* 60–70 m^2 and dimly lit. Narrow aisles should be created by the parallel arrangement of several barbed wire fences with *c.* 30 posts, at least one of these barbed wire fenced-in aisles should be accessible to the public. A large amount of cutlery should be spread out irregularly across the floor (c. 10,000–13,000 pieces).[16]
2. Chewing gum as well as functioning transmitter microphones and suitcases will be made available to the visitors, so that they can enter the environment as prescribed by the artist instructions.
3. The chewing noises generated by the visitors will be played back loudly in the room. In addition, a radio programme or audio feedback whistling noise will be activated in the suitcase by several sensors when being carried through the environment.

5.5 Step 5: Discrepancy?

Step 5 determines whether there is a discrepancy between the artwork's current and desired state, thus addressing the issue of conservation and presentation. During the process different values are considered, such as authenticity, aesthetic and artistic values, historicity, functionality, the artist's intent and potential future changes.

According to Vostell's statements and in the opinion of the stakeholders, there is a significant discrepancy between the desired and the work's latest state of presentation (2019). The intention articulated by Vostell to offer the visitors different possibilities of interaction and to actively explore and experience the environment

[16] In the exhibition catalogues (Leppien 1970; Museum am Ostwall 1972; Merkert and Vostell 1975; Weibel 2016) the specifications regarding the amount of cutlery varies from 10,000 to 12,000 and 13,000 pieces.

is significantly reduced. The discrepancy appears to be evident in the following aspects:

5.5.1 The Suitcases

Only four of the five suitcases conceived by Vostell have been preserved and are partially functional. Their impact is limited due to a change in their functionality, their worn appearance, and visible interventions. The sound module fitted into suitcase 5 in 2008 generates noises of trains and a level crossing, while Vostell's instructions and earlier reports describe sinus noises. The train noises and the warning signals, in combination with the historical suitcases and the barbed wire fencing, emphasise associations with deportation during National Socialism's reign in Germany, so that the change can be viewed as a distortion of the interpretation of the work. The noises of the sound module affect both the identity of the work and its impact on the visitor. In other words, all stakeholders agreed that here is a considerable discrepancy between the intended state and the current state.

5.5.2 The Chewing Gum Component

No chewing gum was provided nor was a transmitter microphone available to send chewing noises to a receiver radio that played back the noise out loud in the room via an amplifier and a loudspeaker. Vostell's instructions were not made accessible, so that the intended function and the corresponding spectrum of interaction were neither made possible nor explained. This component was, as indicated by the title, of great importance to Vostell, and without it the artwork is considered incomplete and precludes an authentic experience.

5.6 Step 6: Conservation and Presentation Options

The following options were suggested for the conservation and presentation with the aim of reducing the discrepancy between the current and the desired state and of realising a presentation of the work in 2022. A decision for or against one of these options will require further tests, including a trial installation. The options suggested by the stakeholders range between two extremes, whereby either material integrity and the age of the work are given priority, locating *T.E.K.* in the year of its creation 1970, or variables, updates and references to the present are emphasised (Stigter 2017). Many other options oscillate between these two poles that allow changes up to a certain degree. Below we summarise a selection of these options as discussed by the participating stakeholders.

5.6.1 Space and Interaction

Earlier presentations of *T.E.K.* with one accessible aisle (1972), two accessible aisles and an ambulatory (2010–19) or four singly accessible aisles (1970) could be drawn on again. Individual preferences were articulated by the stakeholders. Accordingly, a large rectangle of *c*. 60–70 m^2 defined by the museum building or a temporary space could be arranged with at least two rows of fencing, each with about 13–15 posts, or three rows with about 8–10 posts parallel to the long sides of the room. Access to an aisle fenced in on both sides must be made available to the visitor from one or both ends of the room. Stakeholders also considered that the spoons and forks should irregularly cover the entire floor. In past iterations different proposals were made regarding the character of the walls and their colour, either white or grey reflecting their presence and the lighting in the environment. The lighting should be dimmed. Safety aspects and emergency exits, including the relevant signs are to be accounted for according to current guidelines.

In order to make it possible for the visitor to explore the environment in accordance with Vostell's intention it was proposed to display the artist instructions from 1970, for example on a wall panel or reproduced as a leaflet. The exploration of the environment could be: (a) at the visitor's own initiative. That would entail switching the suitcase and the microphone on and off, attaching, removing, and cleaning the microphone, the distribution of the chewing gum as well as access; or (b) in accordance with the artist instructions assisted by a museum guard, who would hand out the suitcases and microphones, collect and clean them and ensure that the visitors enter the aisles separately.

5.6.2 The Suitcases

Conservation of the Suitcase Shells and the Sound Technology With the aim of showing the suitcases as close to their original state and of making them operable using the original technology, this option gives priority to the conservation and reuse of the original suitcase shells. Defective historical elements of the sound technology could, if possible, be repaired or replaced by almost identical components.

Conservation of the Suitcase Shells and Migration/Emulation of the Sound Technology With a view to show the suitcases as close to their condition in 1970, to guarantee functionality, while keeping costs and maintenance low, the historical suitcase shells could be reused, but for functional purposes they would require the addition of a modern electronic control box and a new radio. The original sound technology would remain in the suitcase as a historical reference.

Preparation of a Display Copy of the Suitcases and Emulation of the Sound Technology Exhibition copies could be produced with a view to guarantee a sustainable functionality and exclude the risk of further damage to the historical suitcases from usage. The sound technology which is not visible could also be

replaced by modern elements. Moreover, activation of the sound elements could be optimized by using modern infrared emitters (installed next to the light bulbs), which would allow a smooth operation regardless of the light source and general light levels in the room.

The original suitcases could be: (a) exhibited as inoperative relics and where appropriate accompanied by information about their history and original construction or (b) kept in the storage room. The following options were suggested for suitcase 5: (a) to reinstate the original operating function (audio feedback), and (b) emulation of the original operating function by attaching a new sound module that plays back the audio feedback noises.

The choice of radio station influences the temporal context in which the visitor locates the work. Here several options are also available that give *T.E.K* a more or less pronounced relevance for the present: (a) a contemporary radio station that plays pop music, (b) one that plays classical music, (c) a contemporary news station or (d) a recording of historical news broadcasts from the 1970s.

5.6.3 Transmitter Microphone, Receiver and Playback Technology

Transmitter (a) Reconstruction: due to the missing microphone capsules, the amplifier and the receiver, as well as their documentation, it would be possible to realise a reconstruction of the unit used in the 1970s only on the basis of a general history of technological knowledge and the availability of the historical electronic component parts. (b) Migration: this option aims at upgrading the transmission technology and the application of common and safer technologies, like for example headsets, their appearance identifying them as modern additions. (c) Emulation: with a view to locating the sound technology aesthetically in the 1970s, the microphone capsules could be reconstructed and fitted with modern microphones and transmitters.

Receiver and Playback Technology (a) Conservation: with a view to preserving the optical and acoustic quality of the historical receiver and playback technology, the equipment inside—even though it was prone to failure—could continue to be used, if regularly maintained. Furthermore, the visual appearance of the cabinet could be adjusted to approximate the condition in 1970 or remain in the condition from 2008 after it was adapted by the assistant. (b) Migration: this option pursues a transmission and amplification of the chewing noises with as little disturbance as possible using receiver and playback technology that is synchronized with a modern transmitter microphone. The tube amplifier and the loudspeaker could be enhanced by fitting new low maintenance and user-friendly units. (c) Partial-Migration: this option also aims for a steady transmission of the chewing noises using a selected transmitter microphone and synchronized receiver and amplifier. However, unlike option (b), this option seeks to reuse single components, like for example the original loudspeakers. We also discussed further options, such as exhibiting the environment as a relic or preserving the current functionality (including the sound module added by

Peter Saage); but as they do not contribute to the reduction of the discrepancy between the current and the desired state, they will not be specified here.

5.7 Step 7: Considerations

Step 7 pertains to weighing the elaborated options—anticipating possible implications and potential risks. Therefore, several assessment criteria are taken into account that weigh differently from case to case, depending not least on the specific point of departure. The disclosure of the valuation process aims to help decision-makers, peers and future custodians to understand its outcomes, especially as these often result in some form of compromise. The challenge of weighing the specified options for the conservation and presentation of *T.E.K.* lies particularly in the consideration of the multiple parts of the interactive components. While several elements were adapted in the past or updated, other components have been missing for decades. A readaptation or an attempt to reconstruct the missing components involves the risk of increased estrangement and with that a growing discord regarding the authentic effect and experience. Below we present and explain various selected aspects of the consideration process.

5.7.1 Space and Interaction

All stakeholders give preference to the installation of *T.E.K.* in a separate room, measuring at least 6.5 × 8.5 m. Different preferences were expressed with regard to the exact arrangement, but it was agreed that there should be two accessible aisles, fenced in on both sides, consisting of 3 rows of fences, each with about 8 to 10 posts. Furthermore, it was decided that there should be a circular access allowing the visitors to enter one aisle and return through the other, providing a longer and more intense experience. This will be tested in a trial installation.

All stakeholders consider it essential to communicate Vostell's instructions. Moreover, the curator formulated the idea of conveying Wolf Vostell's intended chains of association in the form of quotations. The participants all supported the idea of a museum employee overseeing the use to ensure both the safety of the visitor and an authentic experience of the work, as well as to protect the component parts from improper handling and wear. Depending on access possibilities and safety requirements the employee should make sure that not too many visitors enter the environment at any one time, hand out the suitcases and microphones, collect and clean them and dispose of the used chewing gum. Select information about the history of the work should also be made available to the visitor, possibly in the form of special tours.

5.7.2 The Suitcases

Conservation or Preparation of an Exhibition Copy? The suggestion to replace the original suitcases with exhibition copies to protect them from further wear aroused controversy among the stakeholders, provoking long discussions: the manufacture of copies seemed technically feasible, as they were commercial suitcases which had only been partially adapted by Vostell with the addition of openings, a grille, a protective film and switches. By using copies, the originals could be maintained in their current state, it would not be necessary to equip them with new components and their wear would be considerably less. At the same time, conservators expressed the concern that the original suitcases may be forgotten once the copies were installed. The curator suggested exhibiting the original suitcases in an anteroom as a relic, conveying their historical functionality, but other stakeholders thought that working merely with "copies" could give visitors the sense that their experience of the environment was compromised. The visible display of the suitcases fitted with technical equipment could also take away the element of surprise associated with activating the sound. The stakeholders finally agreed that the option of displaying the inoperable original suitcases in the environment and using the copies offered a possibility to preserve the original cases unchanged, while at the same time guaranteeing an experience of the environment that is both low maintenance and economic.

This suggestion led to a debate about the parameters to be considered by the manufacture of the copies. Should the copies correspond with the original suitcases in size, construction, shape and colour or could modern cases fulfil the function? Whereas from the curatorial perspective the necessity for a close match between the original and the copy was emphasized, conservators discussed how close the approximation needs to be, considering that the room would only be dimly lit, and also considering technical limitations and financial constraints. It was assumed that Vostell probably acquired five new suitcases for the environment in 1969. At the time, however, they were hardly the latest models. It is not known whether Vostell acquired the older models deliberately or for financial reasons. Today these historical suitcases may kindle associations with concentration camps, deportation or flight. Modern or contemporary suitcases (trolleys) would abruptly transfer the work to the present day. Finally, then, it was unanimously decided to acquire or rebuild cases of a similar design to avoid this obvious contemporization. This included all other visible elements, like the loudspeaker enclosure, the grille and the switches. All participants agreed that a trial installation was necessary to finally decide whether the work could be presented with such copies of the suitcases. For this purpose, a single suitcase was manufactured, tested and evaluated. Design and size of the copy, including the scanned and reprinted surface pattern in colour and gloss came very close to the original suitcases. The stakeholders were not able to distinguish them on first sight. All decision-makers, including Rafael Vostell who initially suggested to enclose the original suitcases in acrylic cases to protect them from further wear as a result of the test, strongly supported the production of five exhibition copies.

Reconstruction or Migration of the Sound Technology? To fulfil the initial aim of a low maintenance functionality, the stakeholders agreed that, taking previous operative parameters into consideration, the audio technology should be replaced by modern technology using rechargeable batteries. As it is not known which radio stations were played back from the suitcases, participants suggested different possibilities. Broadcasting a modern pop radio station and locating it in the present is supported by Vostell's wish to "embed barbed hooks" in the visitor's conscious mind. At the same time, by introducing a contemporary radio station there is a risk of negating the age of the environment. The choice of a station with classical music or news like Deutschlandfunk Kultur was viewed as a compromising solution, whereby political and cultural programmes, but also music and radio plays, would be broadcast without commercial breaks. The suggestion to play back recordings of broadcasts from the 1970s via the suitcases was also a subject of controversial discussion due to a feared temporal emphasis on the past. Playing back historical broadcasts fosters the location of the work in the time of its creation, the time of the Vietnam War, but at the same time it hinders the localization that Vostell wished to establish in the present. Therefore, as no agreement was achieved in the extended discussion, it was decided to compare several contemporary radio stations and historical recordings within a trial installation, and possibly to follow Rafael Vostell's suggestion of playing back different radio stations in the suitcases.

The realisation that the train noises were not the original noises generated by suitcase 5 surprised all the participants. In the last ten years these train noises (introduced by Peter Saage) had become integrated in the narrative of the environment and were interpreted and relayed as a reminder of the deportation to concentration camps. The most urgent desire for the exhibition copy of suitcase 5 was that the audio feedback be reconstructed to reproduce the sinus-like whistle. Whether this whistling sound can be produced live in the future or should be recorded and played back will be considered within the context of a trial installation.

The option of activating the sound elements with modern infrared emitters (IR-LEDs) instead of traditional incandescent light bulbs initiated another discussion. Whereas the artist, some conservators and some technicians initially considered this optimization as inappropriate, curators and other conservators emphasized the resulting positive aspects such as the operability of the suitcases, considering the more subdued illumination of the environment, the different entrance positions as well as the possibility of switching to LED lighting in the future. As a result, it was decided to use IR-LEDs, as well as continued employment of IR-sensors with a wider spectral response to enable the implementation of an earlier operation mode if requested.

5.7.3 Transmitter Microphone, Receiver and Playback Technology

As the transmitter microphones did not survive, the challenge is to develop a sustainable solution for recording, transmitting, amplifying, and playing back the

chewing noises that will be acceptable to the visitors while observing the attributed aesthetic and historical values.

Migration or Emulation of the Transmitter Microphone? If *T.E.K.* were to be localized in the 1970s the reconstruction of the transmitter microphones used at the time would be desirable. Their approximate form could be reconstructed on the basis of historical photographs, but not the technical elements as the transmission technology used is not adequately documented. From the aesthetic point of view emphasized by conservators, it would be preferable to work with microphone capsules with a decidedly historical look, rather than use, for example, a modern, commercial headset. However, all the stakeholders gave priority to the function, or, in other words, that the playback of loud chewing noises is guaranteed. Common headsets or contact microphones (migration) would clearly localize the recording and transmission of the chewing noises generated by the visitors in the present and in addition guarantee a hygienic, interference-free and sustainable transmission. Considering that by 1970 the first headsets and Lavallier clip-on microphones by the company Sennheiser were already available on the market, it would seem reasonable to optimize the technology. Alternatively, the option was discussed of using modern microphones in reconstructed microphone capsules, which visitors would then, according to Vostell's instructions, attach to the side of their cheeks with a plaster (emulation). This option would guarantee both an aesthetic localization in the 1970s and functionality. The question of whether visitors would in fact attach the microphone capsules to their cheeks in accordance with Vostell's instructions remains unanswered. In the case of the two options using modern transmission technology, the previous noise interference would be eliminated. It was therefore discussed whether the interference should be simulated. Various new transmitter microphones will be tested in a trial installation.

Reconstruction or Migration of the Receiver Technology? All the decision-makers agreed that the cabinet built in 1971 to contain the audio technology, which had since been adapted, should remain part of the environment. In alignment with the modern transmission technology the original radio receiver should be replaced by a modern receiver device, but not removed. It was also insisted by the museum technicians and the conservators that the tube amplifiers be disabled for fire safety reasons and an additional modern amplifier be fitted in the cabinet. As the inherent characteristic noise of the tube amplifier would then be lost, this prompted a discussion to address the possibility of simulation. Aesthetic considerations remain regarding the different shape of the loudspeaker enclosures introduced by Saage in 2008 and whether they should be dismantled (Figs. 13 and 14). The grey painted cabinet casing, positioned at the edge of the dimly lit room on the other hand, is barely perceptible to the visitor and therefore reversing the intervention made after the water damage was not contemplated. However, an additional plan is to place a charging unit next to the cabinet for the batteries in the suitcases and the microphones.

5.8 Step 8: Conservation and Presentation Strategy

In the strategy for the conservation and presentation of *T.E.K.,* while considering the numerous changes and uncertainties neither the age, the material integrity nor the variability and contemporization are given undue priority. After extensive discussions, the stakeholders agreed that in consideration of the historical, aesthetic and functional value of the suitcases, the idea of deactivating them and manufacturing exhibition copies as well as their activation with IR-LEDs was appropriate. This also ensured that the original suitcases could be preserved unchanged as a reference for future interventions. This approach would also allow the decision to be reviewed in the future. Likewise, the sound module, which can be interpreted as part of the work's biography, ought to be deactivated and fitted with new technology to represent the audio feedback loop produced by the original control system. Playing a contemporary and yet moderate radio station complies with Vostell's intention of locating the environment in the present, and by upgrading to modern headsets to transmit the chewing noises, it might even be given visual expression. However, emulation of the original transmitter microphones also seemed plausible to several stakeholders. Everyone considered that the chewing noises, which had not been heard for fifty years, should be transmitted using new technology, because they are an integral part of the title. With this approach the participants seek to give equal significance to both the materiality and the history of the work, taking aesthetic, functional and economic aspects into account, as well as sustainability. Ultimately this plan requires a compromise that concludes with the proposal of different solutions for each component. The final strategy for conservation and presentation can only be determined after further tests and trial installations. As none of the participants ever experienced the environment in its original functionality and as no reports, installation instructions, film footage or floor plans are known, a trial installation may significantly enrich the stakeholder's understanding of the artwork. Experiencing the artwork's performative aspects offers the prospect of establishing parameters for the floor covering, the width of the aisles, the lighting, while also helping to further specify the optical, acoustic, tactile and interactive parameters, as well as to test and evaluate the technical viability of different options.

6 Conclusions

The case study shows that the revised model serves to structure complex decision-making processes with multiple sub-aspects, to document the various opinions held by the stakeholders and to contextualise and give transparency to interpretation. With the new Step 1 (point of departure) a stronger focus is given to the involved stakeholders, their different professional and cultural backgrounds as well as the varying viewpoints. This reflects the concept of perspectivism as well as dynamic processes within a group which may influence decisions and could therefore

significantly affect the biography of the artwork. In addition, the model's glossary mirrors current discourses and thus serves communication and understanding considering the different backgrounds of the stakeholders. Through detailed research and examination of the preserved elements, it proved possible to ascertain various influencing factors that informed the biography of *T.E.K.* and directly affected its identity. The study illustrates that Vostell, beginning with the work's conception through the first presentation in Cologne and to its acquisition by the museum in Dortmund, adapted the work several times, seeking to optimise it in collaboration with his assistant. In the decades after the work's inception, an increasing discrepancy emerged between the original idea and the different iterations. For one thing, the chewing gum component in the title was almost forgotten, whereas the sound-module with train noises introduced after Vostell's death by his assistant became incorporated into the narrative of the work and was soon viewed by curators as an integral part of it. *T.E.K.'s* current state could only be determined from the results achieved by combining detailed biographical research with a technical examination of its component parts.

With a view to reduce the discrepancy between Vostell's intention and the current state, different options for conservation and presentation of *T.E.K.* are available. The participating stakeholders are all of the opinion that the political work even fifty years after its creation can be orchestrated, in accordance with Vostell's ideas, "only in Happening" (Vostell 1970). At the same time the dilemma was recognized that due to a lack of information, e. g., about the original audio components, the interaction and experience would be altered and optimized in a new way. Here the individual perspectives and interpretations of the stakeholders brought about a more comprehensive understanding, resulting in a discussion of more options and thus shaping the decisions, while some were delayed to a trial installation. In consideration of economic factors, the migration of defective, obsolete (and not visible) component parts was accepted to allow for low maintenance functionality, even though the original technology probably never functioned reliably, and the inherent characteristic interference noises might disappear. Since it is not consistently possible to draw on familiar technical procedures for the conservation of single components, while some of the proposed options can only be implemented after an installation to assess their functionality and effect, the revised decision-making model encourages users to return to earlier steps to suggest new possible solutions and to re-test and re-assess them in a dynamic decision-making process. The application of the enhanced model in this case study demonstrated that the framework may serve to structure decisions in conservation and presentation with a series of complex considerations and a rich spectrum of options. It may help to structure and weigh up arguments, to justify decisions and to make the documentation more comprehensible. There is no doubt that with new artistic forms of expression and future discourses in conservation the model needs to be re-examined and, where appropriate, further developed.

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Gunnar Heydenreich is Professor for Conservation of Modern and Contemporary Art at the Cologne Institute of Conservation Sciences (CICS)/Technische Hochschule Köln. He studied conservation of paintings at the Hochschule für Bildende Künste in Dresden and he gained a PhD from the Courtauld Institute of Art, London. From 1995 to 2009 he was head of paintings and contemporary art conservation at the Restaurierungszentrum in Düsseldorf. He was a founding member of the International Network for the Conservation of Contemporary Art (INCCA) and co-organiser and participant of several European research projects on the conservation of contemporary art: *Inside Installations*, *PRACTICs*, *NeCCAR*, and *NACCA*. He is head of the Cranach Digital Archive (lucascranach.org) at the Kunstpalast in Düsseldorf.

Andrea Sartorius is a conservator of contemporary art at Nationalgalerie im Hamburger Bahnhof, Museum für Gegenwart, Berlin. Previously, she was the conservator at Kunstmuseum Wolfsburg (2009 – 2020). She holds an MA in conservation of paintings from the Hochschule für Bildende Künste, Dresden, Germany. She completed post-graduate internships at the Hamilton Kerr Institute (Cambridge UK) and The J. Paul Getty Museum (Los Angeles), and she won a fellowship in media art conservation at Bek & Frohnert LLC (New York). From 2017 – 2021, she worked as a research associate for the Cologne Institute of Conservation Science (CICS), focussing on decision-making in contemporary art conservation.