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An Interactive Biography of the Survivor or a Survivor's Hologram? Novel Methods of Collecting Holocaust Oral Testimony and Their Determinants

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Abstract: This article aims to discuss the Dimensions in Testimony project, designed and launched by the USC Shoah Foundation to establish a novel approach to collecting oral testimony. The Foundation's project was initially presented to a wide audience, especially by the U.S. press and researchers, as involving the creation of witness holograms. Unfortunately, this is not the case. Misdescribed by media outlets as based around holograms, this USC Shoah Foundation initiative looks, at least for the moment, to create two-dimensional images based on a long recording process and hours of in-depth interviews. Nevertheless, the project is bound to shape the future of Holocaust testimony and oral history itself. The key challenge for its authors remains to explain what the project actually is and to develop the concept of interactive biography, a name proposed by Stephen Smith, but not fleshed out enough in any academic articles in the author's opinion. Consequently, this paper aims to discuss the USC Shoah Dimensions in Testimony project as a collection of interactive biographies, with particular emphasis on what an interactive biography is, as well as formulate a definition and propose alternative terms. For this purpose, the author proposes an interdisciplinary approach. To define interactive biography, this article will necessarily describe the mechanisms governing the project, the technique for displaying two-dimensional recordings of survivors, and how this aforementioned interactivity operates in the encounter of two-dimensional images of survivors and the recipients of their testimony. Finally, this paper will also look to answer attendant questions, including whether the project works as a

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post-memory tool for sharing survivor stories, and how are the survivors expressed in a digital tool.

Keywords: survivor; Holocaust; interactive biography; USC Shoah Foundation; dimensions in testimony; digital turn

1 What's Next after Telepresence

The digital turn (see Junge et al. 2012) has prompted a veritable flood of digital testimonies, along with high hopes about improved availability of the stories that Holocaust survivors still have to tell. However, these developments have also raised ethical concerns over the treatment of newly-captured recordings and footage. *How do we reconcile the tension between the growing need for accessible and engaging testimony repositories and objections concerning the use of technological solutions vastly different from prior collection formats?* Walden and Marrison (2023) claim that:

> Holocaust education and memory developed within and alongside the so-called broadcast era of seemingly fixed, closed texts. Once a novel is published or a film released, the production process is over. However, digital Holocaust education and memory are complex, iterative processes which never cease to be in development – not just at a project or "text" level, but as an ever-expanding network of potentially connected assets (cohesive "texts" are no longer the best way to conceptualise such work).[1]

Repeatedly testing novel ways of approaching difficult history over the years, the culture of commemorating the Holocaust has been trying to stay ahead and make arrangements for the inevitable passing of the survivors. We find ourselves living in a time of transition, marking the passage from living memory of the Holocaust to a memory that is mediated (see Young 1993). As we enter the era of the "material witness" (see Schuppli 2020), centering artifacts and new media, we must ask ourselves whether the presence of the human witness is still necessary. I do not imply by any means that these objects will replace living witnesses, but it is inevitable that as the years go by, the memory of the Holocaust will be increasingly supported by these objects. Thus, at that point, it must be asked whether survivors' physical presence/absence actually change anything. Retracing existing or past methods of framing their presence (interview → video recordings → public survivor

1 Victoria Grace Walden and Kate Marrison, *Recommendations for Using Artificial Intelligence and Machine Learning for Holocaust Memory and Education*, REFRAME, 2023, accessed February 19, 2023, https://reframe.sussex.ac.uk/digitalholocaustmemory/files/2023/01/AI-and-Machine-Learning-Guidelines.pdf.

appearances → interactive biographies → virtual reality) raises the question of what the next step in the effort to preserve the memory of the Holocaust for future generations actually looks like. "The cosmopolitan Holocaust memory of the new millennium is synonymous with digital technology," (Kansteiner 2017, 331) and recent years have indeed produced a variety of digitally advanced initiatives with a global reach (see Levy and Sznaider 2006) looking to preserve both testimony and former camp grounds.[2] Stefania Manca argues that "Due to technological transformation and the increasingly mediated nature of communication, digital memory is progressively becoming 'unanchored' from localised contexts, making both individual and collective memory timeless and spaceless" (Manca 2021, 31). For example, the USC Shoah Foundation's educational website called IWitness[3] offered free access to over 1350 survivor and witness testimonies.

> Secondary school students and teachers may search, watch, and interact with testimonies to construct multimedia projects in a secure, password-protected space. […] Users need only an Internet connection; all of the tools are self-contained on the server and are compatible with Macs, PCs, iPads, and tablet devices, although video editing requires a Flash-enabled device (Haas et al. 2015, 107).

As the last of the survivors pass away, Holocaust education has been increasingly reliant on new forms of preserving Holocaust memory and certain media forms based on digital technologies have been developed to produce engaging, simulation-like experiences of reality and people already gone from the world. *New Dimensions in Testimony* is undeniably a key component in an emerging ecosystem that will shape Holocaust memory[4] and define the direction followed by academia and research circles. Officially renamed USC Shoah Foundation *Dimensions in Testimony* in 2018, the project is a joint initiative of the USC Shoah Foundation and the USC Institute for Creative Technologies,[5] tasked with supporting the mission of the

2 See, for example, "Eva Stories," accessed October 1, 2022, [online:] https://www.instagram.com/eva.stories/?hl=pl; USC Shoah Foundation, "The Last Goodbye," accessed December 20, 2022, https://sfi.usc.edu/lastgoodbye.

3 "IWitness," accessed January 20, 2023, https://iwitness.usc.edu.

4 Here, I would like to refer the reader to recently published reports and recommendations authored by the research team headed by Dr. Victoria G. Walden, see "Digital Holocaust Memory and Education – Recommendations," accessed February 2, 2023, https://reframe.sussex.ac.uk/digitalholocaustmemory/digital-holocaust-memory-and-education-recommendations/.

5 The project brought together the Illinois Holocaust Museum and Education Center, the USC Institute for Creative Technologies, and Conscience Display. It was funded by the Pears Foundation, Louis. F. Smith, Melinda Goldrich and Andrea Cayton (Goldrich Family Foundation), the Illinois Holocaust Museum and Education Center, and Genesis Philanthropy Group (R.A.). The CANDLES Holocaust Museum and Education Center was a key project partner. See "*Dimensions in Testimony*," *accessed February 15, 2020,* http://sfi.usc.edu/dit.

Foundation established in 1994 by Steven Spielberg. The project is focused on further recording of genocide survivor testimonies, not in the form of video footage, but rather an interactive biography, based on a question and answer framework that enables (illusory) interaction.[6] The two-dimensional visuals captured by the project are then incorporated into museum displays and exhibitions exploring the Holocaust or other genocides that the testimonies pertain to.[7]

These new representations of the survivors draw from their speaking engagements, public appearances, conversations, appearances on educational programs, and school visits.[8] They are, at their core, a product of the survivors' decades-long public efforts to preserve memory and their own personal stories. They are rooted in the intention to maintain the storyteller-listener relationship, which has been waning in the wake of the survivors' dwindling numbers and the imminent end of the period that Annette Wieviorka has famously dubbed the "era of the witness" (Wieviorka 2006). Wieviorka herself wrote that the visuals produced by Spielberg's foundation are to be:

> [...] digitized and indexed. On the technological cutting edge, these digitized testimonies are supposed to become available on a server, so that the young people whom the Spielberg project hopes to educate can consult extracts from these testimonies on their computer screens with the help of an index. They will also be able to consult all sorts of related information: the witness' family archives, photos related to the events the witness describes, a map indicating the site of the camp or ghetto in question, and so on. It is clear that we have come a long way from the clandestine writings of the ghettos […]. What will the testimonial landscape look like if and when new technologies of dissemination become ubiquitous? (Wieviorka 2006, 88)

This project goes a step further by giving the survivors a "presence" (see Papier 2022). To the survivors themselves, the initiative appears to be an opportunity to remain, so to speak, and reach an even broader audience without the need for continued public

6 I explored the history and character of the project in "'Hologram' of the Survivor. Recognition," see Sylwia Papier, "'Hologram' of the Survivor. Recognition," *View. Theories and Practices of Visual Culture* 33 (2022).

7 For example, a recording of Nanjing Massacre survivor Madame Xia, interviewed in Mandarin, was unveiled at the commemoration ceremony marking the 80th anniversary of the event at the permanent exhibition of the Nanjing Massacre Memorial Hall in Nanjing, China. See "Madame Xia," accessed April 21, 2020, http://sfi.usc.edu/dit/interviewees and "First Mandarin-Language New Dimensions in Testimony Exhibit Premieres at Nanjing Massacre Memorial Hall," accessed April 21, 2020, http://sfi.usc.edu/news/2017/12/20506-first-mandarin-language-new-dimensions-testimony-exhibit-premieres-nanjing.

8 See "The Who, Where, Why and What about Dimensions in Testimony," accessed January 17, 2021, https://sfi.usc.edu/dit/faq.

appearances. During our interview for the Forever Project (FP),[9] survivor Joan Salter[10] told me: "I have been speaking for over 30 years and travelling all over the place has become tedious. I had hoped that this project would enable me to "continue speaking" without having to give a live performance."[11]

What makes the USC Shoah Foundation's Dimensions in Testimony different compared to previous recording-based projects and what opportunities does it offer witnesses, creatives, and recipients of these testimonies?

2 Interactive Biography as a New Method of Holocaust Education

One of the first articles that appeared on the subject of survivors' holograms was Stephen Smith's announcement that oral history turned holographic, in which he explains the process of recording and displaying survivors using the example of the first recording: Pinchas Gutter (Smith 2014, 2016). Similarly, the creators and initiators of the project: Heather Maio et al. (Maio, Debevec, and Paul 2012) and Ron Artstein et al. (Artstein et al. 2016) focused on the combination of the new interview content with advanced filming, voice-recognition processing, and display technologies. They elaborate on the development of this technology which allows to capture the sense of meeting with the survivor. Wulf Kansteiner (Kansteiner 2018) reflects on the development of digital memory studies. He claims that the USC Shoah Foundation initiative is a transhuman project which uses (technological) survival strategies to

9 Somewhat similar to the USC Shoah Foundation's Dimensions in Testimony, the Forever Project is an initiative of the National Holocaust Centre and Museum in Laxton. The authors of the project are working closely with the USC Institute for Creative Technologies and the USC Shoah Foundation. See "The Forever Project," National Holocaust Center and Museum in Laxton, accessed March 20, 2020, https://www.holocaust.org.uk/interactive.

10 Joan Salter was born Fanny Zimetbaum in Brussels, on February 15, 1940, to a Polish Jewish family hailing from outside Tarnów. She was rescued from the Holocaust when only three months old – smuggled through France to the U.S., where she and her sister were taken in by a foster family. In 1947, she returned to her parents living in the United Kingdom, where she still lives today. As an educator, she works with the National Holocaust Centre and Museum in Laxton. Salter is also the president of the Child Survivors' Association of Great Britain. In 2018, she was named MBE (Member of the Order of the British Empire) for her efforts in Holocaust education. See "Joan Salter MBE," Holocaust Memorial Day Trust, accessed April 11, 2022, https://www.hmd.org.uk/resource/joan-salter/.

11 Unpublished interview with Joan Salter, conducted by the author of this essay on December 9, 2021.

prolong survivors' lives. As he states, "[t]he holograms are a fantastic attempt to stem the tide of history and decelerate the historicization of Holocaust memory" (Kansteiner 2018, 122). Whereas Paul Frosh (2018) asks how the aesthetic attributes of digital interfaces affect users' ability to respond morally, focusing on the moral obligations of attending to, engaging with, and acting upon digitized Holocaust survivor testimonies. He put an emphasis on mass media ethics, especially on interface attributes for real-time interaction, which enables moral engagement with the witness-survivor. Furthermore, Maria Zalewska (2016) discusses contemporary Holocaust memory, educational aspects of the project, and how technology informs the way we relate to our past. Victoria Grace Walden (2021) analyzes these objects in the context of Digital Holocaust Memory and its future. Alan Marcus et al. (2021) in their article explore the pedagogical challenges and ethical dilemmas related to the use of Interactive Testimonies. These are just some of the articles dealing with the subject from different perspectives, showing the spectrum of the complexity of the Shaoh Foundation project. Thus, further research is clearly necessary as up-to-date studies open new and multiple arenas of discussion, which are to be answered by my research, including this article.

Misinterpreted by the press[12] and by researchers (see, among others: Kansteiner 2018, 110–140; Zalewska 2016, 25–32), aiming to create actual holograms, the USC Shoah Foundation's initiative – at least at this point in time – looks to create two-dimensional visuals through an extended, usually five-day-long recording process, performed alongside an hourslong, comprehensive interview with the witness. "With the [Conscience Display executive director Heather] Maio methodology, the interviewee is subject to a series of questions gleaned from students, teachers and public who have universal questions that could apply to any witness, or specific questions about the witness's personal history."[13]

12 For a selection of articles portraying the USC Shoah Foundation initiative: Associated Press (2019), "Holocaust survivors' stories are being preserved with holograms," accessed March 13, 2020, https://nypost.com/2019/01/14/holocaust-survivors-stories-are-being-preserved-with-holograms/; Braunstein 2017, "At this Holocaust museum, you can speak with holograms of survivors," *Times of Israel*, Jan. 27, 2018, accessed February 12, 2020, https://www.timesofisrael.com/at-this-holocaust-museum-you-can-speak-with-holograms-of-survivors/; Leslie Katz, "Holograms of Holocaust survivors let crucial stories live on," February 11, 2013, accessed March 12, 2020, https://www.cnet.com/news/holograms-of-holocaust-survivors-let-crucial-stories-live-on/.

13 See Smith 2014, "Oral History Turns Holographic," USC Dornsife Center for Advanced Genocide Research, accessed February 20, 2020, https://sfi.usc.edu/blog/stephen-smith/oral-history-turns-holographic. The first Holocaust survivor to be recorded for the *Dimensions in Testimony* project was Pinchas Gutter. The recording process took place in 2014. See Thomas McMullan, "The virtual Holocaust survivor: how history gained new dimensions," *The Guardian*, accessed March 10, 2022, https://www.theguardian.com/technology/2016/jun/18/holocaust-survivor-hologram-pinchas-gutter-new-dimensions-history.

> Holograms, or 3-dimensional videos, do not yet exist. However, research and development is being done at a handful of institutions around the world to develop 3-dimensional video projection, and USC Shoah Foundation has worked with leaders in the field of 3-dimensional video capture, referred to as volumetric capture, to ensure that we are future-proofing our filming so that the Dimensions in Testimony interviews can be projected as holograms when that technology is available.[14]

In its current shape, the project primarily aims to create, alongside already existing recording collections, a new repository of "interactive biographies" mentioned above. Which is why key actors involved, including Stephen Smith,[15] have postulated to use this particular term in analyses of the USC Shoah Foundation's *Dimensions in Testimony* initiative in lieu of the term "hologram." Holograms are only the next step in the project's development roadmap.[16]

2.1 Interactive Biography or Interactive Testimony?

How do the authors of this new initiative define "interactive biography"? Let us begin by retracing the etymology of the term. Recapitulating the long tradition of biographical research exceeds the scope of this essay and attempts at summarizing its sprawling history could never reflect the complex and interdisciplinary character of the field.[17] Consequently, I will restrict myself to bringing up solely the definition that will serve as a departure point for a subsequent inquiry into the nature of interactive biography. In its most fundamental interpretation, a biography describes the life and work of a usually real-life figure: "a treatise of an encyclopedic

14 "The Who, Where, Why and What about Dimensions in Testimony," Dimensions in Testimony, accessed January 17, 2021, https://sfi.usc.edu/dit/faq.

15 Stephen Smith is Executive Director Emeritus of the USC Shoah Foundation Institute. He currently holds the UNESCO Chair on Genocide Education.

16 "USC Shoah Foundation Launches Web-Based Interactive Biography of Holocaust Survivor and Educator Pinchas Gutter on IWitness," USC Shoah Foundation, accessed October 28, 2021, https://sfi.usc.edu/news/2021/04/31101-usc-shoah-foundation-launches-web-based-interactive-biography-holocaust-survivor.

17 A more exhaustive inquiry into the theory of biography, written in Polish, can be found in Anna Całek's *Biografia naukowa – od koncepcji do narracji. Interdyscyplinarność, teorie, metody badawcze*. Also see the issue of *Teksty Drugie* dedicated to biography and the issue of Nowa Dekada Krakowska on author biographies. See Anna Całek, *Biografia naukowa – od koncepcji do narracji. Interdyscyplinarność, teorie, metody badawcze* (Krakow: Wydawnictwo Uniwersytetu Jagiellońskiego, 2014); *Teksty Drugie* No. 1 (Nasiłowska 2019); *Nowa Dekada Krakowska* 2/3 (2018), accessed January 12, 2021, http://nowadekada.pl/wp-content/uploads/2013/03/Nowa-Dekada-Krakowska-2018-nr-2-3.pdf. For important works on the subject in English-language literature, see Paula. R. Backscheider, Reflections on Biography (Oxford: Oxford University Press, 1999); Brian Roberts, Biographical Research, London 2002; C. Rollyson, Biography: A User's Guide (Chicago: Ivan R. Dee, 2008).

character," covering the life of the person in question.[18] In her essay, "Porządki w bibliotece" (*Tidying the Library*), Anna Nasiłowska writes that "biography is a genre addressed to a broader audience, […] on account of its narrative nature" (Nasiłowska 2019), and its pedagogic (Skrzyniarz et al. 2014) aspect is its essential component. An autobiography, therefore, is a particular strain of the biography genre, with the individuals themselves writing the account of their own life. Unlike "biography," it is the other portion of the term in question that demands a more comprehensive elucidation. The term "interactivity" hails from the field of communication. Victoria Grace Walden states that "[i]nteractivity is an umbrella term which seems to cover everything from simply pushing buttons in a museum to radical forms of democratic participatory that attempt to change social order. Holocaust memory has itself long been interactive" (Walden 2021, 278).

Interactus is Latin for "mutual act," and denotes entry into interaction. The biggest Polish dictionary, meanwhile, defines the term through the lens of computer sciences and software, as the "capacity to receive user input and react to it."[19] Finally, a management encyclopedia lists "the capacity for reciprocal action by parties in communication"[20] as the basic meaning. These are far from the only meanings of the term, which has multiple theoretical concepts describing it and several divergent interpretations (Kiousis 2002, 355–383;[21] Downes and McMillan 2000, 157–179; Bucy 2004, 373–383). The aforementioned interactivity[22] has long been acknowledged as a fundamental concept underpinning new media. One of its definitions was proposed by Yuping Liu and L. J. Shrum, whose paper *What Is Interactivity and Is It Always Such a Good Thing?* Drew on a variety of fields, including psychology and social sciences, to interrogate the nature of interactivity and outline the conditions under which it can emerge and exert an influence (see Liu and Shrum 2002, 53–64). The authors begin by bringing up earlier findings on the topic at hand, including

18 See "biografia," *Internetowa Encyklopedia PWN*, accessed January 4, 2021, https://encyklopedia.pwn.pl/haslo/;3877823; "biografia," *Mały Słownik Języka Polskiego*, ed. Elżbieta Sobol (Warsaw: Wydawnictwo PWN, 1993a), 51; "biograficzny," *Mały Słownik Języka Polskiego*, ed. Elżbieta Sobol (Warsaw: Wydawnictwo PWN, 1993b), 51.

19 "interaktywność," *Słownik języka polskiego PWN*, accessed January 19, 2021, https://sjp.pwn.pl/slowniki/interaktywny.html.

20 "interaktywność," Encyklopedia Zarządzania, accessed January 20, 2021. https://mfiles.pl/pl/index.php/Interaktywno%C5%9B%C4%87.

21 See the essay by Spiro Kiousis where he retraces the history of the term in detail.

22 The definition provided in the PWN Polish Dictionary mostly refers to computer science and software as "the capacity to receive user input and react to it," see footnote 34. A more basic interpretation defines it as "the capacity for reciprocal action by parties in communication," see footnote 35.

the conceptual work of Jonathan Steuer, who suggested defining interactivity as "the degree to which users of a medium can influence the form or content of the mediated environment" (Steuer 1992, 73–92) and a "stimulus-driven variable, and is determined by the technological structure of the medium."[23] In their definition of interactivity, Liu and Shrum include the conditions under which it may emerge. They write about three potential ways of defining interactivity, depending on whether it is focused on interaction between two users, a user and a machine, or a user and a message (Liu and Shrum 2002, 54). Then, they suggest another three-pronged taxonomy, this time based on the dimensions of interactivity: active control, two-way communication, and synchronicity (see Liu and Shrum 2002, 54–55). Dominik J. Leiner and Oliver Quiring also point out one aspect of interactivity previously unmentioned here, namely what it means to the user of a medium (Leiner, Quiring 2008, 127–155). According to the authors, it's the effectiveness of producing a reaction, impact on the course of events, responsiveness of new visual objects to input and user control over the communication process that primarily constitute the meaning of interactivity for the user (see Leiner, Quiring 2008, 130).

Drawing on all the theoretical concepts recapitulated above, I formulate my own operative interpretation of interactivity for the purpose of this essay. Herein, the concept is defined as synchronous, simultaneous, and reciprocal action between at least two actants. In this particular case, the interaction will be of the user – machine variety, and manifested for the user in the ability to shape the medium in real time, and for the device in the capacity to receive and process information, and react to input. A key role in this interpretation of the process will be played by the total time[24] of the exchange and the total time it takes for a stimulus to produce feedback.[25] As Stephen Smith added,

> the *Dimensions in Testimony* project is not an attempt to introduce interactivity to Holocaust memory, but rather a project driven by a desire to preserve the interactivity already inherit to listening and responding to survivor testimony. Smith's comment acknowledges that this

23 See Ibid. Furthermore, Steuer drew on a definition of interactivity that applied both to traditional means of mass communication as well as new media.

24 Stauer writes: "Speed of interaction, or response time, is one important characteristic of an interactive media system. […] The actions of a user instantaneously alter the mediated environment. Many new media attempt to reach this level of interactivity, thereby enabling mediated experience to substitute for or amplify perception of the world in real time." Steuer, "Defining Virtual Reality," 86.

25 A separate research article could be written to retrace and interrogate the issue of interactivity as a recent development in museum sciences. See Eleni Myrivili, "Performativity, Interactivity, Virtuality and the Museum," *Museology e-journal*, 4 (2007); Maria Economou and Laia Pujol-Tost, "Exploring the Suitability of Virtual Reality Interactivity for Exhibitions Through an Integrated Evaluation: the Case of the Ename Museum," *Museology e-journal* 4 (2007); Sharon Macdonald, *A Companion to Museum Studies* (Malden, MA: Blackwell, 2006).

> face-to-face learning encounter is already experiential and active, not didactic and passive (Walden 2021, 278).

How then do the scholars behind the Dimensions in Testimony define the interactive biography? The project's authors say that the methodology underpinning the interactive biography concept drew inspiration from the fact that survivors during their engagement with audiences not only told their personal histories but also engaged in "question and answer" sessions. While the concept was fleshed out in *Digital Holocaust Memory, Education and Research* edited by Victoria G. Walden (2021), no efforts have yet been undertaken to exhaustively interrogate its theoretical foundations. An attempt at a definition can be found in the writings on the USC Shoah Foundation website, and attendant findings of Sanna Stegmaier and Svetlana Ushakova, who argue that the interactive biography "enables viewers to ask questions of the survivor and hear responses in real-time, lifelike conversation."[26] The two scholars say that:

> The Russian and German team developed their respective terms separately, they came to similar conclusions regarding terminology. For instance, both teams did not want to reproduce the English term "biography" as its transnational communication lacks the nuances of German and Russian expression, which refer to both the product of the interview as testimony and the role of interviewee as witness to history. The Russian-language team calls the interview "*интерактивное историческое свидетельство*," which translates to English as "interactive historic testimony." Similarly, the German team agreed on "*interaktives Zeitzeugnis*." As a composite of the words "time" and "testimony," the term "*Zeitzeugnis*" has no direct translation in English. Unlike the US concepts of "survivor" or "witness," "*Zeitzeuge*" situates the survivors' stories between history and biography, translating as "testimony of time." This allowed the team to reflect on both the role of the interviewee as witness to history and the product of the interview as testimony. At the same time, however, the term situates the project in a controversial debate about the particularity of the Holocaust. While "*Zeuge*" has been ascribed to the particularly Jewish experience of World War II, "*Zeitzeuge*" and its respective product "*Zeitzeugnis*" apply to all witnesses of World War II (Stegmaier and Ushakova 2021, 90–91).

Given the attempts at definition brought up above, I would like to reach back to the term "biography," discussed in the opening of this section. *If we assume that it is a written account of a person's life (bíos is Greek for "life," while gráphō is "write"), who then writes down the life's story of survivors?* We could arguably call biographers those who interviewed the survivors, reconstructing the courses of their lives

26 See "The Who, Where, Why and What about Dimensions in Testimony," USC Shoah Foundation Website, accessed January 17, 2021, https://sfi.usc.edu/dit/faq; Sanna Stegmaier and Svetlana Ushakova, "The Production of German- and Russian- Language Interactive Biographies: (Trans)National Holocaust Memory between the Broadcast and Hyperconnective Ages," in *Digital Holocaust Memory, Education and Research*, ed. Victoria G. Walden (Cham: Springer International Publishing, 2021), 62–63.

through hundreds of questions.[27] But this does not make them biographers in the strict sense of the word, as their efforts are more of a trigger that sets off the survivors' own telling of their story. Although recorded earlier, it is the survivors (or, more precisely, their two-dimensional representations) meeting with the viewers that precipitates the public retracing (via software) of their lives. The issue grows complicated here, as in the aforementioned survivor-viewer interaction; it is the latter that triggers the responses of the two-dimensional representation of the former. Furthermore, the course of the retelling depends on the choices of the viewer, and is constructed in response to the questions, which push the narrative forward, but without necessarily preserving its specific causal order, potentially leading to achronological testimonies. One of the project's characteristic features is its non-linear narration. Explaining the guidelines behind the project, the production process, and the premises underpinning the first recording captured in 2014, Stephen Smith said: "[w]hat makes this so different is the nonlinear nature of the content. We have grown used to hearing life histories as a flow of consciousness in which the interviewee is in control of the narrative and the interviewer guides the interviewee through the stages of his or her story."[28] *Consequently, in the context of the two-dimensional survivor representations, should not we be calling the form an interactive interview, in which the interviewee tells their story in response to questions posed by the interviewer?* The museum visitor stands in for the interviewer, whose questions (although asked during the recording) are removed as they are replaced by another interlocutor. Personally, in reference to the *Dimensions in Testimony* project, I suggest using the term "interactive testimony," as, on the one hand, it reflects the reciprocal interaction of the viewer and the recorded survivor, while on the other emphasizes the narrativity of the survivor's responses and the (auto)biographical character of their retelling. It contains a trace of their synchronous mutual interaction and what the team working on the German version of the project has noticed – namely that the recorded narratives of the survivors are not just their biographies, but first and foremost a testimony of the times of war that they lived through – their fates interwoven with a specific moment in history. "What ultimately matters in all processes of witnessing, spasmodic and continuous, conscious and unconscious, is not simply the information, the establishment of the facts, but the experience itself of *living through* testimony, of giving testimony" (Laub 1992, 85).

27 For example, the interactive biography of Pinchas Gutter was developed from 20 hours of interviews with the survivor and fifteen-hundred answers to questions recorded in 2014 by 116 cameras. See "Audiences Captivated by USC Shoah Foundation Virtual Reality Projects," USC Shoah Foundation Website, accessed March 12, 2022, https://sfi.usc.edu/news/2017/04/15191-audiences-captivated-usc-shoah-foundation-virtual-reality-projects.

28 See Smith, "Oral History Turns Photographic."

2.2 Technology and Interactivity, or on Programmed Testimony

Although the creators of the project stress that the technology – albeit crucial for the final effect – remains secondary to the stories offered by the recorded survivors, I would still like to take a moment to focus on the technological aspect of the project to explore the mechanisms behind the innovative method. Here, I will be drawing primarily on the work of scholars from the University of Southern California's Institute for Creative Technologies, including Antona Leuskiego, Davida Trauma, Rona Artsteina, Alesii Gainer i Ariego Shapiro,[29] whose writings informed the methodological foundation of my interpretation of the project platform's operational framework. At the core of the platform is the NPCEditor, which Leuski and Traum (2021) call a:

> system for building and deploying virtual characters capable of engaging a user in spoken dialog on a limited domain. The dialogue may take any form as long as the character responses can be specified a priori. […] At the core of the system is a state of the art statistical language classification technology for mapping from user's text input to system responses.[30]

To put it more simply, it is a piece of software that selects responses to user queries from a pre-arranged repository, similarly to popular voice assistants. Consequently, "NPCEditor combines the functions of Natural Language Understanding (NLU) and Dialogue Management – understanding the utterance text and selecting an appropriate response."[31] Naturally, all of the replies of the virtual witness are actually recorded statements previously uttered by a person, without any additional lines generated by the software. However, the responses are still selected by an algorithm from the repository throughout the act of storytelling or during conversations with visitors. "The interface of Dimensions in Testimony demonstrates a previously unknown form of engaging with archival material. By combining the aim to preserve survivors' legacies with making their testimony accessible with interactive technology" (Stegmaier and Ushakova 2021, 66). This is the first project of its kind to allow engaging the public with witness testimony using voice recognition and featuring an interface that designed to prevent users from realizing that they are drawing on

29 These are researchers involved with the project's interactive component.

30 Anton Leuski and David Traum, "NPCEditor: A Tool for Building Question-Answering Characters," accessed January 17, 2021 https://people.ict.usc.edu/~leuski/publications/papers/npceditor.pdf.

31 Ron Artstein, Alesia Gainer, Kallirroi Georgila, Anton Leuski, Ari Shapiro, and David Traum, *New Dimensions in Testimony Demonstration,* Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics: Demonstrations (San Diego, CA: Association for Computational Linguistics, 2016), 33, accessed January 12, 2022, http://aclweb.org/anthology/N16-3007.

what is essentially an archive (see Stegmaier and Ushakova 2021, 66). Using the aforementioned natural language technologies, "the Dimensions in Testimony system transforms asked questions into search terms. The system then matches the search terms to the most appropriate interviewee response to your question and plays back the associated video clip, resulting in a conversational-like experience."[32] After her encounter with the virtual Pinchas Gutter, Hillary Jackson wrote that it felt:

> similar to using Siri on an Apple device. When the system doesn't recognize a question, or if you've not spoken clearly, a polite Gutter says, "Just repeat that." But instead of interacting with a computer, the experience is more human. Gutter's responses are authentic. They're just recorded with future dialogue in mind. His account feels natural, like an in-person conversation. It isn't edited down and there are 15–20 second pauses where Gutter collects his thoughts. While his response to the question above is moving, it goes in a slightly different direction than anticipated, much like many in-person conversations do.[33]

And indeed, "the hologram of Pinchas engages with the audience; it answers their questions; it reacts to the external stimuli" (Zalewska 2016, 29). The representation also seems to be creative, emotionally engaged, singing songs from his childhood, for example. "However, it also reaches its cognitive limits: it is able to give only what it has previously received from its makers" (Zalewska 2016, 29). On the one hand, the announcements accompanying promotional efforts for the project promised that:

> Gutter not only will retell his own story, but also will be able to answer questions from his audiences about the general Holocaust experience. If asked how life was at Auschwitz, for example, he will respond with "I wasn't at Auschwitz, but I can tell you about my experiences at Bergen–Belsen" – responding as if he has agency, subjectivity. (O'Neill 2016, 46)

On the other, however, we know that even this redirection had been programmed into the software, essentially reducing the survivor to a recording that is a mere animate representation, which no longer has need of its maker (see Sierzputowski 2018, 130), but requires only a custom software suite. The interview conducted for the purpose of the project enabled the creation of a pool of behaviors and responses, which were then coded to be played back after certain triggers. "Rather, the computer and its sensors 'hear,' 'see,' and 'speak' through him [the survivor – *author's note*]. His movements, the way he turns to look at his questioner, the tone and pace of his voice, are all programmed as a set of differential responses to certain types of sound patterns" (O'Neill 2016, 46). The representations themselves – including their

32 "The Who, Where, Why and What about Dimensions in Testimony," accessed January 17, 2021, https://sfi.usc.edu/dit/faq.

33 Hillary Jackson, "Holocaust Survivor Holograms Give History New Depth," KCET, accessed December 20, 2021, https://www.kcet.org/shows/artbound/holocaust-survivor-holograms-give-history-new-depth.

outfits, hairstyles, and overall appearance – are also hard-coded into the software. In one of his interviews, Pinchas Gutter said: "I had to wear the same clothes and I had three pairs *(sic)* of the same jackets, the same shirts, the same trousers, the same shoes."[34] This is another constraint of the recording process, forcing the survivors to wear the exact same outfit to each session.[35] In his interview from December 29, 2021, Steven Frank, a survivor recorded for the Forever Project, said, "clothing was important. No stripes or square patterned shirts for filming purposes. Also shoes!!" [36] Later on, he added, "at the end of one session in the FP and the beginning of the next session one had to be in exactly the same position, and this was carried out with 'forensic' precision for the smooth continuation of the filming. If not done there could be a 'shudder' (slight movement) between stop and restart."[37] These remarks suggest a tension between the human and non-human aspects of the project. We could argue that what we are dealing with here is not only a programmed or directed testimony, but a media-hibernated body, artificially preserved beyond the normal passage of time.

2.3 Engaging with Interactive Survivor Representations in Practice

The USC Shoah Foundation takes great care "to not edit, alter, manipulate, or censor any response the interviewee gave. The *Dimensions in Testimony* post-production methodology has been entirely created to preserve the integrity of the interviewee's voice, a promise made to the interviewees and their families."[38] In "New Dimensions in Testimony Demonstration," the aforementioned scholars, headed by Ron Artstein, explained the technicalities of the project, writing that "a typical installation is run on a 15-inch MacBook Pro with Retina display, connected via HDMI to an external monitor or television" (Artstein et al. 2016, 34). For the purpose of the presentation they used from 22-inch for the personal interaction to a large size theater projector,

34 See Stahl 2020, "Artificial intelligence is preserving our ability to converse with Holocaust survivors even after they die," CBS News, accessed April 6, 2020, https://www.cbsnews.com/news/holocaust-stories-artificial-intelligence-60-minutes-2020-04-05.

35 Jamie Sotonoff 2017, "As holograms, 13 local Holocaust survivors blink, breathe and tell their stories," Daily Herald, accessed March 12, 2020, https://www.dailyherald.com/news/20171019/as-holograms-13-local-holocaust-survivors-blink-breathe-and-tell-their-stories-.

36 Unpublished interview conducted by the author with survivor Steven Frank on December 29, 2021.

37 Ibid.

38 "The Who, Where, Why and What about Dimensions in Testimony," accessed January 17, 2021, https://sfi.usc.edu/dit/faq.

but the most preferred display – as the authors write – "is an 80-inch high definition television in vertical orientation. This allows showing the speaker at approximately life size, making it appropriate for one-on-one and small group interaction, as well as large group interaction in a theatre setting." (Artstein et al. 2016, 34).

> For small, informal demonstrations in a quiet setting, we have had good results using the MacBook Pro's built-in microphone for audio capture, and the built-in trackpad as a push-to-talk button. In more challenging environments we use a Sennheiser HSP-4 headworn microphone, which works well to isolate the user's speech from the background noise. (Artstein et al. 2016, 34)

The Foundation also supervises partner institutions and exhibitions that use its recordings to ensure that the representations are always used in an ethical manner. It is primarily about how the objects are displayed, in what setting of the exhibition, whether survivor and his story are properly exposed to ensure the best impact, and properly care from the museum.[39]

A sample encounter with an interactive survivor representation unfolds as follows: the survivor tells their life story over a dozen minutes or so, after which the museum visitor can ask them questions about the Holocaust, their lives before and after the war, and what they think about the problems of the modern world. Consequently, this manner of visual presentation differs significantly from typical displays of video testimonies in museums. The latter mostly involve playing back a recorded interview conducted by someone else, whereas *Dimensions in Testimony* actually produces the impression of having an actual conversation with a two-dimensional representation of a survivor, with genuine questions being asked and prompting answers from a pre-programmed interlocutor instead of just triggering pre-recorded footage. For example, the Gutter database contains answers to anywhere between 20,000 and 30,000 questions.[40] Still, Maria Zalewska writes, "Since the set of pre-programmed questions is fixed, the hologram's account does not meet the criteria for a live witness testimony" (Zalewska 2016, 29). This means that the encounter entails not an actual, here-and-now conversation, but a pre-arranged exchange or just one of a variety of strictly plotted conversations.

The USC seems to be promoting this new method of bringing survivors and recipients together as a self-sufficient experience (see Frosh 2018, 363), whereas Kansteiner, drawing on his research, writes that the conversation it entails only appears spontaneous, and that the holograms of the survivors are very good at telling

39 Conclusion based on author conversation with, among others, Talia Nates – director of the Johannesburg Holocaust and Genocide Centre, where interactive biographies were shown.

40 Levar Alonzo, "A new dimension: Museum of Jewish Heritage marks 20 years with an exhibit for the ages," amNY, accessed April 2, 2020, https://www.amny.com/news/a-new-dimension-museum-of-jewish-heritage-marks-20-years-with-an-exhibit-for-the-ages/.

stories about the past, but stumble when asked about the present (Kansteiner 2017, 122). And indeed, when Lesley Stahl of CBS' *60 Minutes* spoke on April 5, 2020, with a recording of Aaron Elster (who died in 2018), aside from asking about his life story, which prompted a flowing story from the representation, question him over the day's weather, curious about his reaction, to which he only replied: "I'm actually a recording. I cannot answer that question."[41] In another interview, the hologram of Pinchas Gutter replied "Can you rephrase that, please?" when the software could not parse the question and generate an appropriate answer,[42] clearly indicating the limitations of this form of interaction.

3 Digital Holocaust Memory[43] in the Post-Witness Era

To sum up, in this article, I tried to show what an interactive biography is, how it should be considered and what conditions must exist for it to work. Digital tools such as Shoah Foundation's *Dimensions in Testimony*, used so eagerly in working with difficult historical legacies or the Holocaust, offer new opportunities for externalizing memory and framing it using novel means of communication. Through this project, Shoah Foundation offers a new opportunity for recipient-survivor encounter, even after the death of the last survivors. Particularly the digitized recordings of Holocaust survivors have proven to draw a wide variety of users. "Beyond their role as conveyers of information about the Holocaust and its remembrance, these resources are noteworthy in their own right as phenomena of digital humanities, especially for scholars who are interested in this evolving interrelation of new technologies with the documentation and study of the past" (Shandler 2022, 37). Initially called holograms and later interactive biographies, I suggest that these recordings captured by the USC Shoah Foundation be called "interactive testimonies," a term which I believe best reflects both their message and their practical functioning.

Communications scholar Ekaterina Haskins argues that, when using interactive digital media, "the audience no longer acts as a consumer of a linear story [but] takes part in the experience by making choices."[44] Even more, "visitors are invited to

41 Stahl 2020, "Artificial intelligence is preserving our ability to converse with Holocaust survivors."
42 Ibid.
43 See Victoria G. Walden, "What is 'Virtual Holocaust Memory'?" *Memory Studies* 15, no. 4 (2019).
44 Ekaterina Haskins, "Between Archive and Participation: Public Memory in a Digital Age," *Rhetoric Society Quarterly* 37, no. 4 (2007), 406, as cited in Shandler, "Digitizing Holocaust Memories," 35.

suspend disbelief and engage in dialogue with a fabricated presence" (Walden 2021, 248). Without novel digital technology, the USC Shoah Foundation's *Dimensions in Testimony* project would not be so effective in engaging museum visitors with captured recordings of survivors. Jason Hansen notes that "the development of new technologies […] [has] dramatically reduced the barriers to participation that have historically limited the influence of individuals in [the process of the construction of public memory]."[45] In the wake of the digital turn, in what Susan Hogervorst has termed "the era of the user,"[46] rather than just screen witness testimony, as is the case with footage from the Fortunoff Video Archive for Holocaust Testimonies or the USC Shoah Foundation's Visual History Archive, the creators of *Dimension in Testimony* want to give recipients the opportunity to interact with the representation of the survivor, to trigger a story-conversation, to be an active actant involved in genuine communication. Thus, they set the direction in which various projects of communing with the testimonies and survivors themselves will go in the future.

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45 Jason Hansen, "Auschwitz Is Made of Legos and Hitler Hates Beckham: YouTube and the Future of Holocaust Remembrance," Future of Holocaust Studies Conference, Southampton and Winchester Universities, July 29–31, 2013, as cited in Victoria G. Walden, *New Ethical Questions and Social Media: Young People's Construction of Holocaust Memory Online*, "Frames Online Journal", http://framescinemajournal.com/article/new-ethical-questions-and-social-media-young-peoples-construction-of-holocaust-memory-online/, access: 15.01.2021.

46 Susan Hogervorst, "The Era of the User. Testimonies in the Digital Age," *Rethinking History* 24, no. 2 (2020), 169–183. There is a wealth of writing about the changing positions of users/viewers with the digitalisation of testimonies. See f. ex. Caroline Wake 2013. "'Regarding the Recording: The Viewer of Video Testimony, the Complexity of Copresence and the Possibility of Tertiary Witnessing." History and Memory: Studies in Representation of the Past 25 (1): 111–144. doi: https://doi.org/10.2979/histmemo.25.1.111; Judith Keilbach 2013. "Collecting, Indexing and Digitizing Survivors. Holocaust Testimonies in the Digital Age." In Holocaust Intersections. Genocide and Visual Culture at the New Millennium, edited by Axel Bangert, Robert S. C. Gordon, Libby Saxton, 46–63. London: Legenda; Michael Givoni 2016. The Care of the Witness: A Contemporary History of Testimony in Crises. New York and Cambridge: Cambridge University Press.

Poland, Preludium-19 competition, Decision no. DEC-2020/37/N/HS2/00210. The article is the latest in a series on the USC Shoah Foundation's Dimensions in Testimony project.

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