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FROM VISIONS OF TECHNOLOGICAL PROGRESS TO TECHNOLOGICAL RUINS: THE SWEDISH MILLENNIUM MONUMENT AND THE CHALLENGES OF PRESERVATION OF DIGITAL PUBLIC ART

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On December 20, 1999, the Swedish national monument, celebrating the turn of the millennium, was inaugurated by His Majesty King Carl XVI Gustaf (Fig. 1).¹ The monument was a collaboration between artists, architects, and engineers, and it was erected on behalf of the Millennium Committee set up by the Swedish government. The commission to realize the monument was given to Chalmers University of Technology along with a request to create something “permanent with an everlasting value.”² The committee paid particular attention to the university’s outstanding research in digital technology and, over the course of one year, artists, scientists, architects, and engineers collaborated in constructing the monument. The vice-chancellor of Chalmers implied that the working process represented an ideal example of how to conduct research in the future. He particularly emphasized the project’s interdisciplinary art, science, and technology collaborations, conducted in close cooperation with both the City of Gothenburg and industry.³

The commission was characterized by a ubiquitous intention to create a new public place, “forever” associated with the commemoration of the turn of the millennium.⁴ The final result of this prestigious project was called The Time Document (Tidsdokumentet), an installation consisting of three large interactive objects situated in central Gothenburg: The Cone, The Cube, and The Mast, along with an associated website. However, despite the intention of it lasting forever, the use of cutting-edge technology, multimillion Swedish kronor investments by the City of Gothenburg and Chalmers, more than five million Swedish kronor (490,000Euro) in external funding, as well as an inauguration ceremony hosted by the king, the monument did not endure.

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This article has been corrected with minor changes. These changes do not impact the academic content of the article.



Figure 1. Peter Ullmark (to the left) and the king (to the right). Photo credit H. Yxell och L. Håkansson. Courtesy of Chalmers University of Technology.

Eventually, the monument was shut down. In 2005, it was reinaugurated, then, once again, shut down shortly afterward. Years of debate followed concerning the whereabouts and the future of The Time Document. In 2011, the final decision was reached to dismantle the monument and, in 2012, it was deconstructed and piled up outside a warehouse in an industrial area on the outskirts of Gothenburg (Fig. 2). Thus, within a few years, the monument that was supposed to epitomize visions of technological progress had literally turned into a ruin of technology.

Analyzing The Time Document from the origin of the idea until it was dismantled prompts various questions. What did the production process look like? What were the prevailing sociocultural, political, and technical conditions? How was it possible to carry out the project at all? And why did it end in the way it did? This article is based on archival research and, methodologically, I have examined when, where, how, why, and by whom the monument was commissioned, built, received, and dismantled. Thus, by studying the course of events from the origin of the idea until the monument was dismantled, I contribute new insights into how to address the challenges of preservation related to digital public art.

The Time Document was a physical monument consisting of three large objects made of steel, glass, stone, and cast iron erected in a public place. It was interactive and included digital technology in the form of sound, light, and video projection (Figs. 3 and 4). Consisting of both durable and ephemeral material, the monument thus differed from other forms of digital public art that is made and presented in a digital (virtual) public place, projected onto



Figure 2. The dismantled Swedish millennium monument. Photo credit Jim Alexandersson. Courtesy of Chalmers University of Technology.

already existing physical objects, places or buildings, or shown on screens in physical public settings.⁵ The challenges of preservation are profoundly different when it comes to digital art compared to art made of more enduring materials.⁶ For digital art, technological and organizational challenges are the most crucial.⁷ Due to the rapid pace of technological development, the technology used in digital art is prone to becoming obsolete. The implication of this is a matter of whether there is a sustainable technical, economic, and sociocultural infrastructure surrounding the artwork. If not, the preservation of digital art is at risk.⁸ Although *The Time Document* was partially made of the same kind of enduring material as conventional public art, its story shows that this may indeed be the case.

Like digital art, digital public art is created at the intersection of art and technology. In other words, it has a dual history. Therefore, I argue, there are many and various understandings associated with digital public art. That, in turn, has implications on how preservation is dealt with. First of all, it is a question of the extent to which preservation is considered relevant at all.



Figure 3. The Swedish Millennium Project, The Time Document, 1999. Mixed media. Photo credit Rolf Hallin. Courtesy of Chalmers University of Technology.

Second, it is a question of what to preserve. Should we preserve, for example, artistic, technological, or symbolic values; the physical object or place where it is erected (if applicable); or technological software systems or devices?

In this article, I argue that the Millennium Committee, Chalmers University of Technology, and the City of Gothenburg had different interpretations of the role of The Time Document. The monument thus had diverse meanings for the various actors involved, and this, in turn, contributed to the dismantling of the monument. None of them really looked on it as an object of art, hence the challenges of preservation were overlooked. To put it simply, the Millennium Committee considered it as a way to manifest knowledge transfer, Chalmers as a technical artifact, and the City of Gothenburg as a political symbol. This does not mean that the artistic aspects were entirely overlooked. From the artists' perspective, the monument was indeed considered—and treated—as public art.⁹ But, as examined below, artistic aspects were not the dominating ones. Hence, there appeared to be what Trevor J. Pinch and Wiebe E. Bijker call an “interpretative flexibility” regarding the Swedish millennium monument.¹⁰



Figure 4. The Swedish Millennium Project, The Time Document (detail), 1999. Mixed media. Photo credit Jan-Olof Yxell. Courtesy of Chalmers University of Technology.

Today, The Time Document is considered as an example of failed digital public art.¹¹ Such a description could be challenged by looking at the context in which it was commissioned; namely, in the midst of the dotcom bubble. This era was characterized by fundamental transformations, let alone visionary ideas of what might be possible, related to the rise and rapid development of information and communication technologies. As new technologies, these became a source of political imaginings of the emergent, international information society. This also applied in Sweden. During the 1990s, Swedish policy was permeated by ideas of being at the international forefront of information and communication technologies.¹² Sweden has further been described as one of the most developed countries in terms of access and use of information and communication technologies during this time.¹³ Thus, the Swedish policy was not too far from the reality.

Nevertheless, as political scientists have pointed out, once the visions were to be implemented, they crashed into reality— simply because they were too utopian.¹⁴

From a historical perspective, these visions follow a similar pattern to those of new technologies in general. As argued by Marita Sturken and Douglas Thomas, technologies gain a particular social significance when they are new. As such, they become a projection site for manifestations of a specific social and historical context, and because it is impossible for new technologies to fulfill all the expectations, they also turn into a source of disappointment.¹⁵ The Time Document encompasses this clash between visions and reality. During its short-lived existence, the monument transformed from being a promise of the future to become a reminder of the ephemerality of digital technologies. It had turned into an issue of which no one really wanted to be in charge, or “the Old Maid,” as it was referred to in the media.¹⁶

COLLABORATION BETWEEN STATE, UNIVERSITY, AND CITY

On April 6, 1998, the Swedish government made a public decision to set up a committee to organize activities for the approaching turn of the millennium.¹⁷ Similar committees were set up in several countries around the world. The Swedish Millennium Committee consisted of fifteen members active in business, the public sector, nongovernmental organizations, and science and culture. The Social Democratic cabinet minister, Lars Engqvist, was appointed as its chairman.¹⁸

Initially, the Millennium Committee had made a clear stance toward not creating a monument. As a matter of fact, when the work of the committee was launched at a press conference on November 5, 1998, it was not without a glimpse of irony that Engqvist poked fun at the countries who planned to erect monuments. He clearly stated that Sweden aligned itself with the countries who took a more low-key approach: “This committee is therefore not responsible for the computers that night, not responsible for the public celebration. Nor to build the monuments.”¹⁹ The very clear stance toward not creating a monument did, however, change slightly afterward. In autumn 1998, Engqvist briefed the Swedish Royal Court about the Millennium Committee. During the meeting, the king proposed a national “memorial or monument” celebrating the turn of the millennium.²⁰ Engqvist presented the proposition at the Millennium Committee’s next meeting, on November 18, 1998. Five days later, the committee had written a memorandum on “some kind of monument to the turn of the millennium in Sweden.”²¹ It was suggested that it be a monument about time.

In early January 1999, the Millennium Committee approached Chalmers University of Technology with a request to create the monument.²² At the time, research in information technology and design had gained priority at the university and various interdisciplinary collaborations had been launched, in line with current Swedish research policy. Overall, this was a period when interdisciplinarity, digital technology, and artistic research gained ground in Swedish research policies.²³ For Chalmers, The Time Document

thus became an excellent opportunity to conduct research at the intersection of these areas.²⁴

A few weeks later, Chalmers presented an idea for a monument, including technical, humanistic, and artistic knowledge.²⁵ They emphasized the importance of “trying to develop cooperation across borders” as the main reason for accepting the request.²⁶ The project’s interdisciplinary character was thus deemed important. The Millennium Committee was in favor of the idea and, by the end of January, Chalmers made a first draft of a project plan, stating that “a physical installation” would be erected in “a designated public place somewhere in Stockholm or Gothenburg.”²⁷ Shortly afterward the City of Gothenburg was introduced as part of the project and, by the end of February, Chalmers announced that they were willing to undertake the assignment.²⁸ So, following the first meeting between Chalmers and the Millennium Committee, the City of Gothenburg had already been approached and seemingly agreed to participate.²⁹

Gothenburg’s engagement in the Swedish millennium monument coincided with the city undergoing significant urban renewal.³⁰ During the 1990s, the endeavor to market Gothenburg as an attractive city for events and shopping gained momentum.³¹ The chairman of the Municipal Executive Committee, the Social Democrat Goran Johansson, was a driving force in these transformations.³² Johansson held several municipal appointments in the areas of housing companies, events and culture, as well as growth and employment, and he was known for getting things done—the so-called Strong Man of Gothenburg.³³

The development of Gothenburg was in line with the emerging global transformation where cities developed new economic strategies to achieve growth and competitiveness.³⁴ Hence, it is reasonable to assume that The Time Document would fit well into the ongoing development of the city.³⁵ Given Gothenburg’s position as the second largest city in Sweden, this also meant an opportunity for putting the city on the map ahead of Stockholm, the Swedish capital.³⁶ An official statement from the City Management Office of Gothenburg emphasizes that The Time Document was indeed considered an important political symbol, stating that “the government’s Millennium Committee [has] decided that the only permanent national manifestation in the country will be located in Gothenburg.”³⁷

THE COMING INTO BEING OF THE SWEDISH MILLENNIUM MONUMENT

The account of The Time Document reveals a lavish venture, carried out under significant time pressure. Decisions were made at short notice, sometimes seemingly in an informal way, and, compared to public art projects in general, the monument was made and completed in a notably short period of time. Thus, it went completely contrary to the regular process in the erection of public art. In the following section, I will show how Chalmers’s and the City of Gothenburg’s differing interpretations of The Time Document came to the fore in the realization of the monument.

As indicated above, the construction of the monument was carried out within an interdisciplinary setting including new ventures on information technology and design at Chalmers. The project gathered architects, artists, technicians, engineers, and senior researchers, as well as PhD students who all collaborated in creating the monument.³⁸ Peter Ullmark, a professor and architect experienced in developing interdisciplinary research environments at the intersection of art, design, and technology, was appointed project manager; theoretical physician Mats Nordahl the chief technical leader; and the dean of the School of Architecture, Hans Bjur, the chief project leader. The artistic work was headed by the artist Graham Stacy, by then senior lecturer in design and media at Chalmers. Furthermore, a project group, consisting of approximately forty people, was affiliated.³⁹

On March 29, 1999, the first press conference on The Time Document was held in Gothenburg. The line-up was impressive.⁴⁰ Except for the chairman of the Millennium Committee, the chairmen of all major partners participated. By that date, the collaborating partners had been introduced, along with a detailed project plan.⁴¹ According to the press release, the purpose of the project was to “increase the awareness” of time concepts of various cultures.⁴² In other words, The Time Document was not launched primarily as an artistic project, but rather as a project aimed at knowledge transfer. Nor was it described as a monument, which was the word used in the initial memorandum, but as a “national installation.”⁴³ As suggested above, this focus on knowledge transfer was in line with the goal of the Millennium Committee.

The spring and summer of 1999 was an intense period for the project. In addition to the actual monument, the project entailed much construction work,



Figure 5. The engine room underneath the Cube. Photo credit the Swedish Millennium Project. Courtesy of Chalmers University of Technology.

including the design of the site as well as the building of engine rooms underground (Fig. 5). Hence, during the spring of 1999, a number of municipal committees and departments, as well as other concerned parties, were approached. On July 1, 1999, the Gothenburg Urban Planning Department decided to carry through the project and a time plan was settled.⁴⁴ And on July 2, 1999, Johansson, on behalf of the Municipal Executive Committee, mandated the Traffic Committee to begin work on preparing the ground at the site where the monument would be erected.⁴⁵

However, the question of whether the monument was to be erected or not was not dealt with in the usual procedure by the Municipal Executive Committee. As a matter of fact, the mandate to the Traffic Committee to start the groundwork was given by Johansson himself, by delegation, during the summer break of the Municipal Executive Committee. This means that the issue was neither discussed in the Municipal Executive Committee nor referred to the Culture Committee, the usual procedure when proposing the construction of public art.⁴⁶ The tight schedule of erecting the monument in time ahead of the turn of the millennium is probably one of the main reasons for this rather unconventional procedure for decisions on a matter of public art. There was simply no time to proceed in the usual way. Nevertheless, it may also be related to the different meanings the monument had for the different actors.

Construction work started in September 1999.⁴⁷ In parallel, Chalmers approached a number of manufacturers to order equipment as well as seeking additional funding for the implementation of the project. Thus, the autumn continued to be an intense period marked by work carried out under extreme time constraints.⁴⁸ When the excavators accidentally destroyed a relic from the seventeenth century, the time pressure was evident.⁴⁹ For the City of Gothenburg, the inauguration in December was a sharp deadline. For Chalmers, on the other hand, the inauguration date itself was not as crucial. According to Ullmark, the project could just as well be inaugurated after the turn of the millennium.⁵⁰ The varying emphasis that Chalmers and the City of Gothenburg placed on the actual opening date shows their different interpretations of what The Time Document was. As a technological artefact, that is, an opportunity for interdisciplinary research, the inauguration date was not decisive. As a political symbol, the inauguration date was, on the contrary, indeed crucial. And, as stated above, they managed to meet the deadline. On December 20, 1999, the monument was inaugurated by the king.

TECHNOLOGICAL CHALLENGES

In early 2000, further adjustments to the monument were made and, in January 2001, the project was officially finished.⁵¹ The technological challenges were not long in coming. During the next few years, the monument was partially running and

partially out of order. The technology was claimed to “often [be] out of order,”⁵² the project’s Uniform Resource Locator no longer pointed to its website, but to an organization offering pornography,⁵³ and, after spring 2004, it had actually become impossible for the monument to work since its control room had been closed down and the technical equipment removed.⁵⁴ This sudden lack of technical equipment clearly changed the prerequisites for the monument to function.

Although the monument faced several setbacks after the inauguration, new attempts to use the monument were made. In December 2005, The Time Document was temporarily reinaugurated, and, in autumn 2008, a suggestion that the monument should be used as an interactive bulletin board was launched.⁵⁵ In April 2010, the question of the dismantling of the monument was raised in the Municipal Executive Committee.⁵⁶ Five months later, both the City of Gothenburg and Chalmers had agreed to move the monument to a warehouse.⁵⁷ Another six months later, the process of reaching an official agreement on how to dismantle The Time Document started, and on May 4, 2011, the final decision was reached to disassemble the monument.⁵⁸ In early 2012, it was dismantled and the remaining parts were moved to a warehouse on the outskirts of Gothenburg.

ORGANIZATIONAL CHALLENGES

The ephemerality of digital technology was one reason for the challenges of preservation faced by The Time Document. It may, however, not only be due to the technology, but also to the lack of necessary infrastructural support of that technology—that is, someone in charge of the maintenance of the technological hardware and software. In other words, The Time Document also faced organizational challenges—no one actually knew who was in charge of the monument, and that, of course, played a prominent part in its history.

Initially, The Time Document was launched as a gift from the Millennium Committee to the City of Gothenburg. The task of Chalmers was to design and build the monument in collaboration with the City of Gothenburg. Once the monument was erected, it was supposed to be handed over to the City of Gothenburg. Nevertheless, although the monument was intended to become permanent, no formal agreement had been made between the Millennium Committee, Chalmers, and the City of Gothenburg by the time it was finished with regard to the allocation of responsibilities and ownership and the maintenance of the monument.⁵⁹ However, that does not mean that these issues had been omitted from the discussions. On the contrary, the allocation of responsibilities had been suggested since the beginning of the project, and the need for an agreement was raised on a number of occasions. The way in which issues regarding an agreement and the allocation of responsibilities were dealt with by the Millennium Committee, Chalmers, and the City of Gothenburg conveys their different views on what The Time Document actually was.

According to the revised project plan from February 1999, the allocation of responsibilities was clear: “The responsibility for the physical installation will be taken

over by the City of Gothenburg after the turn of the millennium. The knowledge base [the website] is [to be] maintained and further developed by Chalmers and the University of Gothenburg.”⁶⁰ After that date, the allocation of responsibilities was mentioned in various contexts, such as in correspondence with external funders, the prime minister, and the king; in official documents to the assurance company; an internal memorandum within the Municipality of Gothenburg; and a press release.⁶¹ In these documents, the allocation of responsibilities varied. Nevertheless, the principal question seemed to concern responsibility for the monument once it had been inaugurated.

When Chalmers accepted the assignment in February 1999, they required that “a formal contract can be drawn up as soon as possible.”⁶² During the months to come, the need for setting up a contract regarding the maintenance of The Time Document was a recurrent issue.⁶³ Nevertheless, after the inauguration, such an agreement had yet to be made. This is confirmed by a letter Engqvist sent to the City of Gothenburg, Chalmers, and the main external funders of the project the day after the inauguration ceremony. “The Millennium Committee’s engagement in the project is hereby considered terminated,” he stated, adding, “We look forward to the City of Gothenburg and Chalmers now jointly taking continued responsibility for The Time Document in its various parts.”⁶⁴

Although the need for an agreement had been argued for since the beginning of the project, it was not until almost six months after the inauguration that one was signed. However, this was not an agreement between the Millennium Committee, Chalmers, and the City of Gothenburg, nor was it an agreement regarding maintenance of the monument as a public art work. Instead, the agreement focused on the site where it was erected.⁶⁵ Moreover, it was an agreement on an administrative, not a political, level. This is why the issues regarding ownership and maintenance continued to be unsolved. In 2003, Chalmers sent a letter to the City of Gothenburg in which they stated that Chalmers donated The Time Document to Gothenburg Municipality as a gift: “To begin with, we want to hand over the monument to Gothenburg Municipality, which also includes the responsibility for operation, coordination and decisions on the use of the monument in the future.”⁶⁶ This aligned with the initial idea but did not solve the issue regarding ownership and maintenance. Meanwhile, the monument gradually decayed. Thus, the allocation of responsibilities remained an unresolved issue until the final agreement to dismantle the monument was reached.

Although the suggested allocations of responsibilities differ regarding who should be responsible for what, they do share a common denominator as they, by and large, regard technical issues. The artistic elements, on the other hand, are not dealt with. As shown above, artistic aspects were part of The Time Document since the very first meeting between Chalmers University of Technology and the Millennium Committee. And, again as stated above, from the artists’ perspective, the monument was indeed understood as public art. Nevertheless, in the discussion concerning maintenance, the work’s artistic nature was not part of the dominating views. Hence, it was overlooked.

THE SWEDISH MILLENNIUM MONUMENT AS NEW TECHNOLOGY

The account of the creation of the Swedish millennium monument reveals a lavish venture, carried out with considerable time pressure by a number of researchers, artists, scientists, technicians, and politicians. It was made by using cutting-edge technology, located in a public place, and was intended to be enduring. The construction of the monument did not follow conventional procedures regarding the commissioning of public art. Decisions were made at short notice, sometimes in an informal way, and there was no agreement regarding ownership or maintenance. How is it possible to understand that the project was still carried through? And why did it end the way it did?

Due to its dual history and collaborative nature, digital public art is associated with competing views on what it actually is, and this, in its turn, challenges the preservation of digital public art. How various actors approach digital public art is crucial for understanding the challenges of preservation. The Swedish millennium monument was not primarily viewed as public art, therefore issues related to its preservation were overlooked.

The request to build the monument came at an opportune time for Chalmers University of Technology as well as for the City of Gothenburg. Both were eager to participate, albeit for different reasons. In other words, they had different views on what the Swedish millennium monument was and consequently acted accordingly. This was also reflected by the shifting terminology used to characterize the monument. Following the initial memorandum from late autumn 1998 that characterized it as a monument, a variety of terms was used, including memorial, public art, installation, gift, and project. Given that with different terms come different expectations, the shifting terminology emphasizes that it was not entirely clear what the monument actually was. What I have shed light on is that the uncertainty surrounding the monument from the very beginning made it possible for the participating actors to approach it from their various perspectives and allowed for what Pinch and

Bijker phrased as an interpretative flexibility.⁶⁷

On the other hand, had the monument not been viewed as a technological artefact or as a political symbol, it is unlikely that it would have been carried out in less than a year. From a public art perspective alone, the building of The Time Document thus seems almost unlikely. Viewed as technology, more precisely as new technology, it makes more sense. Moreover, from a wider political perspective, the request to erect the monument coincided with the rise and rapid development of information and communication technologies during the 1990s. As new technology, the Swedish millennium monument aligns with the history of new technologies in general. When the vice chancellor of Chalmers enthusiastically emphasized that the monument illustrated the future way of conducting research and, further, that it contributed to an eternal change for the City of Gothenburg,⁶⁸ he expressed exactly the type of visionary beliefs Sturken and Thomas argue come with new technology.⁶⁹ In other words, the initial rhetoric—as well as the story of the rise and fall of the monument—was strikingly similar to the rhetoric surrounding new technologies

in general. Because, as they further point out, as much as new technologies are about expectations, they are, inevitably, also linked to disappointments.

Thus, although the Swedish millennium monument was permeated by technological visions and an intention to symbolize technological progress, it turned into a technological ruin. The challenges of preservation were crucial in this development. The decision to deconstruct the Swedish millennium monument is a striking example of this shift in meaning. Roughly ten years after the inauguration ceremony, the Municipal Executive Committee of Gothenburg described the monument as “a particularly good idea when it was created, but that unfortunately has become a part of the past.”⁷⁰

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NOTES

A previous version of this article was given at Re-trace: The 7th International Conference for Histories of Media, Art, Science and Technology, Danube University in Austria, Nov. 23–25, 2017. Anna Orrghen, “The Ephemerality of Digital Monuments: Swedish Public Art at the Turn of the Millennium, the case of Tidsdokumentet,” accessed Jul. 16, 2021. <http://95.216.75.113/handle/123456789/6>.

² Original quote in Swedish: “permanent med bestående värde.” Peter Ullmark, “Tidsdokumentet,” in 2000: Kring det svenska millennieminnesmarknaden, ed. Johan Linton (Goteborg: Chalmers, 2000), 10. All translations are by the author unless otherwise indicated. ³ Jan-Eric Sundgren, “Chalmers i det nya millenniet,” in Chalmers årsredovisning 1999, ed. Agneta Wall, Lena Larsson, and Lennart Larsson (Goteborg: Chalmers, 2000), 2.

⁴ Original quote in Swedish: “for alltid.” Jan-Eric Sundgren, “Millennieminnesmarknaden,” in 2000, 9.

On different perspectives on digital public art, see, the contributions in *Public Art Dialogue* 5, no. 1 (2015); Anne Balsamo, “The Cultural Work of Public Interactives,” in *A Companion to Digital Art*, ed. Christiane Paul (Hoboken, NJ: Wiley Blackwell, 2016), 330–51, and Christiane Paul, “Augmented Realities: Digital Art in the Public Sphere,” in *A Companion to Public Art*, eds. Cher Krause Knight and Harriet F. Senie (Hoboken, NJ: Wiley Blackwell, 2016), 205–26. ⁶ On the question of the permanence of public art, see the contributions in *Public Art Dialogue* 6, no. 1 (2016). On issues related to technological obsolescence in public art, see particularly Julia Marsh, “Distant Stars, Black Holes and Burned Out Sculptures: Media Obsolescence and the Trouble with Public Media Works,” *Public Art Dialogue* 6, no. 1 (2016): 131–40, accessed Aug. 12, 2021. <https://doi.org/10.1080/21502552.2016.1149397>.

⁷ See, Julia Noordegraaf, Cosetta G. Saba, Barbara Le Maître, and Vinzenz Hediger, *Preserving and Exhibiting Media Art: Challenges and Perspective* (Amsterdam: Amsterdam University Press, 2013), and Bernhard Serexhe, *Preservation of Digital Art: Theory and Practice: The Project Digital Art Conservation* (Vienna, Austria: Ambra, 2013).

⁸ See Oliver Grau, “The Complex and Multifarious Expressions of Digital Art and its Impact on Archives and Humanities,” in *A Companion to Digital Art*, 23–45; Perla Innocenti, “Keeping the Bits Alive: Authenticity and Longevity for Digital Art,” in *Preservation of Digital Art*, 217–230; Richard Rinehart and Jon Ippolito, *Re-Collection: Art, New Media, and Social Memory* (Cambridge, MA: The MIT Press, 2014).

⁹ On the artists’ perspective on the creation and meaning of the monument, see Graham Stacy, “Platsens form—Tidens värde,” in 2000, 16–55.

¹⁰ Trevor J. Pinch and Wiebe E. Bijker, "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other," in *The Social Construction of Technological Systems: New Directions in the Sociology of History and Technology*, eds. Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch (Cambridge, MA: The MIT Press, 1997), 17–50. ¹¹

The troubled history of the Swedish millennium monument has been paid attention to in the daily press. See, for instance, Eva Heyman, "Monument ers€atts av korsb€€arstrad,€€" *Goteborgs-€€ Posten*, Jan. 10, 2012, accessed Aug. 13, 2021. <https://app-retriever-info-com.ezproxy.its.uu.se/login>. On the failure of public art, see the contributions in *Public Art Dialogue* 10, no. 2 (2020). ¹² Per Lundin, "Computers and Welfare: The Swedish Debate on the Politics of Computerization in the 1970s and the 1980s," in *History of Nordic Computing* 4, 4th IFIP WG 9.7 Conference, HiNC 4, Copenhagen, Denmark, August 13–15, 2014, Revised Selected Papers, ed. Christian Gram, Per Rasmussen and Søren Duus Østergaard (Heidelberg: Springer Verlag, 2015), 3–11.

¹³ Anders Henten and Thomas Myrup Kristensen, "Information Society Visions in the Nordic Countries," *Telematics and Informatics* 17, no. 1–2 (2000): 77–103, accessed Aug. 12, 2021. [https://doi.org/10.1016/S0736-5853\(99\)00028-3](https://doi.org/10.1016/S0736-5853(99)00028-3).

¹⁴ Patrik Hall and Karl Lofgren, "The Rise and Decline of a Visionary Policy: Swedish ICT Policy in Retrospect," *Information Polity* 9, no. 3–4 (2004): 163–4.

¹⁵ Marita Sturken and Douglas Thomas, "Introduction: Technological Visions and the Rhetoric of the New," in *Technological Visions: The Hopes and Fears that Shape New Technologies*, eds. Marita Sturken, Douglas Thomas, and Sandra J. Ball-Rokeach (Philadelphia: Temple University Press, 2004), 1–18.

¹⁶ Original quote in Swedish: "Svarte Petter." Eva Heyman, "Millenniestatyn ur funktion—sedan ett par år," *Goteborgs-Posten*, Jan. 29, 2005, accessed Aug. 13, 2021. <https://app-retriever-infocom.ezproxy.its.uu.se/login>.

¹⁷ Johan Linton, "Med och mot tiden," in 2000, 12.

¹⁸ SOU 2000: 49, 208. Samtal infor ett nytt årtusende.

¹⁹ Original quote in Swedish: "Den h€€ar kommitt€€n €€ar allts€€a inte ansvarig for datorerna den€€ natten, inte ansvarig for det offentliga firandet. Och inte heller f€€or att bygga monumenten.€€" Recorded press conference, Nov. 5, 1998, the Millennium Committee's Archive, vol. 16, YK 4996, the Swedish National Archives.

²⁰ Original quote in Swedish: "minnesm€€rke eller monument." Linton, "Med och mot tiden," 12.

²¹ Original quote in Swedish: "n€€gon form av monument over millennieskiftet i Sverige.€€" Martin F€€arnsten memorandum, "En ide om ett monument over millennieskiftet,€€" Nov. 23, 1998, the Millennium Committee's Archive, vol. 16, YK 4996, the Swedish National Archives. ²² Letter from Hans Bjur to Martin F€€arnsten, Feb. 19, 1999, the Millennium Committee's Archive, vol. 7, YK 4996, the Swedish National Archives.

²³ In the 2000 research bill, interdisciplinarity, information technology, as well as artistic research were among the areas listed as special initiatives; see Prop. 2000/01:3. *Forskning och fornyelse*. ²⁴

Jan-Eric Sundgren confirmed that this was indeed the case in an interview in one of Gothenburg's largest newspapers a week after the inauguration. See, Marie Grahm, "'Tekniker bor l€€€asa mer humaniora,'" *Goteborgs-Posten*, Dec. 28, 1999, accessed Aug. 13, 2021. <https://app-retriever-info-com.ezproxy.its.uu.se/login>.

²⁵ See Hans Bjur and Peter Ullmark, "Ett ur om tiderakning€€ —ideer for ett designuppdrag fr€€an€€ milleniumkomitten [sic]," Jan. 19, 1999, the Millennium Committee's Archive, vol. 16, YK 4996, the Swedish National Archives.

²⁶ Original quote in Swedish: "prova och utveckla ett samarbete€€ over gr€€€anserna." Bjur and Ullmark, "Ett ur om tider€€akning."

²⁷ Original quotes in Swedish: "en fysisk installation" and "en anvisad offentlig plats n€€gonstans i Stockholm eller Goteborg.€€" Fax from Peter Ullmark "'Tidsdokumentet'—projektplan for ett

millenniumprojekt [sic], € ” Jan. 24, 1999, the Millennium Committee’s Archive, vol. 16, YK 4996, the Swedish National Archives.

²⁸ Letter from Hans Bjur to Martin F€arnsten. ²⁹

To my knowledge, the archival sources neither include information on how the contact was established nor between whom.

³⁰ On this development, see Jan Jorntmark, Joakim Forsemalm, and Karl Palmås, € Goteborg€ — mellan segregation och kreativitet (n.p: Tangent, 2015); Mats Franzen, Nils Hertting, and Catharina Thorn, € Stad till salu: Entreprenorsurbanismen och det offentliga rummets v€ arde€ (Goteborg: Bokf€ orlaget Daidalos, 2016).€

³¹ Franzen, Hertting, and Thorn, € Stad till salu, 104.

³² Franzen, Hertting, and Thorn, € Stad till salu, 104.

³³ Gunnar Falkemark, “Goteborgsandan,€ ” in Goteborg utforskat,€ eds. Helena Holgersson, Catharina Thorn,€ Håkan Thorn,€ and Mattias Wahlstrom€ (Goteborg:€ Glanta€ produktion, 2010), 88. ³⁴

On the development and implications of this, see Richard L. Florida, *The Rise of the Creative Class: And How It’s Transforming Work, Leisure, Community and Everyday Life* (New York: Basic Books, 2002). ³⁵

Rebecca Farley and Vanda Louise Pollock show that it is common that BIG public art becomes part of such endeavors. Rebecca Farley and Vanda Louise Pollock, “Size Isn’t Everything: The Failure of BIG Public Art,” *Public Art Dialogue*, 10, no. 2 (2020): 197, accessed Aug. 12, 2021. <https://doi.org/10.1080/21502552.2020.1794310>.

³⁶ On the relationship between Gothenburg and Stockholm, see Falkemark, “Goteborgsandan,€ ” 88.

³⁷ Original quote in Swedish: “regeringens millenniekommitte beslutat att den enda permanenta nationella manifestationen i landet skall placeras i Goteborg.€ ” Gothenburg City Hall, Tj€ ansteutlåtande, “Investeringar, lokalforhyrningar och leasing 5/1999,€ ” Sep. 9, 1999, City of Gothenburg, the Municipal Executive Committee’s Archive, E1 1499, the Regional State Archives in Gothenburg (emphasis added).

³⁸ Ullmark, “Tidsdokumentet,” 10–1.

³⁹ Johan Linton, ed., 2000: *Kring det svenska millenniemminnesmarket€* (Goteborg: Chalmers,€ 2000), 110.

⁴⁰ Press release, “Nationell installation infor millennieskiftet placeras i G€ oteborg,€ ” Mar. 29, 1999, the Millennium Committee’s Archive, vol. 21, YK 4996, the Swedish National Archives.

⁴¹ Press release, “Nationell installation infor millennieskiftet placeras i G€ oteborg.€ ”

⁴² Original quote in Swedish: “oka medvetenheten.€ ” Press release, “Nationell installation infor€ millennieskiftet placeras i Goteborg.€ ”

⁴³ Original quote in Swedish: “nationell installation.” Press release, “Nationell installation infor€ millennieskiftet placeras i Goteborg.€ ”

⁴⁴ Memorabilia from a meeting at Gothenburg Urban Planning Department, Jul. 1, 1999, the Central Archive, C397-99, Chalmers University of Technology.

⁴⁵ Goran Johansson€ “Uppdrag till Trafiknamnden,€ ” Jul. 2, 1999, the City of Gothenburg, the Municipal Executive Committee’s Archive, E1 1497, the Regional State Archives in Gothenburg. ⁴⁶ To emphasize that it really went against all directives on public art, it is interesting to compare with a proposal to establish a memorial to Raoul Wallenberg in Gothenburg. The proposal was presented to the Municipal Executive Committee in January 1999; that is, at the same time as discussions on the Swedish millennium monument began. After being treated in accordance with how the commission of public art is usually treated, the memorial of Raoul Wallenberg was erected in 2007.

⁴⁷ Linton, “Med och mot tiden,” 14.

⁴⁸ Sundgren, “Chalmers i det nya millenniet,” 2.

⁴⁹ Eva Heyman, “1600-talsmur skadad. Dr€ aneringsarbeten for Tidsdokumentet orsaken,€ ” *Goteborgs-Posten€*, Dec. 3, 1999, accessed Aug. 13, 2021. <https://app-retriever-info-com.ezproxy.its.uu.se/login>.

- ⁵⁰ Heyman, "1600-talsmur skadad. Dr€neringsarbeten for Tidsdokumentet orsaken.€ " ⁵¹ Linton, "Med och mot tiden," 14.
- ⁵² Original quote in Swedish: "oftast €ar ur funktion." Margita Bjorklund,€ "Gor om G€ oteborg!€ Fel skulptur p€ fel plats!" GT, Aug. 21, 2003, accessed Aug. 13, 2021. <https://app-retriever-infocom.ezproxy.its.uu.se/login>.
- ⁵³ Eva Heyman, "Millenniemonumentet hanvisar till porrsajt,€ " Goteborgs-Posten,€ Feb. 5, 2005, accessed Aug. 13, 2021. <https://app-retriever-info-com.ezproxy.its.uu.se/login>.
- ⁵⁴ Jan-Eric Sundgren, "Ge oss bara ett nytt kontrollrum," GT, Mar. 8, 2005, accessed Aug. 13, 2021. <https://app-retriever-info-com.ezproxy.its.uu.se/login>.
- ⁵⁵ Invitation to a demonstration of Tidsokumentet, Sep. 28, 2008, the Central Archive, C2008/ 1006, Chalmers University of Technology. ⁵⁶
- Interpellation regarding Tidsdokumentet in Gothenburg City Council, Apr. 20, 2010, the Central Archive, C2011/1248-1, Chalmers University of Technology. ⁵⁷
- Answer to interpellation regarding Tidsdokumentet in Gothenburg City Council, Sep. 9, 2010, the Central Archive, C2011/1248-1, Chalmers University of Technology.
- ⁵⁸ "Protokollsutdrag fr€n Kommunstyrelsen 2011-05-04 § 312 Forslag till fortsatt hantering av€ Tidsdokumentet," May 4, 2011, the Park and Nature Administration, 0427/11, the City of Gothenburg.
- ⁵⁹ Linton, "Med och mot tiden," 14.
- ⁶⁰ Original quote in Swedish: "Ansvaret for€ den fysiska installationen overtas€ efter milleniumskiftet [sic] av Goteborgs kommun. Kunskapsbasen underh€lls och vidareutvecklas av€ Chalmers och Goteborgs€ universitet." Project plan, "Tidsdokumentet—projektplan for€ ett milleniumprojekt," Feb. 20, 1999, the Millennium Committee's Archive, vol. 7, YK 4996, the Swedish National Archives.
- ⁶¹ Letter from Goran L€ ofdahl to Jan S. Nilsson and Gunnar Svensson, Feb. 23 1999, the€ Millennium Committee's Archive, vol. 16, YK 4996, the Swedish National Archives; Invitation to the Prime Minister of Sweden, Goran Persson, to inaugurate€ Tidsdokumentet, Sep. 17, 1999, the Central Archive, C397–99, Chalmers University of Technology; Invitation to His Majesty King Carl XVI Gustaf to inaugurate Tidsdokumentet, Sep. 28, 1999, the Central Archive, C397–99, Chalmers University of Technology; Fax from Marsh Fors€ €kringsm€aklare AB to Chalmers University of Technology, Oct. 15, 1999, the Central Archive, C397–99, Chalmers University of Technology; Memorandum from Stig Falk to Goran Johansson, n.d.€ "PM ang Millennium [sic]," the City of Gothenburg, the Municipal Executive Committee's archive, E1: 1497, the Regional State Archives in Gothenburg; Press release, "Nationellt minnesm€arke om tid placeras i Goteborg.€ " "
- ⁶² Original quote in Swedish: "ett formellt kontrakt kan uppr€ttas snarast." Letter from Hans Bjur to Martin F€arnsten.
- ⁶³ Bjur and Ullmark addressed the need for setting up a contract in a letter to the Traffic Office. See Letter from Hans Bjur and Peter Ullmark to Stig Falk, the Traffic Office, Jun. 24, 1999, the Central Archive, C397–99, Chalmers University of Technology. A week later a meeting was held at Gothenburg City Planning Office during which it was decided that the project was to be carried through. Once again, the absence of an agreement was addressed, and the need to draw up an agreement was argued for. See Memorabilia from a meeting at Gothenburg Urban Planning Department, Jul. 1, 1999, the Central Archive, C397–99, Chalmers University of Technology.
- ⁶⁴ Original quotes in Swedish: "Millenniekommittens engagemang i projektet f€ar h€armed avses avslutat." "Vi ser fram emot att Goteborgs stad och Chalmers tekniska h€ ogskola AB nu€ gemensamt tar ett fortsatt ansvar for€ Tidsdokumentet i dess olika delar." Letter from Lars Engqvist to Goran Johansson, Jan-Eric Sundgren, Jonas Andersson, and Jan S. Nilsson, Dec. 21,€ 1999, the Millennium Committee's Archive, vol. 7, YK 4996, the Swedish National Archives. ⁶⁵ Original quote in Swedish: "uppl€telse av offentlig mark for placering av€ Tidsdokumentet." Agreement, May 2, 2000, the Park and Nature Administration, 0512/00, Gothenburg City.

- ⁶⁶ Original quote in Swedish: "Vi vill till att borja med, € overl€€amna monumentet till Goteborgs€ kommun, vilket också omfattar ansvaret for drift, koordinering och beslut om anv€ andning av€ monumentet i framtiden." Letter from Jan-Eric Sundgren to Goran Johansson, Apr. 23, 2003, € the Central Archive, C282-03, Chalmers University of Technology.
- ⁶⁷ Pinch and Bijker, "The Social Construction of Facts and Artifacts."
- ⁶⁸ Sundgren, "Chalmers i det nya millenniet," 2; Sundgren, "Millennieminnesm€arket," 9.
- ⁶⁹ Sturken and Thomas, "Introduction."
- ⁷⁰ Original quote in Swedish: "en synnerligen god tanke nar det skapades, men som tiden€ tyv€arr runnit ifrån." Official statement, "Forslag till fortsatt hantering av Tidsdokumentet, € " Mar. 29, 2011, City Hall, dnr 0944/10, City of Gothenburg.

BIOGRAPHICAL NOTE

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