INTERNATIONAL CONFERENCE
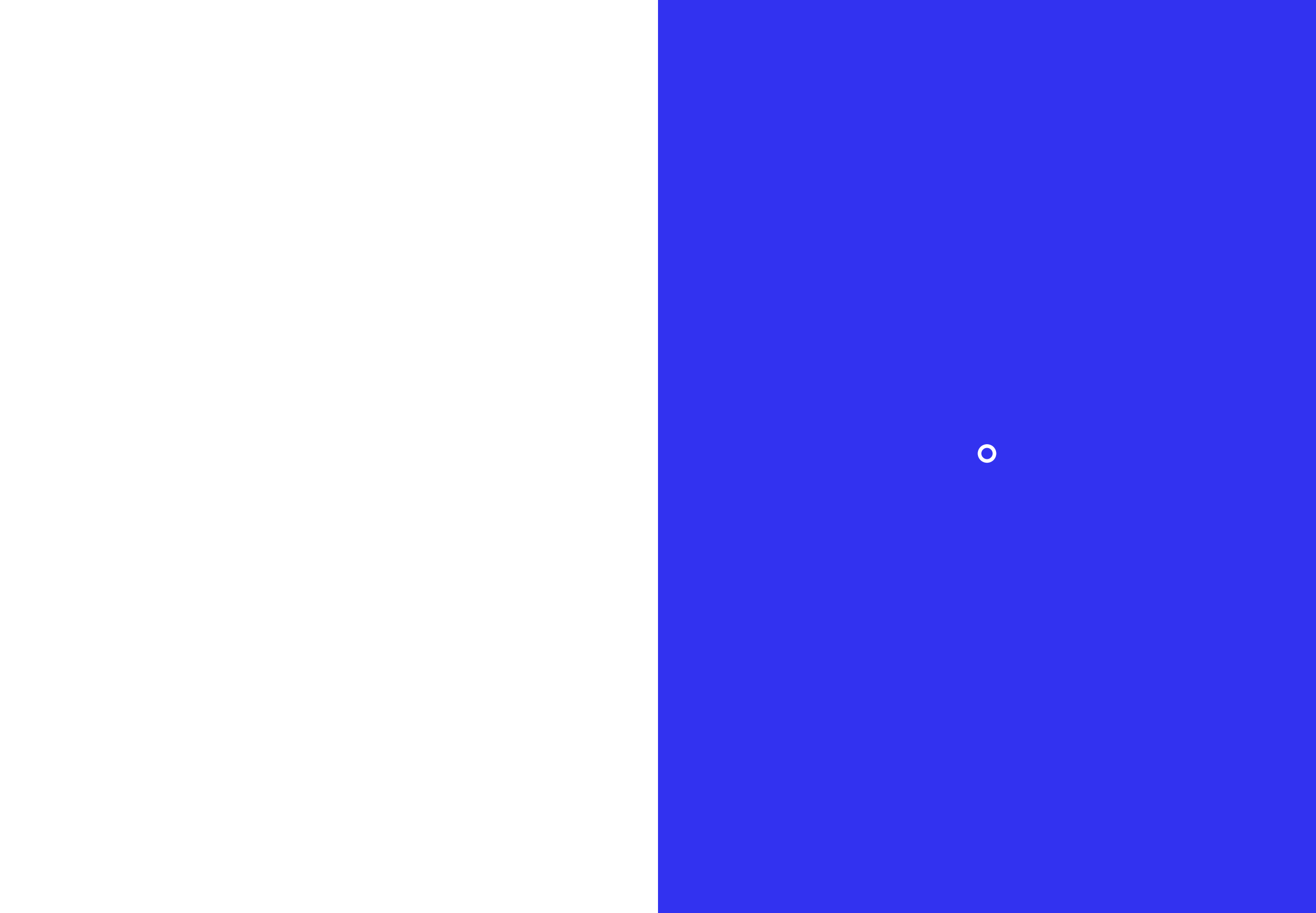
DIGITAL ART HISTORY
Methods, Practices, Epistemologies

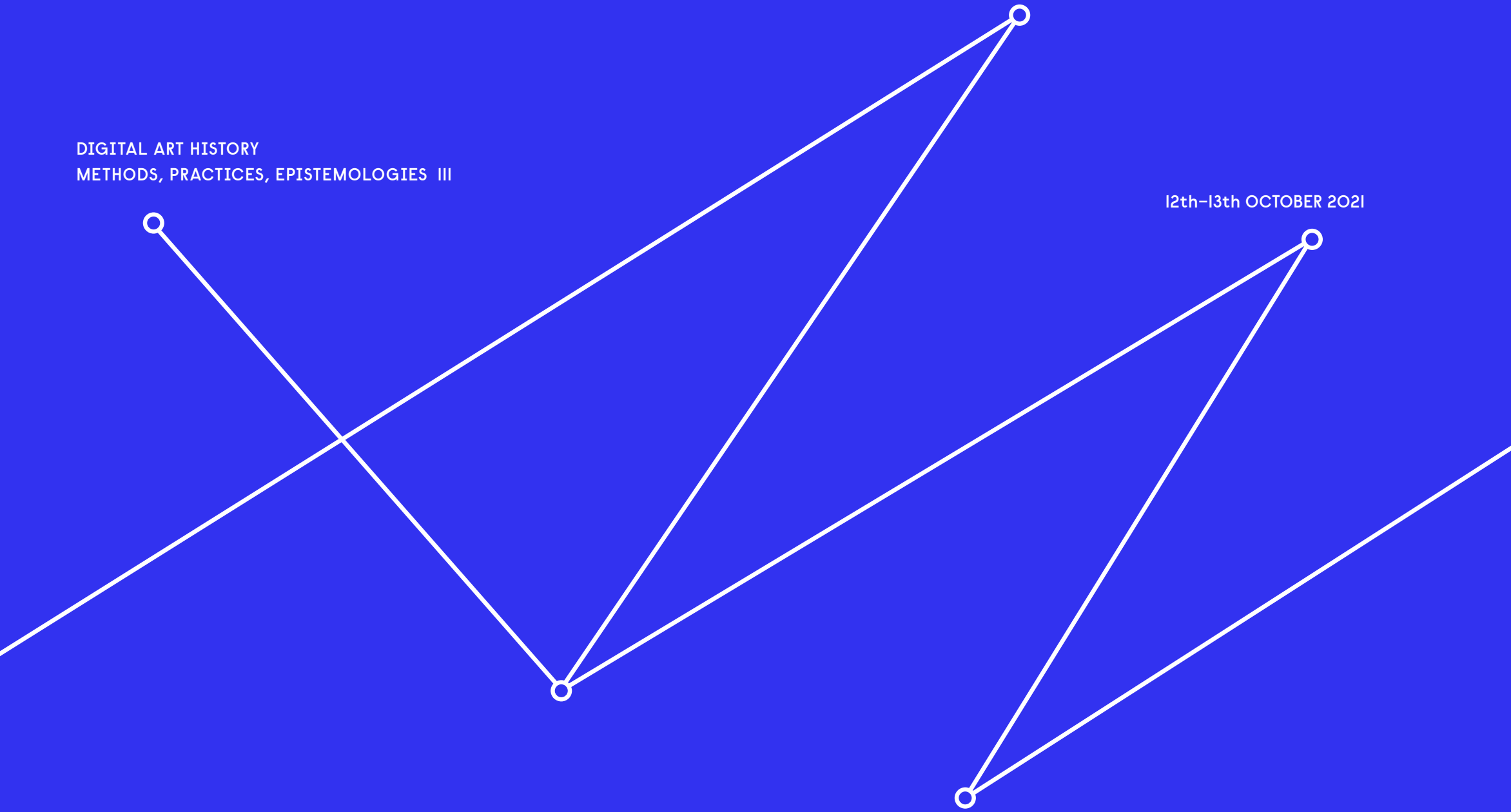III

12th-13th OCTOBER 2021
Zagreb, Croatia

INTERNATIONAL CONFERENCE

DIGITAL ART HISTORY
METHODS, PRACTICES, EPISTEMOLOGIES III

12th–13th OCTOBER 2021

Conference organized by Institute of Art History, Zagreb
and SRCE — University of Zagreb, University Computing Centre

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INTRODUCTION

By gathering a wide array of established and early-career scholars, independent researchers, and professionals from the fields of digital history of art and architecture, visual culture studies, museology, information science, art, and design, the third edition of the International Conference Digital Art History — Methods, Practices, Epistemologies aims at providing a critical overview of the most recent developments in the field of Digital Art History.

Organized by the Institute of Art History and SRCE–University of Zagreb, University Computing Centre, the conference brings together thirty scholars and practitioners from thirteen countries (Austria, Croatia, Czech Republic, France, Germany, Israel, Italy, Portugal, Serbia, Spain, Switzerland, United Kingdom, USA) who are interested in critically examining the recent developments in the field. The Conference will present ongoing or recently completed projects, digital tools, as well as unpublished discussions concerning methodological, theoretical, and epistemological issues pertinent to the field of Digital Art History and to digital culture in general. The topics examined range from the

infrastructural requirements of digital projects, data modeling, digital mapping, and image analysis to the relationship between quantitative and qualitative methods, use of digital tools in education, and decolonization of Digital Art History / Digital Humanities.

Building upon the most recent discussions within the DAH community, the fundamental question that the conference aims at addressing is whether the ongoing infrastructural shifts towards online culture, education, and research — towards online pedagogy, new types of virtual project research and management, new and different models of presenting born-digital and digitized cultural content — could provide a convincing argument for presenting this "online turn" as an unique opportunity for digital art history to demonstrate and put forward its huge capacity for experimentation and innovation within the broad area of visual culture and visual literacy. The answer to this question is a rather complex one, and assumes inputs from Digital Art History, Digital Humanities, Social Sciences, experts in Information

and Communication sciences, as well as artists, designers, and creative individuals and collectives active in the realm of independent culture.

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CONFERENCE PROGRAMME

DAY I
October 12th, 2021
Tuesday

10.30 – 10.45   INTRODUCTORY REMARKS

SESSION I
10.45 – 12.05   CHAIR: Nikola Bojić
Academy of Fine Arts, University of Zagreb

PATRÍCIA FERRARI
ARTIS — Art History Institute, School of Arts
and Humanities, University of Lisbon
Advantages of Digital Art History in Collecting and
Provenance Studies: Cataloguing the Artworks
of René Lalique in the ORION Relational Database
— a Work in Progress

LETICIA CRESPILLO MARÍ
Department of Art History, University of Málaga
Virtual Reality for Recording Intangible
Phenomena: Contemporary Light Installations
and Environments as a Case Study

LUJA ŠIMUNOVIĆ and JURICA MLINAREC
KONTEJNER, Zagreb
Arc-hive — an Integrative Digital
Bio-Media Platform

12.05 – 12.20   Break

DAY I
October 12th, 2021
Tuesday

SESSION II
12.20 – 13.15   CHAIR: Jasna Jakšić
Museum of Contemporary Art, Zagreb

STEFANIA DE VINCENTIS
Department of Humanities, Ca' Foscari
University of Venice
The Medium Is the Museum: Digital Creation and Art
Contamination across Online Museum Collections

VANDA LISANTI
University of Chieti-Pescara
Emerging Practices in Digital Museology: A Qualitative
Analysis of Uffizi Galleries on TikTok

13.15 – 13.55   Lunch Break

SESSION III
13.55 – 14.50   CHAIR: Tamara Bjažić Klarin
Institute of Art History, Zagreb

DOMINIK LENGYEL
University of Applied Sciences, Cologne
and CATHERINE TOULOUSE
BTU University, Cottbus
Uncertainty in the Hypothesis on an Unrealized
Planning of the Berne Minister

MAJA LORBEK
University of Applied Arts, Vienna
Architectural Historiography:
Expanding the Areas, Appropriating
the Digital

CONFERENCE PROGRAMME

DAY 1

CET October 12th, 2021
Tuesday

14.50 – 15.05   Break

KEYNOTE LECTURE
15.05 – 16.05   CHAIR: Sanja Sekelj
Institute of Art History, Zagreb

ROOPIKA RISAM
Salem State University
Disrupting the Digital Cultural Record

DAY 2

CET October 13th, 2021
Wednesday

KEYNOTE LECTURE
10.00 – 11.00   CHAIR: Tihana Puc
Ministry of Culture and Media, Zagreb

LJILJANA KOLEŠNIK
Institute of Art History, Zagreb
Past, Present, Future: A View on Digital Humanities
from the Local Perspective

11.00 – 11.15   Break

SESSION IV
11.15 – 12.35   CHAIR: Jasenka Ferber Bogdan
Fine Arts Archive,
Croatian Academy of Sciences and Arts,
Zagreb

DAY 2

CET October 13th, 2021
Wednesday

IVAN MARIĆ and
DRAŽENKO CELJAK
SRCE — University of Zagreb, University
Computing Centre
Croatian Open Science Cloud Initiative
(HR-OOZ Initiative)

EMIR IMAMAGIĆ, DANIEL VRČIĆ
and KATARINA ZAILAC
SRCE — University of Zagreb, University
Computing Centre
Advanced Computing for Digital
Art History

KRISTINA POSAVEC
SRCE — University of Zagreb, University
Computing Centre
DRAŽENKO CELJAK
SRCE — University of Zagreb, University
Computing Centre
IVANA DOROTIĆ MALIČ
University of Rijeka Library
MARTA MATIJEVIĆ
Croatian Institute of Librarianship,
National and University Library, Zagreb
LJILJANA POLJAK
Library Department of Research Services
and Development, University of Split
and IVANA TURK
City and University Library Osijek
Croatian Research Data Management
Training Program: Supporting the Organization,
Sharing, and Reuse of Research Data

DAY 2

CET　October 13th, 2021
Wednesday

12.35 – 12.50　Break

SESSION V
12.50 – 14.10　CHAIR: Ljiljana Kolešnik
Institute of Art History, Zagreb

MIKE BOWMAN
Birkbeck, University of London
Statistical Methods in Art History:
What Can Metadata Tell Us about the History
of Modern and Contemporary Art?

LUKÁŠ PILKA
Department of Theory and History of Art, UMPRUM
Academy of Arts, Architecture and Design, Prague
The Cloud of Symbols: Using Computer Vision for
Iconographical Analysis of Classical Central European Art

BARRY SUNDERLAND
ETH Library Lab, Zürich
ANN-KATHRIN SEYFFER
Collection of Prints and Drawings, ETH Zürich
and MENGQUI WANG
University of Zürich
open imageSearch: Artificial Intelligence
for Art Collections

14:10 – 14:50　Lunch Break

SESSION VI
14:50 – 16:10　CHAIR: Petja Grafenauer
Academy of Fine Arts and Design,
Ljubljana

DAY 2

CET　October 13th, 2021
Wednesday

ANA KNEŽEVIĆ
Museum of African Art, Belgrade
Understanding Internet Memes with
a Little Help from Aby Warburg, Walter Benjamin,
and Hito Steyerl

NADEZDA GRIBKOVA
University of Illinois, Chicago
Looking at EVERYDAYS: NFT Art
and Picturing the New Financial System

SHARON KHALIFA-GUETA
University of Haifa
Fantastic Art Master

16.10 – 16.25　Break

SESSION VII
16.25 – 17.20　CHAIR: Sanja Horvatinčić
Institute of Art History, Zagreb

VOICA PUȘCAȘIU
"Babeș-Bolyai" University, Cluj-Napoca
Mapping Political Discourse and
Inequalities in Present-day Romania
through Public Monuments

FLORE DI SCIULLO
Centre for Interdisciplinary Analysis
and Research on the Media, University of Paris II
Art Periodicals "in Between" Print
and Digital: Opportunities and Shortcomings
of the New Territories

KEYNOTE LECTURES
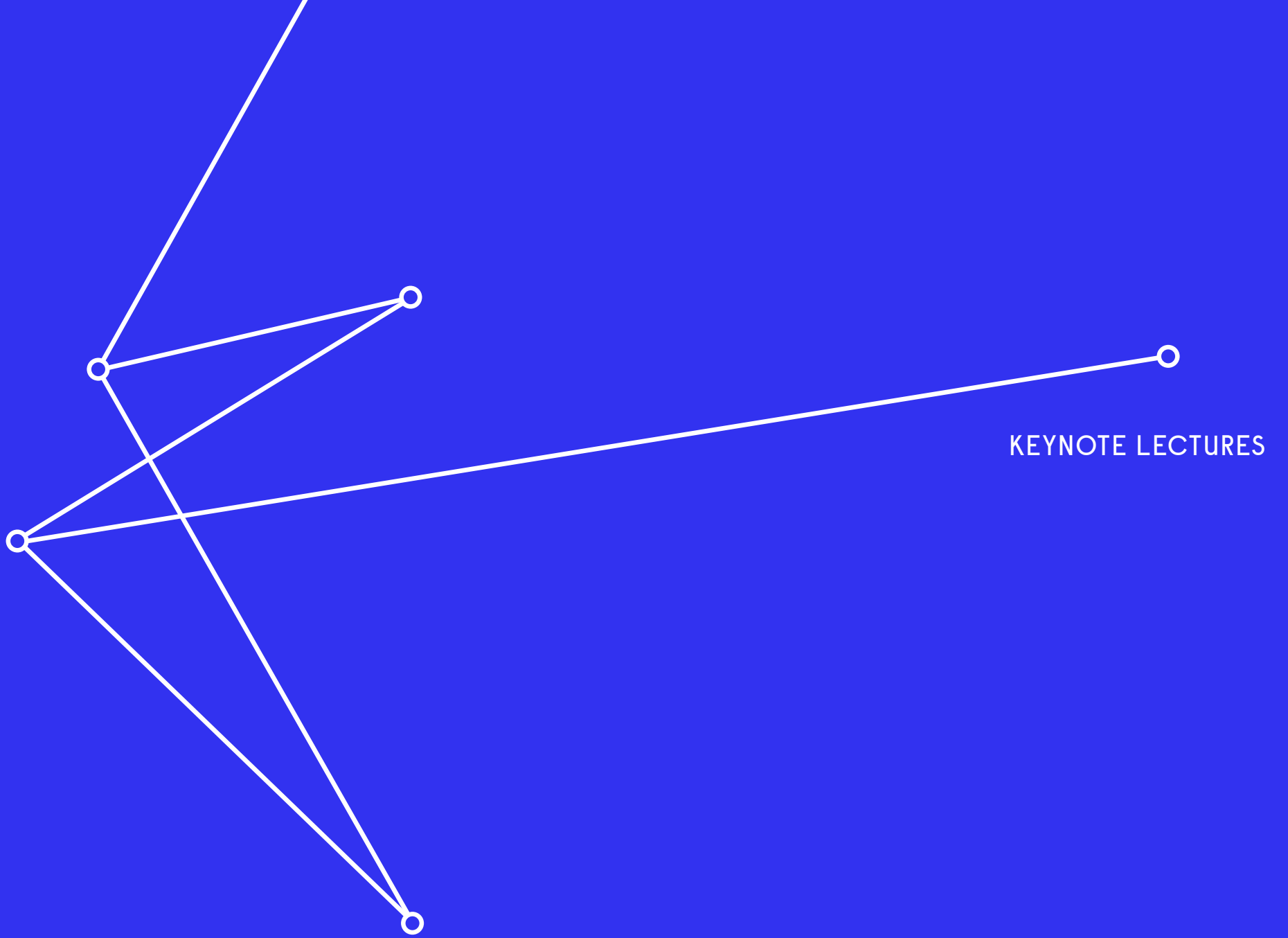
DISRUPTING THE DIGITAL CULTURAL RECORD

As the emergence of digital cultures has been celebrated for openness, accessibility, and the democratization of knowledge, they have simultaneously led to a rise in inequality with respect to race, gender, sexuality, disability, nation, and other axes of oppression. In response, this talk examines how the postcolonial digital humanities can offer a viable approach to understanding, uncovering, and remediating inequalities in one dimension of digital culture: digital knowledge production. Drawing from her book New Digital Worlds: Postcolonial Digital Humanities in Theory, Praxis, and Pedagogy (North-western University Press, 2018), Risam explores how the full supply chain of knowledge production is implicated in an information-age politics of knowledge that has not only reproduced, but also amplified dominant cultural values. She further considers solutions that redress this challenge, arguing for the mobilization of cultural workers who are poised to create new digital worlds that more fully realize what it means to be human in the 21st century.

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ROOPIKA RISAM is an Assistant Professor of English and a Faculty Fellow in Digital Library Initiatives at the Salem State University. Her research interests include the intersections of postcolonial and African diaspora studies, humanities knowledge infrastructures, digital humanities, and the new media. Her first book on New Digital Worlds: Postcolonial Digital Humanities in Theory, Praxis, and Pedagogy was published by the Northwestern University Press in 2018. She is currently co-editing two volumes: Intersectionality in Digital Humanities with Barbara Bordalejo for the Arc Humanities Press and The Digital Black Atlantic with Kelly Baker Josephs for the Debates in the Digital Humanities series. Along with Carol Stabile, she is the co-director of Reanimate, an intersectional feminist publishing collective recovering archival writing by women in media activism. She has recently received the Massachusetts Library Association's Civil Liberties Champion Award for her work promoting equity and justice in the digital cultural record.

ROOPIKA RISAM

PAST, PRESENT, FUTURE — A View on Digital Humanities from the Local Perspective

The Institute of Art History in Zagreb formally initiated its first project in digital art history in 2014. The differences between the present landscape of the local digital humanities and the one in which the Institute began its "digital turn" are illustrative of the changes in the way digital humanities have been perceived, practiced, and understood in both Croatian and a broader, regional SEE and CEE contexts in the last decade. Providing a short overview of the recent transnational and global debates on the state and the future of digital humanities / digital art history, this lecture intends to explore their conclusions from the local perspective. Relying on the experiences and problems encountered in the course of research conducted at the Institute of Art History, as well as the discussions that took place during the previous issues of this conference, it will also examine the usefulness of thinking about the future of the field in terms of its material (technological, and financial) requirements, and its capacity for self-reflection.

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LJILJANA KOLEŠNIK is a Senior Research Advisor at the Institute of Art History in Zagreb. Her work focuses on the comparative research of post-war modern art in Central and South-East Europe, in particular on the relation between art and politics. She is the author and editor of several books (French Artistic Culture and Central-East European Modern Art, 2017; Socialism and Modernity — Art, Culture, Politics 1950-1974, 2013; Modern Art in Croatia 1896-1975, with Petar Prelog, 2012, etc.) and a number of articles on art criticism, art, and cultural policies in Socialist Yugoslavia. She is the founder of the Regional Centre for Art, Culture, and the New Media at the Institute of Art history in Zagreb, and the co-founder of the Centre for Women's Studies in Zagreb. She is currently leading a collaborative research project in digital art history and digital visual culture under the title Models and Practices of Global Cultural Exchange and the Non-Aligned Movement: Research in Spatio-Temporal Cultural Dynamics.

LJILJANA KOLEŠNIK

ABSTRACTS OF
CONFERENCE PRESENTATIONS
& BIOGRAPHIES
Grouped chronologically
in sessions

DAY I / SESSION I
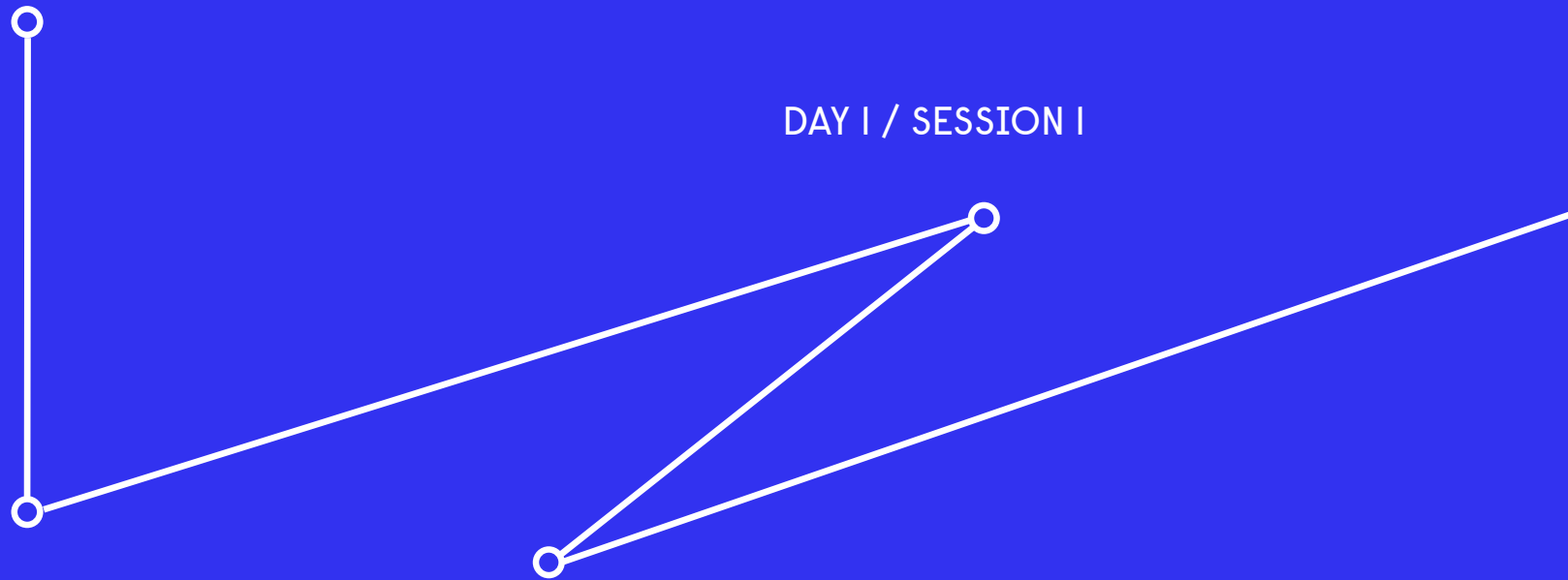
ADVANTAGES OF DIGITAL ART HISTORY IN COLLECTING & PROVENANCE STUDIES: Cataloguing the Artworks of René Lalique in the ORION Relational Database — a Work in Progress

Originating from the intersection of two different projects, the main purpose of the presentation is to show how Digital Art History and its tools can enhance research in the field of Collecting and Provenance.

We must begin by introducing our doctoral thesis project "Under the Spell of René Lalique: The Artist's Collectors Circle and the Route of His Works through the Art Market, from the End of the 19th Century to the Present Day." Awarded with a research grant from the Portuguese Foundation for Science and Technology (FCT), the thesis aims to unveil who were the main collectors of the French artist whose works marked the Art Nouveau and Art Déco movements.

The project is divided into three parts and begins with identifying the collectors who bought Lalique's works during his time. Although we are familiar with some of the names, such as Sarah Bernhardt, Tzar Nicholas II, Henry Walters, or Robert de Montesquiou, in reality there are almost no studies about these collections. So far, the Calouste Gulbenkian Collection, exhibited in Lisbon, is the only one that has been thoroughly studied. Therefore, our purpose is to fill this gap in scholarly literature. Secondly, we intend to understand the circulation of Lalique's pieces between various collections, from the time of their production to the present day, creating a timeline and understanding who has owned them and where are they now. Finally, this information will allow us to understand how his art has been valued over time on the international art market.

Regarding the second part, tracking and mapping the works created by Lalique has become an easier task thanks to ORION, a digital tool that aids our "hunt" and helps us systematize the data, enhancing our results and suggesting new research possibilities.

ORION — Art Collections and Collectors in Portugal is a Digital Art History project developed by ARTIS — Art History Institute (School of Arts and Humanities, University of Lisbon) and based on a relational database that, by connecting the inserted information, detects patterns and common aspects among the collections and collectors. ORION promotes a different approach to Collecting and

PATRÍCIA FERRARI

Provenance Studies, complementing the traditional methods and optimizing the obtained results. Since the study of collecting implies the analysis of a huge amount of data, projects like ORION may be the key to reaching better, faster, and more reliable conclusions in this field. Even though this system focuses on collections and collectors from Portugal, one of its ambitions is to be part of a greater network in the future and to exchange data with other projects, such as the Getty Provenance Index. Therefore, ORION relies on the use of controlled vocabulary and applies a set of internationally recognized rules for storing and managing the information, which will facilitate its future interconnection with other databases.

The main purpose of the presentation is to show the advantages of ORION, using our thesis project as a case study. Due to its historical and artistic relevance and to the amount of available information, the Calouste Gulbenkian Collection was the starting point of our research and thus the first set of pieces to be added to the database. By approaching the cataloguing process, we intend to reveal how the system functions and what benefits can be taken from it. Although this is still a work in progress, it has already showed some results, particularly concerning data organization. We will start our analysis by explaining our data collecting process within the archives of the said collection and the existing scholarly literature. Then we will describe how cataloguing works inside the database: how the information is organized, which parameters it follows, and how it becomes "digital". To conclude, we will show how the system has helped our research so far and what we expect from it in the future.

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PATRÍCIA FERRARI is a doctoral student and researcher at ARTIS — Art History Institute, School of Arts and Humanities at the University of Lisbon in Portugal. She has earned a master's degree in Art Markets from ISCTE-IUL (Lisbon) in 2018, with a thesis on "René Lalique: The Artist, the Mystic and the Entrepreneur," and a bachelor's degree in History of Art from the University of Lisbon in 2016. She is currently developing a research project on the main collectors of René Lalique's art, funded by the Portuguese Foundation for Science and Technology (FCT), and contributing to the project ORION — Art Collections and Collectors in Portugal, a relational database dedicated to the study of Collections and the Art Market in Portugal. Her research interests revolve around the second half of the 19th and the first decades of the 20th century, focusing on the *Art Nouveau* and *Art Déco* movements as well as Symbolism and its branches.

VIRTUAL REALITY FOR RECORDING INTANGIBLE PHENOMENA: Contemporary Light Installations and Environments as a Case Study

The exhibition catalog has always been a very important tool in terms of recording and disseminating cultural and art historical content in museum settings. Its printed format has transcended the barriers of time, adapting at all times to the communication needs derived from different social contexts. Gradually, we have seen this museum tool evolve thanks to technological digitization, allowing for a previously unseen accessibility and democratization of content. However, it is necessary to deeply reflect on how certain artistic statements are shown, and to assess whether printed or digitized catalogs are capable of solving problems derived from the new techno-social context.

My object of study is the contemporary light installation/environment (covering projects originating in the time period from the 1960s and 1970s to the present day). These interventions are complex due to their aesthetic qualities: the use of light as an intangible material, or the immersive three-dimensional spatial environment as a place of bodily experience, cannot be registered in two dimensions. This is a problem, since immersion also characterizes these light manifestations and, in order to be fully experienced, it is necessary to be there. From a phenomenological perspective, it will be necessary to travel through space and get involved in it, both performatively and procedurally. The subject-viewer is no longer an alien element, but becomes the center of the work, subjectively completing it through his own first-person experience obtained by interacting. It is a complex casuistry, since we are talking about works with an open and rhizomatic character from which multiple readings can be extracted; an artifact that needs the subject-viewer, their sensitivity and continuous feedback to exist as a reality in a given time-space in which, in addition, the unique and non-transferable physiological construct of the same individual is involved. All these items are outside the 2D editorial support, both from the traditional catalog and from the digitized one, whose formulas seem insufficient as they are limited.

New technologies have evolved rapidly and this is an advantage for this study: media devices, hardware, and graphics software have far exceeded all of our expectations for the future. This opens

LETICIA CRESPILLO MARÍ

a huge field for experimentation within the digital humanities in general and art history in particular (from an interactive museum perspective, in this case). Virtual Reality becomes a useful tool for these cases, since the interface offers immersion, interaction, bodily participation, performativity in a constructed space, and gestural and situational processuality where, in short, the aesthetic value depends on the attitude taken by the viewer in front of the artifact. Therefore, its research, documentation and preservation will have an enormous impact on its revaluation as cultural production.

RESEARCH OBJECTIVES AND DESCRIPTION
OF METHODS, TOOLS AND FINDINGS
This is a mixed-type research (qualitative and quantitative). The first step (qualitative) was to investigate — from the perspective of the philosophy of art and aesthetics — issues related to the subject of experience and its relationship with light as an intangible plastic and aesthetic element. An extensive bibliographic synthesis was carried out that adhered to other aspects of the field of visual and corporal perception. In addition, this phase addressed questions about reception and new technologies (aesthetics of simulation, aesthetics of participation, aesthetics of habitability, virtual aesthetics) as well as the physiology of the human body and the phenomenology of perception, the neurophenomenology of perception, somaesthetics, perceptual psychology, kinesthesia, somatic or neuroaesthetics. All of this is helpful in understanding the creation of sensitive links between the individual recipient and the intervention.

The selection of artists was made based on the relationship of mutual influences that have existed in the period indicated above (the 1960s/1970s – today). This relationship is obtained from the screening and analysis (quantitative) of the data obtained from the texts. The analyzed corpus consists of 382 texts extracted from 170 catalogs, encompassing the artistic production of 40 artists. These texts include essays, work comments, artist reflections, and interviews categorized in a relational database. What interests us about the texts is the concurrence of concepts (aesthetic and experience) as well as their correlation with respect to the selected

artists (frequency of repetition). These terms, which I have called "experience descriptors," take us back to qualitative analysis, as they are the basis for understanding how interventions work and what non-recordable 2D elements can be displaced into the reconstructed three-dimensional environment.

The concept frequency results are obtained with the help of the Voyant-Tools (Data Mining) and Gephi (Visualization). We are interested in highlighting the continuous repetition of words such as experience, space, time, body, spatial, physical, process, relationship, viewer, subject, different, sense, aesthetic, or place. They indicate the qualities of which we have spoken previously. This is a problem for the 2D register since, as a matter-of-fact, bodily and physical experience in space and time can only be perceived on site as a particular reality.

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LETICIA CRESPILLO MARÍ graduated in Art History in 2015. She holds a degree in Tourism (2009), Master's degree in Social Development of Artistic Culture (UMA) and another in Virtual Heritage and Virtual Restoration (UA, 2019/2020). She is currently working on her doctoral dissertation. She is part of several research groups led by Dr Nuria Rodríguez Ortega, as a collaborating researcher and, currently, as a co-director of the Eviterna Journal (ISSN: 2530-6014). Since February 2019, she has been a Predoctoral Researcher (PIF) at the Art History Department (UMA). She is a specialist in Heritage Virtualization. She has participated as a speaker in several conferences and seminars related to visual culture and new technologies in the museum field and has written several articles on various topics related to the opportunities that Virtual Reality and 3D development can provide to the field of art reception, especially in relation to manifestations of an intangible nature (presence, perception, emotional development, participation in the work, psychology, and phenomenology of individual perception). Currently, she works with 3D modeling and visualization tools, as well as with photogrammetry techniques. She is investigating the benefits of Virtual Reality for current Museography at the IArtHis_Lab research group.

ARC-HIVE —
AN INTEGRATIVE DIGITAL
BIO-MEDIA PLATFORM

As a complex field consisting of artistic and cultural practices working with biomaterials and living matter, bio-art has since the 1990s become globally recognized as a significant part of contemporary culture and a heritage worth our attention. These artistic practices locate themselves in a gray area between art and science (Hauser, 2020). A specific methodology arises in this grey area (Radomska, 2016): "In bioart — as it is described by both artists and critics — it would not be possible to articulate the artistic ideas without engaging with scientific procedures, protocols, and operations. Whereas scientists tend to be more goal-oriented, artists focus on the process, on that which 'disrupts' the planned scenario, on unexpected (and supposedly unproductive) alterations, on clashes in methods." From live tissues and bacteria to bio-hacking and daring sustainability theory and practice, bio-art employs and transforms a wide array of scientific processes ranging from bio-chemistry to genetic engineering. Its approaches, put in words of a bio-art pioneer, artist Eduardo Kac (2007), can be described as follows: "1) The coaching of biomaterials into specific inert shapes or behaviors; 2) the unusual or subversive use of biotech tools and processes; 3) the invention or transformation of living organisms with or without social or environmental integration."

Due to its complexity, the needed specialized knowledge and training related to setting up and maintaining bio-artworks and bio-art production, presentation, and conservation reveals itself as highly challenging and expensive for the cultural agents active in the field. In this context, it is not surprising that contemporary art museums as well as many cultural NGOs, artists, and cultural workers become discouraged and often hesitate to engage and work with bio-art. In spite of many successful bio-art networks and initiatives started in the past 30 years, there has been no systematic, collaborative, or cross-sectoral effort made towards a cohesive strategy for aggregating and distributing knowledge and for promoting the best practices of production, presentation, contextualization, digitization, and preservation of bio-art. Furthermore, the inherent transdisciplinary aspect of the field has been recognized for its potential by scientific and tech-innovation communities rather than across various cultural sectors related to

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JURICA MLINAREC

bio-art. This has been achieved through common thematic and methodological frameworks: natural history museums, IT and AV companies and organizations, archives, educational institutions, and research institutes. The information and expertise is scattered, the broad cultural significance often invisible, and the know-how elusive and inaccessible. The challenges that culture is facing today emphasize even more these issues of the bio-art field, transforming its complexity into a disadvantage in the dissemination of artworks (increasing travel and transportation restrictions) and their elusive, temporary nature (in contrast to permanent display and archiving), as well as their audience reach (limited visits to museums, galleries, and similar venues), cost-effectiveness (expensive production, transportation, set-up, and maintenance), and the intrinsically limited duration of on-site education, research, and cultural events.

As a response to these issues, the 18-month project Arc-hive was launched in the beginning of 2020 with an aim of creating an open-source digital platform (www.arc-hive.zone) intended to aggregate, preserve, publish, distribute, and contextualize a variety of information, knowledge, and documentation on European bio-art practices, ensuring open access to a variety of users and a wide outreach of digital materials across cultural sectors and territories. It addresses the challenges of creating and distributing cohesive digitization and dissemination protocols through a centralized digital space where knowledge and the best practices in bio-art are collected.

All partners are experienced in working across sectors (art, technology, and science) and form a stable network consisting of organizations that have already worked together successfully on cultural projects. Cultivamos Cultura (Portugal) brings into the project an impressive collection of over 150 artworks as a testing ground for developing digitization, conservation, and archival protocols. Zavod Kersnikova (Slovenia) includes a gallery, a hack-lab, and an educational lab, and brings in a significant hands-on, interdisciplinary, and art-scientific approach in the framework of artistic research into the living systems. FBAS — Finnish Society of Bioart (Finland), along with its work in biology, ecology, and life sciences,

has a strong connection to the University of Helsinki, for example in initiating programs such as Ars Bioarctica, an art & science program focused on the sub-arctic environment. KONTEJNER (Croatia) has an extensive 20-year experience in curatorial and theoretical work, and over 100 cultural programs realized across the entire world. RBINS — The Royal Belgian Institute of Natural Sciences (Belgium), along a vast museum venue they are running, has an exemplary expertise in digitization, conservation, and archiving of natural specimens, as well as in conducting educational activities in the field. One example is their recent Handbook of Best Practice and Standards for 2D+ and 3D Imaging of Natural History Collections, which will serve as a starting point for defining bio-art digitization protocols on the project. Hangar (Spain) is an organization bridging artistic fields with vast technical knowledge and digital skills. It brings important audio-visual knowledge into the project, along with valuable resources such as a digital imaging lab, a sound stage, and an experienced AV and IT team of professionals.

The platform serves as a catalyzer and facilitation tool for the digitization, archiving, and distribution of artworks and museum specimens; remote event participation, planning, and realization; augmented publishing; staff and student education and training; and topic contextualization and interconnection. Aimed at building up the capacities of various cultural agents working with biological and living materials — from museum institutions, universities, and NGOs to individual artists, cultural workers, researchers, scientists, and students — the project provides a feasible and tailor-made digital solution to some of the issues fundamental to the field, following the principles of open culture and information sharing in all phases of the project.

The project has been supported by Creative Europe.

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LUJA ŠIMUNOVIĆ is an independent curator holding a master's degree in Art History and Comparative Literature. Since 2015, she has been active in KONTEJNER, where she currently works as curator and program manager. She has been the editor-in-chief of three of KONTEJNER's festival publications and the co-curator of two of its main festival exhibitions. Since 2016, she has been part of the Organ Vida festival team, currently in its curatorial collective. She has been awarded the "Franjo Marković Award" of the Faculty of Humanities and Social Sciences in Zagreb, as well as the "Iso Kršnjavi" and Rector's Award of the University of Zagreb. She has published articles in INSAM Journal and Croatian Cinema Chronicle.

JURICA MLINAREC is a graduate student of Art History and English Language and Literature. He has completed an internship at the contemporary art gallery Lauba in Zagreb, and has been engaged as a translator in a number of cultural projects, such as the official catalogues of Croatia's participation in the Design Biennale in London and the International Design Festival Dan D. As a curator, he has won the first edition of the national program A4 of the Museum of Fine Arts in Split. He is currently working at KONTEJNER as an editor, producer, and project assistant.

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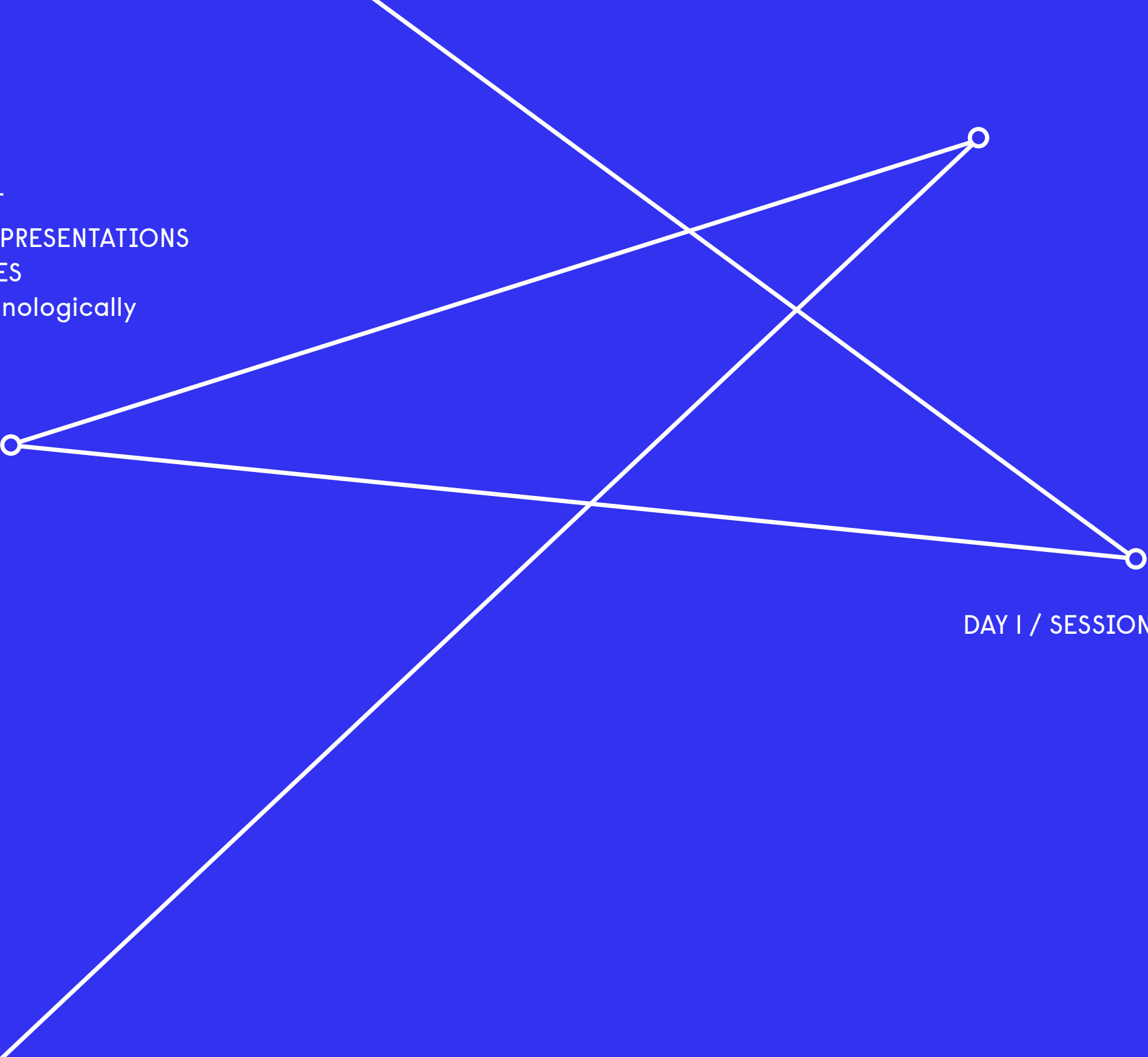
DAY I / SESSION II

THE MEDIUM IS THE MUSEUM: Digital Creation and Art Contamination across Online Museum Collections

Research on the digital museum, as a change in museological and exhibition approaches, is an established and recognized fact thanks to the new technologies for cataloging and communicating collections (Huthamo, 2010). The virtual museum is a concept with which the history of art started to become familiar at the end of the nineteenth century, with the first readings of the museum space and of the very concept of the museum by the historical avant-gardes. Those art actions and theories intended —*inter alia*— to promote an interpretable and interactable model of usability and aesthetic enjoyment of cultural space that would be able to reach multiple audiences, thus suggesting a portable model of the museum. In this regard, one is reminded of Marcel Duchamp and his Boîte-en-Valise, the imaginary museum of André Malraux (Malarux, 1947), or László Moholy-Nagy's Domestic Pinacotheca (Moholy-Nagy, 1925).

The pandemic has helped clarify an aspect that was already consolidated in the role that was autonomous and not additional to the virtual museum. Passing beyond the immediate necessity, these virtual explorations have opened —and in some cases reinvigorated —the research borders in addressing the museum's digital component. Studies have opened up transdisciplinary fields of investigation, involving social, anthropological, linguistic, and —last but not least— art historical research. The role of the information window, which characterized the form of the online museum until mid-2010, has been taken over by a virtual museum model in which the interactive component is a distinctive element. This component is not expressed only in the capacity to attract and engage an audience of potential visitors by considering the layout and modus operandi of social networks; it also has a research component, which claims its function in the museum as an institution. Once the digital tools have been acquired, the virtual museum conveys new interpretative models open to historical readings and artistic creations. For this reason, adopting the well-known motto of Marshall McLuhan (McLuhan, 1964) regarding the theories of communication as being linked to an emerging global village, where the medium as a vehicle of communication has been identified with the message itself, with the object and content of communication, the museum does not

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only equip itself with digital media, but becomes itself a medium intended to serve as a place for research and its dissemination. In this context, the digital museum is strictly related to digital art history and it is this relation that the paper aims to present.

On the one hand, the dominant relation between art historical research and computational language has an instrumental approach, releasing digital resources thought to be of help for the art historian's research needs, as projections of art historical studies. The efforts invested in digitizing images and documents match the will of scholars to archive and collect information on artists and artworks that are enclosed in inventories, diaries, sale catalogs, and biographies. On the other hand, the digital museum embraces all of the technological infrastructures that contribute to the dialogue between the museum collection and the public, either at distance, through websites and virtual reality projects, or in situ with digital tools, enhancing the value of the collection and fostering all of the communication and dissemination aspects. The question of how these two directions (digital images and digital museum) interact and cooperate in an interdisciplinary way could pose a new challenge in the growing field of Digital Art History.

The cases I will present are either a result of users' activities through online museums catalogs (tools such as the Rijikstudio, Artlens) or — as in the case of Tate Modern — creative approaches to digital art creation and image manipulation through the museum collection. The earlier the artworks in the collection, the more creative and problematic are the obtained results.

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STEFANIA DE VINCENTIS is Assistant Professor in Contemporary Art History at the Department of Humanities, Ca' Foscari University of Venice, where she teaches Digital Art and Digital Iconography in the Master's Programme of Digital and Public Humanities. Her background studies are in video art and contemporary art production, with a degree in Painting from the Bologna Academy of Fine Arts, an MA degree in Visual Arts from the Iuav University in Venice, and a post-graduate degree in Management of Cultural Heritage (MuSeC) from the University of Ferrara. She holds a PhD (*cum laude*) in Humanities from the University of Ferrara. She is a member of the Venice Centre for Digital and Public Humanities (VeDPH) and of the directorial board of DiDiART — Diagnostica e digitale per l'Arte at the Department of Humanities, University of Ferrara. She is a coordinator of the "Storie dell'Arte" digital storytelling workshops in museums for the exhibition Look at me! I have a story to tell…! at the Gallerie Estensi in Ferrara. Her research focuses on Digital Art History and the Digital Museum, more specifically on the technologies and ICT tools for the dissemination and enhancement of Cultural Heritage. She has been a research fellow in Museum and Cultural Institutions Studies at the University of Ferrara, Chair of Early Modern History, and at the Ferrara Technopole — TekneHub. As a fellow of the Ermitage Italia Foundation, she has cooperated with international art history centers.

EMERGING PRACTICES IN DIGITAL MUSEOLOGY: A Qualitative Analysis of Uffizi Galleries on TikTok

The aim of the paper is to reconstruct the current presence of Italian museums on the TikTok social network through a qualitative analysis of their profiles, the respective multimedia identities with which they self-represent and present to their public, and the way in which the latter interacts in digital museum space.

As the most downloaded and most widely used social platform in the European context, particularly in Italy, especially by the Millennials and the Z-generation users, TikTok is the ideal social network to conduct a study on the new museological practices that cultural institutions are currently experimenting with. The delicate historical moment of the Covid-19 pandemic has indeed demonstrated the urgency, expressed by the most recent contributions of museum studies, not only to accelerate the processes of digitization and digitalization, but also to completely change the way in which museums are experienced (Graham, 2020). This applies to both on-site and, of course, online museological space. Augmented reality, digitization of collections, live streaming, virtual guided tours, and gaming are all examples of museological practices that preceded the pandemic but which, although growing, have undoubtedly been overtaken both technologically and sociologically by the presence of museums on social platforms.

In Italy, the first phase characterized by an unprecedented and impressive growth of the digital presence of cultural institutions during the lockdowns, defined in terms of "digital bulimia," was followed by a second phase of growing disinterest of the public in the content produced by museums. The joining and attendance of TikTok by some of Italy's major museums — the Uffizi and the Stibbert Museum in Florence, the National Gallery in Rome, the archaeological site of Paestum and Velia in Campania, and the MarTa in Taranto — while certainly a consequence of the pandemic, was nevertheless the only strategy adopted by institutions to go against the trend, continuing to be successful even after the reopening of museums in terms of both physical and virtual audiences.

Since it is impossible to ignore the attractiveness of this social network for younger audiences, the great absentees in Italian

VANDA LISANTI

museum galleries, it is necessary to analyze the strategies that museums have adopted on the platform and to compare them with those used by the museums all over the world in an international perspective. The research will therefore investigate the presence of museums on TikTok, their evolution, their growth, and their choices, finally focusing on the tone of voice and advocacy that these institutions have chosen to adopt since the beginning of the pandemic. In addition to focusing on individual case studies, the research aims to use qualitative and descriptive analysis to identify the most frequently used communicative keys in the social network in order to understand the interactions, relationships, and flows of audiences in the museum conceived as a place of social and cultural phenomena. Starting from these reactions, the study will then reflect on the status and meaning assumed by the works of art enjoyed virtually through the platform, presenting a critical reading mediated by the debate that has arisen around the positive and negative aspects of the reproduction of art and its digital modifications. Is it possible to determine what kind of relationship is established between the user and the works of art through the sole digital connection with the objects and stories contained in a museum (Colombo, Mandarano, 2020)? A final reflection will be devoted to the professionals behind the museums' TikTok accounts, in many cases cultural professionals who have reinvented themselves during the pandemic and are revolutionizing the communication and promotion offices of the museums.

The theoretical approach and the analysis will help define new possible museum models and innovative curatorial practices. Not seeking to be exhaustive, this study opens up to new questions and challenges arising from the virtual representation of museum collections on a social platform that strongly stimulates creativity and user-generated content, thus lending itself much more than other platforms to become a valid communication and educational tool (Marín-Cepeda, 2021).

Based on the production of audiovisual material of a maximum duration of 60 seconds, created in an exclusive and original form, and often using acting, lip-sync, and comedy practices, TikTok is

a diffuse and extra space of creativity for the museums. In comparison to both the traditional and virtual museum spaces, the social network becomes the place where the museum's mission of art promotion and interdisciplinarity can be implemented without the usual constraints and with direct participation of the user as a co-protagonist in a museum, who can feel all for himself and at the same time share it with millions of people around the world.
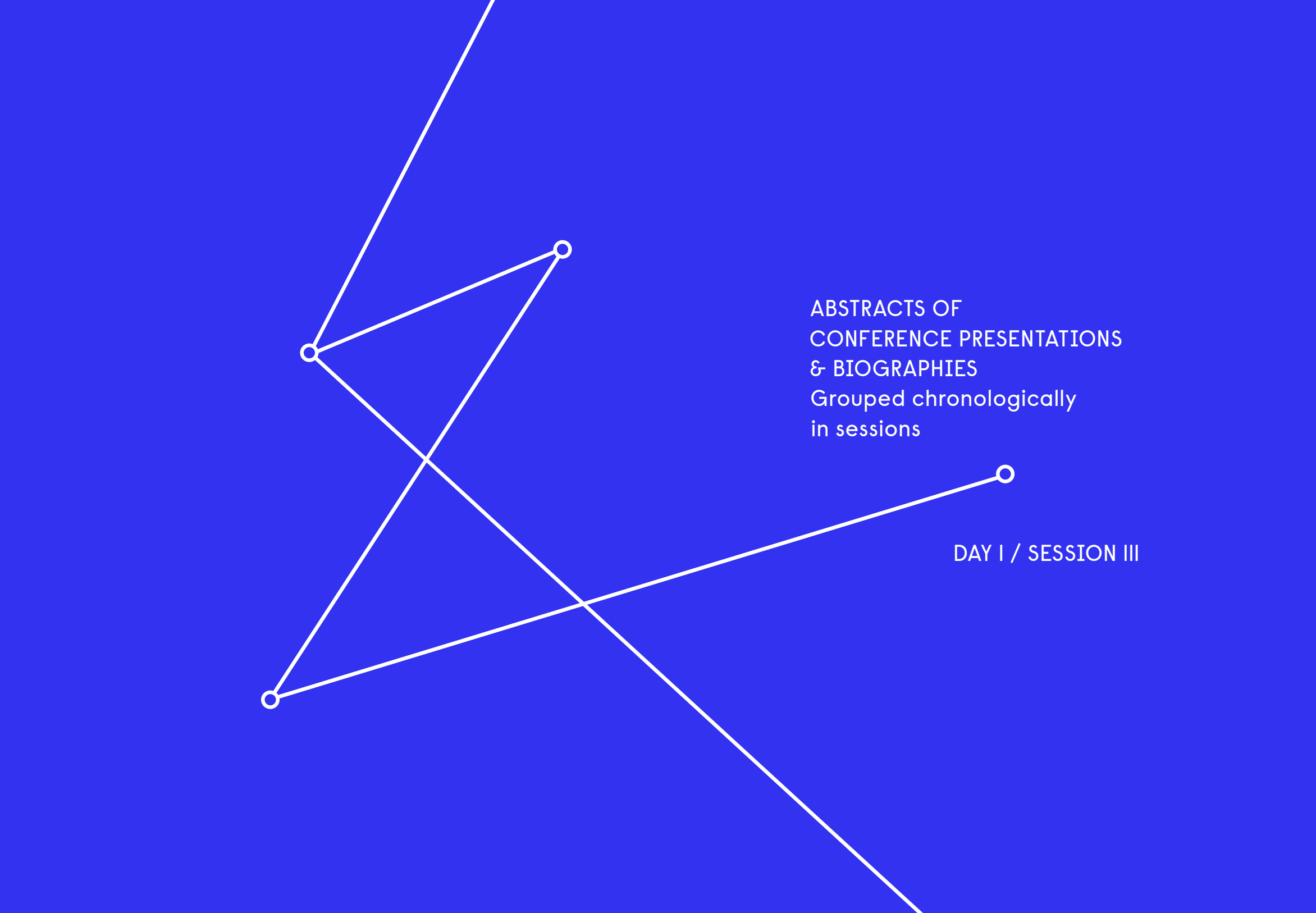
Strongly convinced that the social media are in this moment the most capable language to create a more participative relationship between the museums and their ever-changing audiences, the author analyzes the way in which the museum presence on TikTok can consciously produce cultural capital without losing the centrality of the museum mission or producing empty, superficial conversations.

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VANDA LISANTI joined the Royal Palace of Naples' communication staff as junior art historian in 2019, after graduating in Museology from La Sapienza University of Rome. She is currently a PhD student at the University of Chieti-Pescara (Italy), where she is investigating the history of collections at the Palazzo dei Conservatori in Rome during the 18th and 19th centuries. Assistant to the Chair of History of Art Criticism and Museology, she contributes to the seminars on the presence of museums on social networks, being particularly interested in the use and perception of TikTok. In 2020, she was selected for the Rijksmuseum and Bard Graduate Center Summer School "Museum Objects as Evidence" (Summer 2022). She was chosen as a speaker for the "Art, Museums and Digital Cultures" international conference (Lisbon, April 22–23, 2021) with the paper "How Covid-19 Changed the Digital Presence of Italian Museums: Influencer Marketing Attempts at the Uffizi Galleries and the Museums of Bologna." Recently she has been involved in the organization of the international study day "La storia dell'arte illustrata e la stampa di traduzione tra XVIII e XIX secolo" (Chieti, June 10–11, 2021).

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DAY I / SESSION III

UNCERTAINTY IN THE HYPOTHESIS ON AN UNREALIZED PLANNING OF THE BERNE MINSTER

The background of our research are projects that we have been involved in for years in the overlapping field of hypothesis-driven research and the visualization of uncertainty and fragmentary data, where we both explore new research possibilities and focus our communication on presentation and representation. At our chair of architecture and visualization, the visualization of uncertainty has been a distinct research area since we developed the first scientific three-dimensional virtual model of the ancient city of Pergamon or the imperial palaces on the Palatine in Rome ten years ago for the Excellence Cluster TOPOI of the German Research Foundation (DFG) and with the German Archaeological Institute (DAI), the former being a research cooperation that has continued without interruption to this day. The construction phases of the Cologne Cathedral from Christ's birth until today (for ten years now also permanently installed in the entrance area of the Archaeological Zone in the Cologne Cathedral itself) as well as the baroque architecture of the Würzburg Prince Bishop Julius Echter von Mespelbrunn from the beginning of the 17th century (exhibited in the Martin von Wagner Museum in the Würzburg Residence and funded by the Kulturstiftung der Länder) have allowed us to successfully transfer the method to modern times as well.

Already in the conference Digital Art History — Methods, Practices, Epistemologies II we reported on the two complementary classical methods of representation in architecture, modeling and photography, which we have transferred into the era of digitalization as virtual modeling and virtual photography. The innovation consists in adopting the abstraction of classical model making as well as the rules of the physiology of natural perception following classical architectural photography. Photographing abstract geometry, where the abstraction corresponds to the degree of uncertainty, as if it were built architecture, is by no means trivial, since it is precisely the abstraction of the model that requires a particularly careful and experienced use of the photographic parameters of lighting, point of view, viewing direction, image tilt, focal length, and exposure.

DOMINIK LENGYEL
CATHERINE TOULOUSE

The research objectives of our recent research project, which concerns the first century of the Berne Minster, has been to visualize not only the realized states of the building in its context, like in the past, but also the lost ones. In this building, irregularities in execution are so clear that they suggest traces of a discarded, alternative planning that was never realized. Thus, the aim of this research project has been to contrast these alternative plans, as consistent so-called planning phases, with the verifiable realization phases.

The research method consisted in integrating the irregular traces into an alternative three-dimensional model, carried along in parallel with the construction progress. The basis for this was the ongoing research on the actual construction of the church, whereby the irregularities raised precisely those questions and hypotheses that the alternative model was intended to supplement. For this purpose, a distinction was made between the chronologically verifiable realization phases and the planning phases that could only be identified or assumed chronologically through the design of the corresponding components. The tools of research were the classical building survey and its interpretation by the building researchers. Through simultaneous modeling and visualization, however, the latter could provide feedback on the spatial hypotheses as a catalyst, thus confirming or also disconfirming them geometrically. In this way, the tool of visualization actually acted as a research instrument and not, as is often the case, as a retroactive illustration of verbal hypotheses that had already been established. Thus, the discipline of visualization was able to reveal aspects that had a direct impact on researching the building. However, this was not limited to objective geometric combinations and spatial structures, but included the architectural interpretation of the spatial effect. The effect of space is a particularly important aspect of research at our chair, as we are convinced that as architects we can also influence the archaeological research hypotheses that should not be underestimated, because space is always also a question of visual and emotional effect. This is one of the reasons why we visualize like photographers and do not refer to our visual results as renderings, which merely imply a technical, algorithmic process, a computer's calculation process, but rather as virtual photography.

This means that the intended spatial effect must have a primary influence on the image design, rather than being, for example, a capacious overview or the simultaneous display of geometry, alternatives, meta-data, etc.

The results of this research project have indeed made it possible to conceive an alternative building that is consistent in itself and that extends the irregularities of the built church into a complete building, but one that is different in detail. Although this does not affect the entire building, it clearly affects the west end of the nave, which through this alternative form not only closes in a different way objectively, namely with a gallery in the interior, but above all clearly changes the overall effect of the interior. The planning phase derived from this area, called the west gallery, is therefore not limited to the gallery's function. The gallery is such a dominant intervention in the interior that the nave appears to be divided in two by this considerable horizontal caesura. Even if the final design of the plasticity of the wall surfaces is entirely hypothetical, and this is true even though this hypothesis, like all other hypotheses, is based on scientifically founded assumptions and analogies, the spatial effect is more than turned upside down by the possibility of being able to stay halfway up the nave as a worshipper or visitor. This also results in a reinterpretation of the meaning of the standpoint on the ground. In short, it would have become a completely different church.

The research continues and the latest element, completed a few days ago, is the reconstruction of the roof structure in the northern side aisle across three construction phases.

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DOMINIK LENGYEL & CATHERINE TOULOUSE studied Architecture at the Universities of Stuttgart, Paris-Tolbiac, and ETH Zürich. After working as architects with Prof O.M. Ungers, they founded an office for architectural visualisation. In 2002, Dominik Lengyel began teaching as a substitute and full professor at the University of Applied Sciences in Cologne. Since 2006, Dominik Lengyel has held the Chair of Architecture and Visualisation as full professor, while Catherine Toulouse works as assistant professor at the BTU University in Cottbus. Their major research area is the visualisation of archaeological hypotheses. They were members of the research program Excellence Cluster TOPOI funded by the German Research Foundation (DFG). Their research has been funded by the German Research Foundation DFG, the Gerda Henkel Foundation for the preservation of cultural heritage, the Federal Ministries of Education and Research BMBF, of Economic Affairs and Energy BMWI and of the Interior, Building and Community BMI. Since 2018, Dominik Lengyel has been a member of the European Academy of Sciences and Arts in Salzburg.

ARCHITECTURAL HISTORIOGRAPHY: Expanding the Areas, Appropriating the Digital

Architectural history is diversifying and expanding. Ongoing research is increasingly exploring the mobilities of architecture (Stanek 2015, 2020), adding non-Western Modernisms to the canon, compiling networks of actors, studying mediation, and analyzing norms and institutional regimes. However, architectural history does not have an established repertoire of methodologies, a reality that is both irritating and liberating.

When exploring an organization such as l'Union Internationale des Architectes (UIA) and its working group on educational buildings, one is faced with several challenges. The sources — ranging from personal correspondence between the working group members to publications by the UIA, period architectural magazines and school building manuals — are scattered over a number of archives and libraries. Secondary sources on the UIA are scarce. Some of the biographies and autobiographies of the commission's more famous members are available, and there are an ever-increasing number of publications on the Cold War era. Additional sources for interpretative research are design briefs, building documentation, and regulations, which help us capture the impact of transnational ideas and standards on the local production of school architecture. Our task as a team of one architect and two art historians is to compile these disparate sources into coherent narratives and visualizations while bearing in mind that sources are sometimes incomplete and random.

This contribution is linked to an ongoing project that started in October 2020. While the archives are slowly opening, we are still testing out different digital tools for organizing and presenting the data, and fulfilling the challenges of the open data standards required by the funding agency.

How does one tackle the choice of tools in a systematic, rational, and reproducible way? Some of the options are obvious. Gephi can be used for visualizing networks, while geo-data and GIS software can be used in maps and timelines. However, some questions remain. Do we aim to interlink the data while storing, and can we generate timelines simultaneously while also organizing, studying, and

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interpreting the sources? Do we need a relational database such as Filemaker and a bespoke solution to manage our data and generate our timelines? Do we resort to our interdisciplinary experiences with the method of qualitative content analysis and software such as MaxQDA to tackle the extensive amount of archival documents and mediated representations of school architecture? Or do we stick to the programs in which we are well versed? Using Excel spreadsheets can be a simple yet practical solution.

As an architect, I am very much aware of how the tools impact the outcome of design work. When I started practicing architecture, drawing activities were being slowly transformed through the then novel CAD technology. Written specifications (tenders), which had previously been typed or assembled using the copy machine, were now generated with the help of software programs based on SQL databases. Easily generated CAD plans may seem like intelligible technical drawings at first glance. A closer inspection of CAD drawings often reveals incoherent technical solutions. While digital tools are useful, they require confident users who are aware of their limitations.

This presentation is part of the project on "Transnational School Construction." During the post-war era, schooling was profoundly transformed. As the significance and duration of education expanded in both East and West, schoolhouses were scaled down from large self-contained multi-story buildings to lower, pavilion-like facilities amid green areas. Founded in 1948 in Lausanne, l'Union Internationale des Architectes (UIA)—the "United Nations of Architecture"—pursued cultural diplomacy and exploited the polarizations of the Cold War (Glendinning, 2009). In 1951, the UIA set up the Commission on School Constructions (CSC), dedicated to the international exchange of ideas on school architecture, carrying out comparative research in the Global North and South, and setting common standards for school construction and design. Architects such as Alfred Roth, Pierre Vouga, Mario C. Celli, Jan Piet Kloos, Ciro Cicconcelli, Pedro Ramirez Vazquez, Wilhelm Schütte, Oton Gaspari, Helmut Trauzettel, Günter Wilhelm, or Anton Schweighofer served in the Commission. In between the global and

the local, the delegates' role was threefold: they carried out comparative research on local solutions and emergent technologies, codified international standards, and acted as local arbitrators.

The conceptual framework of this study is transnational history. The methods include archival research, qualitative content analysis, iconology, and comparative analysis. Our research focuses on the Commission on School Constructions, three of its member states, Austria, German Democratic Republic, and Slovenia (during the post-war era of Yugoslavia), and some more active member states such as Morocco, Mexico, and the Federal Republic of Germany.

Our interpretive analysis will explore the influence of contextual factors such as educational systems and political regimes on school architecture, and identify the impact of regional traditions and historical (dis)continuities against the backdrop of the Cold War.

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MAJA LORBEK studied architecture at TU Graz and completed her PhD at TU Wien. From 2015 to 2017, she worked as a project coordinator and postdoctoral researcher at the Leibniz-Institute of Ecological Urban and Regional Research (IOER) in Dresden. Currently, she leads the FWF project "Transnational School Construction" at the University of Applied Arts in Vienna. She is a member of the working group "Residential Buildings and Architectural Design" within the European Network for Housing Research (ENHR). Her research interests include the material, socio-cultural and mediated co-production of the built environment, the transnational history of post-war school architecture, and flexibility in architectural practice.

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DAY II / SESSION IV

CROATIAN OPEN SCIENCE CLOUD INITIATIVE (HR-OOZ Initiative)

One of the priorities of the European Commission is the development and integration of open science policy, which will "improve the quality, efficiency, and responsiveness of research" (European Commission, 2021). The EU funded project FOSTER Plus (Fostering the Practical Implementation of Open Science in Horizon 2020 and Beyond) defines open science as "practice of science in such a way that others can collaborate and contribute, where research data, lab notes, and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods" (FOSTER, 2017).

Over the years, several institutions and initiatives in Croatia have advocated openness and built support for open science. In June 2021, SRCE — University of Zagreb, University Computing Centre led the launch of the National Open Science Cloud (NOSC) Initiative named the Croatian Open Science Cloud (abbrev. locally HR-OOZ) Initiative. The Initiative gathered prominent national institutions with an active role in the field of open science and it includes representatives of all important stakeholder groups: research performing organizations (RPO), research funding organizations, research supporting organizations and policy makers. List of the RPOs that joined the Initiative includes all public universities and the Croatian representatives or national coordinators of European Research Infrastructure Consortium (ERICs): Institute of Ethnology and Folklore Research (DARIAH), Faculty of Humanities and Social Sciences of the University of Zagreb (CLARIN and CESSDA), and Ruđer Bošković Institute (CERIC, OpenAIRE NOAD, NI4OS-Europe project partner). The main research-funding organization, the Croatian Science Foundation, has also joined the initiative, together with the main policy maker, the Ministry of Science and Education of the Republic of Croatia. Besides SRCE, which is the main e-infrastructure and data services provider for the Croatian higher education and research system, the national Research Data Alliance node and the NI4OS-Europe project partner, the National and University Library in Zagreb, have joined the Initiative. Inclusion of many institutions and representatives of all stakeholder groups will hopefully ensure greater acceptance, impact,

IVAN MARIĆ
DRAŽENKO CELJAK

and sustainability of the Initiative's results. Active involvement of relevant stakeholders in creating the required preconditions for the implementation, realization, and promotion of open science should lead to improved research conditions, which is necessary to achieve top research results for the benefit of the academic community as well as the entire society of the Republic of Croatia.

The Initiative aims to build a modern, high-quality, internationally relevant, and competitive science system based on the principles of open science, harmonized and connected with the European Research Area and the relevant European initiatives. The Initiative has two main goals. The first goal is to setup the HR-OOZ, which includes defining its organizational and governance structure, defining the technological principles of the components that will make the HR-OOZ, and ensuring its sustainability. The second goal of the Initiative is to draft the proposal of National Action Plan for Open Science and propose changes to the law governing scientific activities.

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IVAN MARIĆ is the Director/CEO of SRCE. He played an important role in the creation and construction of the Croatian academic and research network in the early 1990s. He has been actively involved in building and governing the pan-European e-infrastructures GEANT and EGI. He is an official Croatian delegate to the EOSC Steering Board and the EOSC Association General Assembly. He has been the Croatian representative in the Future Internet Forum (FIF) since 2016 and the Horizon Europe Research Infrastructure Programme Committee, and an e-IRG delegate since 2006. He leads the strategic project "Croatian Scientific and Educational Cloud" (HR-ZOO).

DRAŽENKO CELJAK is the head of data services at SRCE — University of Zagreb, University Computing Centre. He coordinates and directs the development of several national infrastructures and services, including the national repository infrastructure Digital Academic Archives and Repositories (DABAR) and the Portal of Croatian Scientific and Professional Journals (HRČAK). Celjak is a national Research Data Alliance (RDA) Node coordinator for Croatia and European Open Science Cloud (EOSC) Promoter. He is currently involved in the EU-funded project "National Initiatives for Open Science in Europe" (NI4OS-Europe). His main focus is the development of infrastructure for open science.

ADVANCED COMPUTING FOR DIGITAL ART HISTORY

EMIR IMAMAGIĆ
DANIEL VRČIĆ
KATARINA ZAILAC

Advanced computing relies on state-of-the-art computer systems, platforms, and algorithms in solving computer- and data-intensive scientific and engineering challenges. Advanced computing has vastly improved data analysis both in science and in the humanities. Many of the recent discoveries would not have been possible without the use of high-performance computing (HPC) and high-performance data analytics (HPDA) infrastructures, as well as platforms enabling advanced artificial intelligence (AI) algorithms.

SRCE offers several advanced computing services: HPC resource Isabella, HTC Cloud, and JupyterLab services. HPC resource Isabella provides over 3,000 processor cores and 12 GPUs together with over 50 scientific applications ready for use. HTC Cloud is a cloud-computing platform that allows the users to provision flexible computing platform with high computing and storage requirements. A common use of HTC Cloud is ad-hoc provisioning of virtual machines for interactive data processing and provisioning of larger systems such as computer clusters or big data analytics platforms. JupyterLab services allow the users to instantiate Jupyter notebooks — popular web-based interactive environment for running data science, scientific computing, and machine learning workflows.

European High Performance Computing Joint Undertaking (EuroHPC JU) is an EU initiative aiming to build large-scale supercomputer infrastructure that will provide significant HPC capacity for European scientists, private individuals, and industry. In the first phase, EuroHPC will build three pre-exascale and five petascale supercomputers providing aggregated performance of over 650 PFLOPS. In parallel, National Competence Centres in the Framework of EuroHPC (EuroCC) project aim to build National Competence Centers (NCCs) that will promote HPC and support researchers in accessing EuroHPC resources.

European Open Science Cloud (EOSC) aims to build federated multi-disciplinary environment for publishing, finding, using, and processing research data. EOSC will bridge the existing and emerging research infrastructures, research data collections, and innovative

thematic services allowing the researchers, companies, and private individuals to collaborate and work across country and discipline borders.

Besides the access to the generic services (compute, storage), the researchers can also access thematic services on-boarded to EOSC. There are several thematic infrastructures available for the humanities and social sciences, which are supported by EOSC. For Arts & Humanities, there is DARIAH (Digital Research Infrastructure for Arts and Humanities), which aims to enhance and support digitally enabled research and teaching across these disciplines. CLARIN (Common Language Resources and Technology Infrastructure) is a research infrastructure inspired by the vision that all digital language resources and tools from all over Europe and beyond should be accessible through a single online environment for the support of researchers in the humanities and social sciences. There is also E-RIHS (European Research Infrastructure for Heritage Science), which supports research on heritage interpretation, preservation, documentation, and management.

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EMIR IMAMAGIĆ is the head of the Computer Systems Department at SRCE — University of Zagreb, University Computing Centre. He is the Operations' manager of HPC cluster Isabella and HTC Cloud platform, provided to the Croatian research community. As a member of various international projects, he develops and runs the monitoring system ARGO and participates in various operations activities. He leads an activity within the "Croatian Scientific and Educational Cloud (HR-ZOO)" project, which will build new HPC and HTC Cloud infrastructures. He is also a task leader on the "National Competence Centres" project in the framework of EuroHPC — EuroCC. He leads a team of SRCE experts in the project "EGI Advanced Computing for EOSC (EGI-ACE) and EOSC Future."

DANIEL VRČIĆ is the head of the ARGO development team at SRCE — University of Zagreb, University Computing Centre. ARGO is used for monitoring large-scale distributed research e-Infrastructures. Vrčić is responsible for selecting open source software technologies, design ideas and optimizations of data flows, and pleasant UI workflows to enhance the experience of the ARGO monitoring system. He is actively supporting Croatian research communities in using various advanced computing platforms — from HPC and HTC services at SRCE to global services available through EOSC and EuroHPC.

KATARINA ZAILAC is a member of advanced computing team as an e-scientist and member of the ARGO development team at SRCE — University of Zagreb, University Computing Centre. As a member of the ARGO team, besides development, she participates in various operations activities. She also supports various research communities by providing training on the use of the computer cluster Isabella located at SRCE.

CROATIAN RESEARCH DATA MANAGEMENT TRAINING PROGRAM: Supporting the Organization, Sharing, and Reuse of Research Data

KRISTINA POSAVEC
DRAŽENKO CELJAK
IVANA DOROTIĆ MALIČ
MARTA MATIJEVIĆ
LJILJANA POLJAK
IVANA TURK

The essence of science and every research is data, so researchers need to have at least a basic set of skills and knowledge needed to manage research data, i.e. research data management (RDM). The term refers to "the organization, storage, preservation, and sharing of data collected and used in a research project" (ULS, 2020). During the research data life cycle, data need to be well organized and documented, accompanied with rich metadata description, and in line with the FAIR principles (Findable, Accessible, Interoperable, Reusable). In addition, "research data management is important to support research data sharing in open science, as well as to enhance the transparency of the research process" (Furukawa, Ojiro, Yamaji, 2018, p. 640).

SRCE — the Computing Centre at the University of Zagreb, in collaboration with four major university libraries (National and University Library in Zagreb, University Library Rijeka, University of Split Library, and City and University Library in Osijek) has recognized a need in the Croatian scientific and research community and higher education system for developing a series of RDM online courses.

In 2020, the Croatian RDA node published the RDM handbook under the title How to Manage Research Data? that was the main inspiration and focal point for developing an online self-paced training program about research data and RDM. A second reason for developing these courses was the lack of educational materials and training programs about RDM in the Croatian language.

The main idea behind the courses has been to raise awareness in the Croatian scientific and research community about the importance of quality and timely data management during the research data life cycle. Clare et al. (2019) have stated in their book Engaging Researchers with Data Management: The Cookbook that in order to have successful implementation of good RDM, there needs to be a cultural shift in the research community that will motivate the researchers to practice RDM, because they are "the main data producers and re-users" (Clare et al., 2019, p. 2). The mission of these online courses is to spread knowledge about the importance and necessity of making the research data findable, accessible,

interoperable, and reusable by the wider research community on the national, European, and international levels.

The training program will initially consist of six thematic courses that cover the introduction to the topic of research data and research data life cycle, with an emphasis on the importance of RDM (1), the FAIR data and principles (2), the RDM documentation, e.g. metadata description, and the process of describing data that are collected during research. One of the examples that the course provided about the RDM documentation is developing the ReadMe file, in which researchers are writing down their metadata (3). Furthermore, the program covers naming conventions for the data sets, the organization structure of files, folders, and data during the research data life cycle, the versioning of data and the selection of best formats for storing data (4), managing sensitive and personal data in qualitative and quantitative researches, differences between anonymization and pseudonymization and between direct and indirect identifications, and the best practices in developing good inform consent for the research participants (5). The last course is about publishing and reusing data, choosing the best repository for long-term preservation of data, and the benefits that qualitative RDM brings to the research community (6).

SRCE provides free access to the courses that are available online in the Croatian language within the Moodle learning management system (LMS), with the aim to provide support and e-learning materials to the Croatian research community. The target groups are students and teachers in the higher education system and everybody else who is interested in learning more about RDM, the FAIR principles, data management plans, metadata, research data life cycle, anonymization, personal and sensitive data, long-term preservation, file formats, ReadMe file, etc. Each course has a knowledge test after individual educational parts. After success-fully finishing a course, the participants get a digital badge and if they complete all courses in the training program, they earn a certification in the field of research data management provided by SRCE.

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KRISTINA POSAVEC holds a PhD in Information and Communication Science from the Faculty of Humanities and Social Sciences, University of Zagreb. She works as IT project manager at SRCE — University of Zagreb, University Computing Centre, where she is involved in the HORIZON projects focusing on open science, research data management, data management plans, and the FAIR principles. In addition, she is a lecturer of Computer Science at the Faculty of Education and Rehabilitation Science, University of Zagreb, and associate editor of the International Journal of Information and Communication Technology Education (IJICTE). Her main research interest is the use of ICT in education and learning, and the computer corpora.

DRAŽENKO CELJAK is the head of data services at SRCE — University of Zagreb, University Computing Centre. He coordinates and directs the development of several national infrastructures and services, including the national repository infrastructure Digital Academic Archives and Repositories (DABAR) and the Portal of Croatian Scientific and Professional Journals (HRČAK). Celjak is a national Research Data Alliance (RDA) Node coordinator for Croatia and European Open Science Cloud (EOSC) Promoter. He is currently involved in the EU-funded project "National Initiatives for Open Science in Europe" (NI4OS-Europe). His main focus is the development of infrastructure for open science.

IVANA DOROTIĆ MALIČ is a librarian at the University of Rijeka Library. She has a Master's degree in Library and Information Science. Her areas of interest include digital repositories, scholarly communication, open access initiatives, open science, and research data management.

MARTA MATIJEVIĆ is a librarian at the Training Centre for Continuing Professional Development of Librarians in Croatia (CSSU) and the Librarianship Collection at the Croatian Institute of Librarianship, National and University Library in Zagreb. She graduated from the Faculty of Humanities and Social Sciences in Osijek, Department of Information Sciences, in 2016 and obtained a master's degree in information science. She has published papers in the field of research data management and information theory. She is a member of the National Research Data Alliance node and the Croatian Library Association.

LJILJANA POLJAK holds a master's degree in Library and Information Science from the University of Zadar and is currently a PhD student at the same university. She works as a librarian at the Library Department of Research Services and Development, University of Split, where her responsibilities include analysis of scientific productivity, web development, institutional repository management, and open science advocacy. Previously she worked as a teaching assistant at the Zadar University Department of Information Sciences, where she taught library services and management, and a course on information society.

IVANA TURK graduated from the Department of Information Science at the Faculty of Humanities and Social Sciences in 2015. She works as a librarian at the City and University Library Osijek, at the Cataloguing Department. She is also the American Corner Osijek coordinator, where her tasks include programming as well as managing finances and activities. Furthermore, her assignments include incorporating new technologies in everyday library activities, web-and graphic design, and the library's presence in public, particularly on social networks. She is part of the Croatian Research Data Alliance network.

ABSTRACTS OF
CONFERENCE PRESENTATIONS
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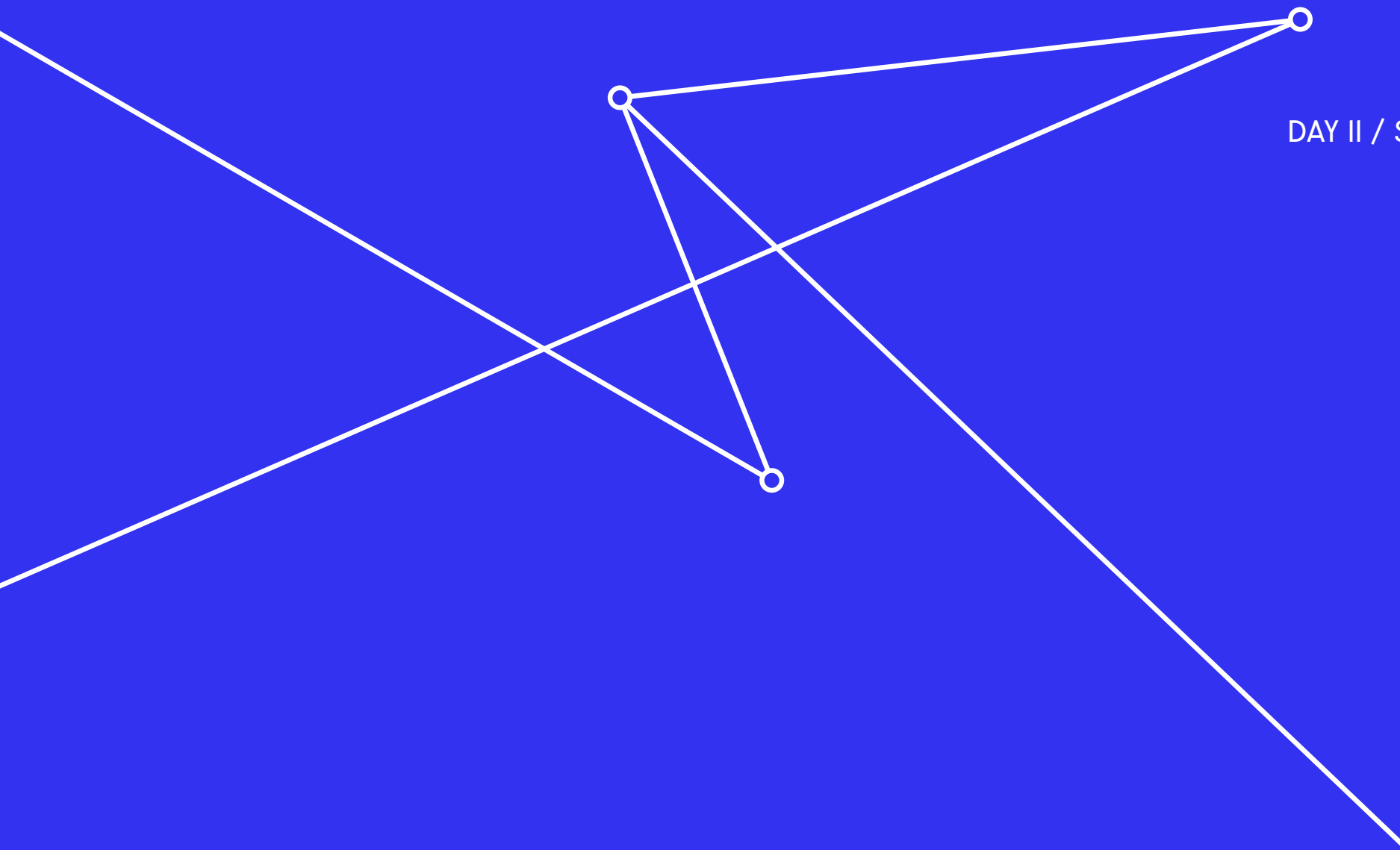
DAY II / SESSION V

STATISTICAL METHODS IN ART HISTORY:
What Can Metadata Tell Us about the History of Modern and Contemporary Art?

Textual materials of all kinds play important roles in the production, display, and reception of art. In her influential survey article of 2013, Johanna Drucker expressed the belief that as more of them became available online, digital engagement with the textual discourses of art history would escalate dramatically. Simply tracing changes in terminology could "expose aspects of the field that could only be partially glimpsed through traditional reading and study" (Drucker, 2012). She also remarked that sophisticated text-mining techniques had the potential to be the "touchstones of new practice and thought" (Drucker, 2012). However, digital art historical engagement with these resources in these ways remains underdeveloped. My paper aims to advance textual analysis in digital art history by looking at the titles and other metadata available in online museum collections. As the semiotician Josep Besa Camprubi has argued, titles act meta-linguistically, saying something about the works they name and contributing to the meanings they are given (Besa Camprubi, 2002). As self-contained textual units, titles are well suited to statistical approaches used by scholars to analyze texts. Looking at titles in aggregate allows me to bring these techniques into art history and to explore ways in which those meta-linguistic functions have been elaborated.

Drawing on the online collections of 37 modern and contemporary art museums in 17 countries, I have assembled a database and other metadata for over 61,000 works of art covering the decades from the 1900s to the 2010s. To investigate and interpret this material, I turn to the statistical techniques of correspondence analysis, topic modeling, and parts of speech tagging. Using these techniques individually and in combination, I read the language used in titles in terms of a long-term narrative within modern and contemporary art as the artistic interests signaled through titles came and went, and were re-inflected, and as epistemic perspectives on the kinds of knowledge that art can or should engender changed. Drawing on the metadata, I also apply the analytical framework to compare men and women artists, and to look at the geographical circulation of ideas in modern and contemporary art.

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The perspective on modern and contemporary art provided by my application of statistical text-mining techniques to metadata is very different in both scale and content to that provided in art historical literature. It cannot replace the kind of detailed account of titles provided by that branch of scholarship. Rather, text mining as I have used it provides a synoptic, aggregated, and abstracted viewpoint delivering rich numerical and visual descriptions. These descriptions, whether numerical or graphical, provide new ways of seeing the ways titles have been used and some of the developments within modern and contemporary art. They also allow a reading in more recognizably art historical terms, which, by cutting across the particularities of earlier accounts, suggests some new ways of thinking about that history. There are also lessons for those working in the digital humanities.

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MIKE BOWMAN is a part-time PhD candidate in History of Art at Birkbeck, University of London, currently in his sixth year. His PhD is in digital art history and focuses on the value of statistical techniques as tools to support art historical enquiry. It consists of three independent case studies, in which he is looking at different historical and institutional contexts and different digital art historical resources and methods. Following his retirement, he studied for the MA in History of Art at Birkbeck and moved on to start his PhD there in 2015, being supervised by Professor Fiona Candlin. Prior to that he worked for over twenty years in financial services regulation. His first degree was in mathematics, following which he completed a PhD in theoretical physics. In his current PhD, he hopes to bring together his interests in art and in mathematics.

THE CLOUD OF SYMBOLS: Using Computer Vision for Iconographical Analysis of Classical Central European Art

Iconographical analysis is an important art historical method helping with the interpretation of (not only) pre-modern works of art, especially mythological and religious scenes. In the Central European context, this method has its traditional application dating back to the Vienna School of Art History, which was later followed by the key figures in the field, such as Aby Warburg, Fritz Saxl, or Erwin Panofsky. Despite the rich tradition, however, the application of the iconographical approach used to be limited to qualitative interpretations of individual works of art and to close reading of selected artifacts, leading to very narrow cultural and historical topics. Due to the time-consuming nature of this kind of research in the past, it was practically impossible to explore larger sets of artworks and thus look for answers to broader cultural and social questions.

Unlike observation through the lens of a human eye, quantitative analysis combined with computer vision is a tool to fundamentally expand the field of attention and to find yet unseen connections. Whereas in the past only individual works or relatively small sets could be examined and analyzed in detail, now it is possible to automatically browse entire databases with hundreds of thousands and millions of items to gain a new, holistic view of the development of visual culture. This has opened the way for us to search large image sets, to compare entire collections managed by different museums, and to orient ourselves within the collections of distant foreign institutions as well as within local collections.

We can look for connections and similarities between individual works as well as the characteristic features of entire sets or collections. In addition, we can compare any items to one another. Our view can be zoomed out and we can find out what is characteristic of this or that collection. What is the difference between the collection of classical art at the National Gallery in Prague, the Kunsthistorisches Museum in Vienna, and the Alte Pinakothek in Munich? What do the works of art printed at the turn of the 20th century have in common in Prague's Volne smery, Vienna's Ver Sacrum, and Munich's Jugend magazines? These and similar issues have led to the Digital Curator online application, which

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uses specifically trained machine vision to search large digitized collections of artworks.

The Digital Curator application allows the users to explore the art collections of Central European museums and search for artworks based on specific iconographic motifs. Users of the application can build their combination of objects and discover how often the subject has occurred across the centuries, view graphics, drawings, or paintings that represent it in different epochs, and compare these data with other themes.

The Digital Curator offers a quantitative view of cultural history based on the frequency of symbols and iconographic themes in a number of artifacts, not on a detailed observation of individual items. This distant viewing can be especially useful if we want to explore a genre rather than a specific work, to understand the overall social conditions rather than the life of a particular art-ist, or to interpret the overall political situation rather than the views of the selected author. Exploring big iconographical data can bring new insights into abstract social phenomena such as cultural and economical influence, canon issues, the relationship between the center and the periphery, or the functioning of the art market. It can also help us better observe the migration of motifs and their takeover across centuries and distant regions.

The Digital Curator database now contains 122,639 works from the collections of 140 museums from Austria, Bavaria, the Czech Republic, and Slovakia. 33,750 of these works are available under an open license, so it is possible to view them online. Other works are used only as a basis for statistics, presenting the frequency of motif occurrence. The AI library for machine learning TensorFlow and the computer service Google Cloud, including the tool Google Cloud Vision, have been used for the automatic detection of mo-tifs. Data search and storage is performed using the ElasticSearch database and the operation of the application is provided by the Google App Engine service.

The alpha version of the application is available at https://digitalcurator.art/.

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LUKÁŠ PILKA is a digital designer, media theorist, and journalist dealing with interaction and communication design, contemporary technologies, the new media, and the overlapping of all these with the world of fine arts. He is a PhD candidate at the Department of Theory and History of Art at the UMPRUM, Academy of Arts, Architecture and Design in Prague. In his doctoral research, he is interested in using neural networks for the quantitative interpretation of classical works of art. He is also a regular contributor to the leading art and design magazines in the Czech Republic such as Flesh Art, Artalk, or Art+Antiques. In addition, he is a university lecturer and active interaction designer, as well as programmer dedicated to the development of online applications.

OPEN IMAGESEARCH:
Artificial Intelligence for Art Collections

As a joint initiative of the Collection of Prints and Drawings at ETH Zurich and the ETH Library Lab, the *open imageSearch* project promotes the open publication and exchange of research data in art history by developing an online platform for image metadata discovery. Positioned at the intersection between artificial intelligence and art history, our transdisciplinary team aims to incentivize data sharing and reusing by providing access to new image-retrieval methods that make cataloguing and digitizing graphic prints more efficient for collections.

Advances in art history are not possible without continued improvements to data access and usability, especially in the age of *global art history*. Digitizing and indexing works accurately is crucial for modern research, but it is a resource intensive process. As collections continue to expand their digitized records, and the amount of data shared by the institutions online grows, the probability that relevant and valuable metadata already exist at another institution increases as well. This is especially true for prints, where verified metadata can also be valid for further proofs of the same plate. These sources have the potential to be reused for indexing unprocessed holdings, but only if they are accessible. Using text search options alone, it can be difficult to find prints that have few or poorly defined identifiers. Therefore, content-based image search is a valuable means of gaining an insight into objects that would have hardly been possible before, as curators or researchers would not have had the needed time or resources (Villaespesa, Murphy, 2020).

We have released a prototype web application that can be used to search for visually similar images from the Collection of Prints and Drawings at ETH Zurich. An image is input as the search query, either from a file or directly from a mobile phone camera, and the most similar images are returned with the key metadata about the image. Each result contains a link to the original source institution or the hosting website so that further detailed information and proof of sources can be viewed, facilitating the access and reuse of valuable information that was created while cataloguing the artwork. The focus on metadata, in terms of both access and exchange, is what distinguishes *open imageSearch* from other, similar projects in this area. Our application

BARRY SUNDERLAND
ANN-KATHRIN SEYFFER
MENGQI WANG

code is openly accessible and we welcome input from international collections to shape the application according to their needs.

In essence, the online version of the project implements the same well-established methodology (Chapter 4, Koul, Ganju, Kasam, 2019) as other projects in this area (Bönisch, 2021; Offert, Bell). A convolutional neural network (CNN), pretrained on the general "imagenet" image classification task (Deng et al, 2009), is used to extract features from the images in the dataset. The features, in the form of a high-dimensional vector, are saved for each image. When performing the query with a new image, features are extracted from the image using the same CNN and the similarities, calculated in terms of distance between the feature vectors, are compared to the existing records in the database, returning the closest records. A k-nearest neighbors (KNN) algorithm is trained to perform this comparison quickly and return the closest results.

Our initial results, perceived while working within the dataset of a single collection, have shown the application's potential value for helping to identify unknown artists and works, finding related works which were previously unlinked, and discovering images with similar iconography. In the next three months, we will be building on this positive experience and focus on two primary objectives: 1) adding data from partner institutions and 2) improving the machine learning methodology. This includes evaluating different feature extraction models and investigating the use of multiple query inputs to implement the search capability of filtered similarity.

To add more data, we are currently in discussion with several interested collections and data aggregators about adding their digitized works to the platform (including the Graphikportal and the Albertina in Vienna), which would improve the relevance of search results and serve as an additional incentive to exchange metadata and images. An end-to-end data processing pipeline means that collections can easily add their records to the project and quickly help themselves and other groups save the resources in terms of time, staff, and finances associated with identifying and cataloguing artworks. ✕

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BARRY SUNDERLAND is a developer working at the ETH Library Lab, Zürich, which is an innovation initiative of ETH Library. His research focuses on exploring practical and interesting ways to leverage machine learning and web applications in order to improve workflows for users of libraries, collections, and archives.

ANN-KATHRIN SEYFFER is an art historian involved in collection, digitization, and data management at the Collection of Prints and Drawings, ETH Zürich, which is part of the ETH Library. As the team coordinator, she is familiar with the specific requirements of digitizing prints and strives to find new approaches facilitating art historical research.

MENGQI WANG is a Data Science Master's Student at the University of Zürich. Her research focuses on employing deep learning and model-based approaches to image analysis and 3D visions in mixed reality. As an art lover and data scientist, she is motivated to find ways to combine art and computer science.

ABSTRACTS OF
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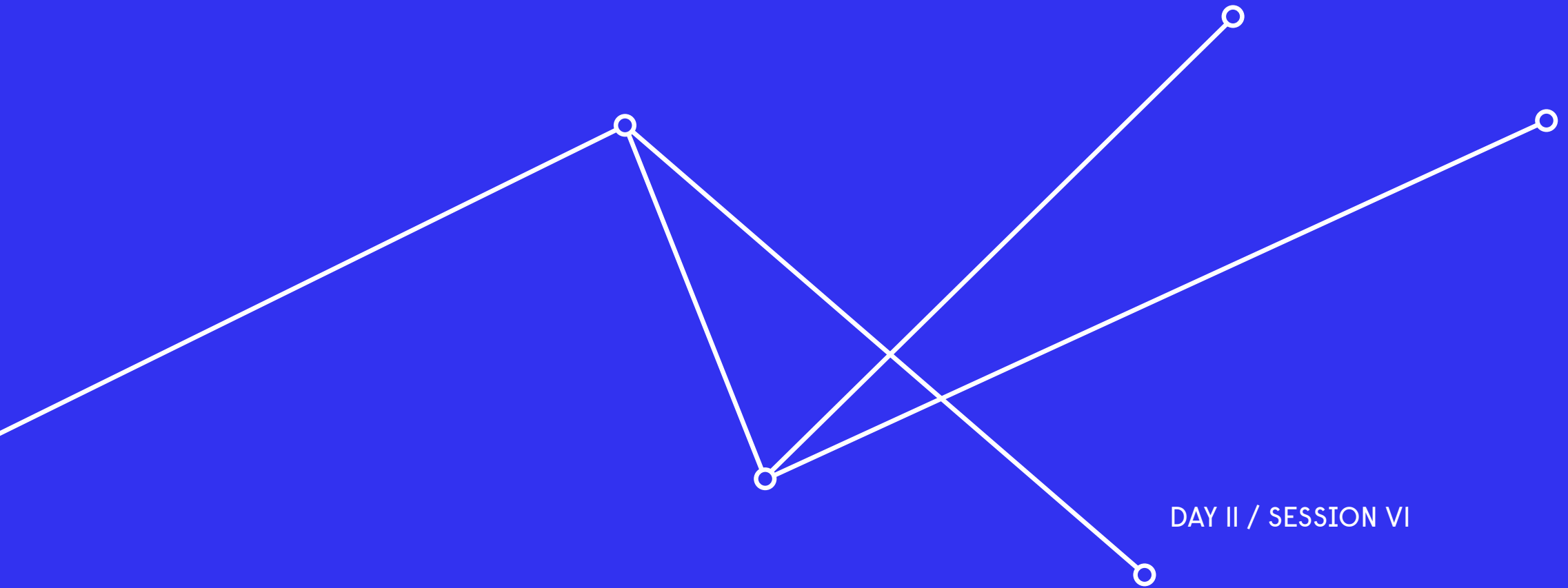
DAY II / SESSION VI

UNDERSTANDING INTERNET MEMES WITH A LITTLE HELP FROM ABY WARBURG, WALTER BENJAMIN, AND HITO STEYERL

This paper aims to explore and examine the possible determination of Internet memes as different types of images such as *pathos formula, dialectical image* and *poor image,* as defined by the theoretical writings of Aby Warburg, Walter Benjamin, and Hito Steyerl. As a widespread phenomenon, the Internet meme is part of a dynamic, ongoing debate within the fields of linguistics, political sciences, pop culture, visual culture, and media studies. Consisting of images and words that are intended to convey a certain message to the spectator, its structure is an inspiring basis for the comparison between the contemporary Internet memes and the "old"/analog/traditional forms of everyday expression, political activism, fight, or propaganda, as well as between Internet memes and different forms of art and pop culture. However, in this paper, I will try to understand Internet memes in a more theoretical sense, as part of the "Image theories" by Aby Warburg, Walter Benjamin, and Hito Steyerl, keeping in mind the aforementioned comparisons and existing discussions on the subject.

In his "nameless science" (Agamben, 1999), Warburg searched for the "afterlives" of antique forms and the so-called "pathos formulas" (*Pathosformel*) as omnipresent images that show *strong feelings* in art, newspapers, film, advertising, and overall culture (Warburg, 1996). Following his *sequence logic* presented within the famous, but unfinished Mnemosyne Atlas (in which he tried to make a visualization of this specific "Image hyperlink"), in this paper I will discuss the contemporary dimension of the interconnectedness between the *Bilderatlas* images and present-day memes, with special reference to Warburg's *pathos formula* and the contemporary "structure of feeling" (Raymond Williams), often manifested in meme culture.

In a similar way to Warburg, Walter Benjamin started another famous, unfinished, and "Web-like" project named The Arcades Project. His project, filled with *dialectical images,* was supposed to be completed by the "montage principle," a method that implies ripping fragments out of their context, making a commentary on them, and putting them together. This method of montage proposed by Benjamin had a very clear message that "there is nothing

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to say, but only to show" (Benjamin, 2011), which also evokes the current drive to create meme structures and to communicate quickly and efficiently in the space of the WWW.

More recently, Hito Steyerl presented her theory of "duty-free art" and poor image "as a ghost of an image, a preview, a thumbnail, an errant idea, an itinerant image distributed for free, squeezed through slow digital connections, compressed, reproduced, ripped, remixed, as well as copied and pasted into other channels of distribution" (Steyerl, 2009). In her Image system, poor images are "the contemporary Wretched of the Screen, the debris of audiovisual production, the trash that washes up on the digital economies' shores" (Štajerl, 2011). Nowadays, migration of these poor images from the screen into reality happens frequently. Furthermore, the integration of reality into these poor images happens even more consistently. Internet memes as poor images in their content and form are navigating between screens, conversations, different types of materialization and social situations.

Thinking about Internet memes with a little help of Aby Warburg, Walter Benjamin, and Hito Steyerl and their "Image theories," *I hope to find contemporaneity in the past times,* as well as *the time that is already gone in the moment we are living in.* Warburg's *pathos formula w*ill be found and commented upon on the example of a selected amount of Internet memes dedicated to the conditions of *living and feeling* of the Millenial generation (people born between 1980 and 1995). Although cyberspace is a "round landscape" in which we cannot move by way of already established coordinates, and in which we also often forget that there is something called the "digital divide" and "unplugged/offline" part of the world, I will emphasize Internet memes as "poor images" from Southeast Europe, and more specifically the (Post)Yugoslav space in order to sketch these *moving images* and the ways in which they *move us,* here and today. Finally, *dialectical images* defined in the words of Walter Benjamin will be useful while thinking about the *meme structure* and its *radical montage language,* but also while trying to exploit the selected memes as images that could speak and initiate the awakening from the myths of the contemporary world.

To sum up, the purpose of this paper is to direct a different view on the Internet meme as a completely "new" and intrinsic visual phenomenon, which belongs mostly to popular culture or vernacular language of gens Y and Z, as well as to problematize recent tendencies in the definition of the Internet meme as a special artistic/ avant-garde form or political tool, in order to make them speak in a wider historical and cultural context with a little help from concepts such as *pathos formula, dialectial image,* and *poor image.*

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LOOKING AT *EVERYDAYS*: NFT Art and Picturing the New Financial System

In this paper, I explore the recent proliferation of artworks supported by the non-fungible token technology (NFT), as it articulates a distinctly post-modern engagement with the notions of fiscal and aesthetic uncertainty, further enhanced by the NFT's unambiguous connection to the world of cryptocurrency. Specifically, I consider the digital collage EVERYDAYS: First 5,000 Days by Mike Winkelmann, aka Beeple, which earlier this year made history as the first fully digital artwork sold by a major auction house. EVERYDAYS is a JPEG file that constitutes a compressed visual archive of 5,000 images arranged in a square formation, a result of Beeple producing an image a day for the last fourteen years. The non-fungible token was attached to the file, registering it on the Blockchain ledger and making it possible to acquire the work via cryptocurrency. The digital realm of crypto, once deemed marginal and skill-specific, has become a site of both economic opportunity and financial risk. Inevitably affected by, but hopefully conscious of, the sensationalization of the EVERYDAYS sale as an event, a close consideration of Beeple's collage may reveal a visual (re)formulation of the long-established history of chance and trickery as foundational for Western capitalist economies.

Relying on the analysis of a select number of digital and traditional artworks, the objective of this project is twofold: to consider the degree to which the NFT phenomenon is an extension of the fiscal and artistic processes that the Western capitalist societies have long been enduring, and to acknowledge the way in which this technology signals an unprecedented turn away from the traditional notions of trust and credibility underpinning the old financial systems.

The form of cryptocurrency most widely used today was invented following the financial crisis of 2008. At its core, cryptocurrency carries a deep anarchical rejection of the national currencies and financial institutions, as well as an emancipatory promise of radical democratization of the market. As a digital representation of value, cryptocurrency is registered as a digital asset on the open Blockchain ledger. While not carrying any inherent value, this asset becomes a fixed, non-fungible unit of monetary exchange and

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financial speculation. Blockchain allows for a transfer of funds without the use of a bank or a financial service provider. This project will spotlight the way in which NFT art does the work of acculturating us to the low-trust economies through the utilization of Blockchain technology as a guarantor of the artworks' artistic integrity.

Firstly, to situate EVERYDAYS historically, I propose to consider a genre of painting and print art as read in relation to the fiscal anxieties connected to the first financial revolution. The genre in question is *trompe-l'oeil*. As it preceded the use of paper money, paper trompe-l'oeil is a well-suited genre to speak of the risk involved in embracing paper as a new form of currency. Mass-produced paper *trompe l'oeil* embodied the ontological uncertainty of paper money. An engraving print, being a copy without an original, spoke to the anxiety surrounding the process of speculative investment of trust into a signifier of value that seemed to be infinitely distant from the valuable material signified. The attempt of *trompe-l'oeil* to trick the viewer into misrecognition of the artwork's material reality raises uneasy questions regarding the category of the real. As Jean Baudrillard writes: "The pleasure they [*trompe l'oeil* artworks] procure is thus not an aesthetic one of familiar reality […] it is an acute and negative pleasure found in the abolition of the real." I suggest that Beeple's work is set on a similar trajectory towards negation of the real, by embracing the digital realm as a complete and parallel alternative to the physical reality associated with the national and institutional systems of financial and aesthetic value. The NFT collage, much like the 18th-century trompe-l'oeil, alludes to scarcity and instability against the backdrop of overwhelming visual plenty and a fixed (im)material reality.

Secondly, I address the distinctly novel aspects and narratives that surround the NFT phenomena. EVERYDAYS is an artwork that lauds the step away from modernity's focus on social trust, as a prerequisite for financial systems, to the field of "pseudonymous currencies" that seem to circumvent the traditional frameworks of wealth-production. In his ABC 6 News interview, the buyer of EVERYDAYS, NFT investor Anand Venkateswaran spoke about the relative nature of value connected to Beeple's collage: "If you

look at each picture at face value, obviously not all of them are going to stand the test of time. Not all 5,000 are masterpieces. That was never the argument. Not everything that Beeple puts out is gold. We don't worship at his feet. That's not what we were about. This is more about the combined narrative of what he represents."

EVERYDAYS has been thoroughly mythologized, weaved into the narrative of technological autonomy and art's emancipation through its commercialization, embrace of the digital, and refutation of the old. The NFT artwork lives in what Fredric Jameson has called the "perpetual present," a temporal experience in which moments of the past "have little connection and for which there is no conceivable future on the horizon." We are presented with only the first 5,000 days — the production is bound to continue. This is perhaps the reason why a visual archive (a bank of visuals) is so fitting as a form. The process of accumulation and storage for potential trade alludes to the long-lasting marriage of art and money. EVERYDAYS pictures the logic of accumulation as a creative strategy.

I have consulted the writings of Jean Baudrillard, Fredric Jameson, and Alexander Galloway, among others, to demonstrate the potential readings of the NFT artworks as indicators of the contemporary fluctuations in financial and artistic realms as they shape the novel modes of digital artistic practices.

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FANTASTIC ART MASTER

The project "Fantastic Art Master" is a study of "Fantastic Art," an extremely salient artistic genre on the Internet and by far the most popular among the younger crowd. Although Fantastic Art is in high demand on the web and in the gaming, literature, and tattooing industries, it suffers from a lack of attention on the side of art historians. It is neither studied in art history departments nor represented in GLAM (galleries, libraries, and museums) institutions. This is in stark contrast to literature, film, and the new media academic departments, where it is fully explored. That is what makes studying it digitally both fascinating and challenging.

In the first phase, the project will assemble a large corpus of images from the Internet. In the next phase, we will develop machine learning in visual ontology and juxtapose it with the art of the past. We have already begun to collect data, to familiarize ourselves with different kinds of websites, and to create an artistic ontology combined with the semiotic language of the Fantastic Art culture. This phase aims to create a semiotic classification and to understand the relative fluidity of particular images, such as dragons, which depends on cultural interpretation. The classification will also study the relations between various images to form a syntagm (visual sentence), such as the relation of women with dragons. This ontology can support an iconographic analysis of the artworks.

The interest I have in this genre and the examples I present are no accident. My studies have so far focused on the motif of "the woman and the dragon" from ancient Greco-Roman and Egyptian art to early modern Italian Renaissance art. I have found out that the fundamental difference between "the man and the dragon" (also referred to as the dragon-slayer topos) and "the woman and the dragon" motifs is that women do not fight dragons, but communicate, collaborate, and fuse with them. This stems from the ancient connection and connotation of dragons with Great Goddesses. I was initially motivated to examine the genre in order to decipher the motif of "the woman and the dragon" and its meaning in modern and contemporary art.

SHARON KHALIFA-GUETA

The project seeks to inspire thinking about a single artwork as well as an entire genre in an innovative and democratic, bottom-up manner. Examining the fandom this genre inspires on the Internet provides a rare opportunity to circumscribe and define an entire genre, its leading artists, and the central artworks using quantitative methods. Instead of a scholar or a "genius" curator defining the genre and its key artists, it will be the fans of the genre themselves, alongside the machine learning techniques, to create the definition of the genre and its outstanding artists on the web. This will be the first time such methods have been used to define an entire genre and will serve as a critical method for examining other genres in different times and locations.

In this project, I am also providing a critique of the current definition of "fantastic art" or "imaginary realism" used in the discipline of art history, according to which every artistic genre from German early modern art to Surrealism is "fantastic art." This definition is too broad for the genre I am focusing on and does not consider its connection and interaction with other media, such as literature, the new media such as cinema, television, and gaming, and tattooing; all part of the fandom of the fantastic art culture — which I consider to be a modern religion.

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SHARON KHALIFA-GUETA has been awarded the prestigious Spinoza post-doctoral scholarship for excellence in history at the University of Haifa. Her dissertation "The Dragon and Femininity in St. Margaret Paintings by Raphael and Titian" was written under the guidance of Prof Nirit Ben-Aryeh Debby. During her PhD, she was a Rotenstreich fellow for excellent doctoral students in the humanities. She has been focusing on the image of the dragon for the last thirteen years. Her article "Leonardo's Dragons—The 'Rider Fighting a Dragon' Sketch as an Allegory of Leonardo's Concept of Knowledge," published in Explorations in Renaissance Culture, won the Maha"r award for an excellent article. She also published the articles "The Evolution of the Western Dragon" and "Medusa Must Die! The Virgin and the Defiled in Greco-Roman Medusa and Andromeda Myths" in the Athens Journal of Mediterranean Studies, and "The Rising of the Soul in the Fresco from the Sleeping Chambers in a Villa from Boscotrecase of Pompeii" in Historia (in Hebrew). In 2021, she won a starting grant for collaboration with scholars from the department of Information Systems and the digital humanities department, to prompt her project "Fantastic Art Master."

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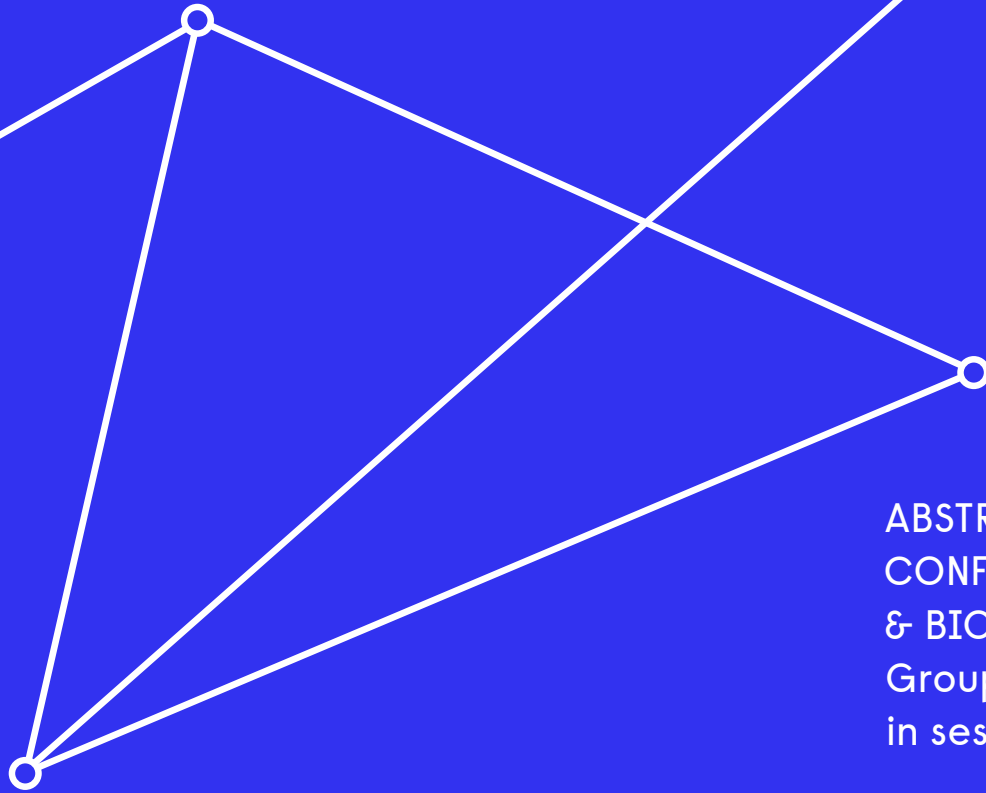
ABSTRACTS OF
CONFERENCE PRESENTATIONS
& BIOGRAPHIES
Grouped chronologically
in sessions

MAPPING POLITICAL DISCOURSE AND INEQUALITIES IN PRESENT-DAY ROMANIA THROUGH PUBLIC MONUMENTS

VOICA PUȘCAȘIU

Public space is nothing but a conceptual battleground where citizenship is often reenacted. In ways that are sometimes very obvious and sometimes quite subtle, nothing that is present in public places is there by accident. Every intervention has a discourse and reasoning behind it, and artworks are obviously no different. Unlike private collections and museums, which tell stories in their own way, the monuments in the streets mostly support the official discourse, whatever that might be. The greater the presence of such monuments, the more important their role is in building the collective memory. They showcase the society's values and can – at best – create a sense of community and belonging. This in itself is nothing new and the propagandistic power of images has been harnessed politically for centuries; however, digital cartography and data visualization could help point out in a more unequivocal manner the inherent biases of our public spaces, as well as open up new areas of research and interpretation.

Starting from a database, one can create a visualization that unravels several things at a glance, such as the frequency of certain representations and their distribution: Who is represented, how often, where in the city, and… when were the artworks created? How important is the local history versus the national one in the represented figures? It can also improve upon iconographic studies: When and who decided on the canonic way in which a (historical) figure is represented, the face that all members of a community seem to recognize? And which monuments stray from this canon? The relationship between the state and the church can also be showcased: Where does religion come into play when it comes to public monuments? Ultimately, there is a whole new set of questions about inequalities: Who has been left out? Where are the women and the minorities? Who "owns" the city center and who has been "delegated" to the peripheries? Eventually, one could see how all of these trends fluctuate over time and which artistic style is predominant.

Initially, the database started off from my personal interest in public space and the way in which artworks reflected the political discourse, but the photographs and inscriptions were "crowd

sourced" in the sense that it was a task that my students could do independently and remotely during last year's lockdown. It was them who documented more than 200 monuments in their hometowns across Romania: they took photographs and filled in a predefined table that included some rather standard information in art-historical field research: title of the work, name of the artist, year of creation, theme (historical, allegorical, religious, etc.), type of sculpture (bust, portrait, abstract, etc.), medium or technique, location, but also the number of characters, their gender, and the inscription. This table can certainly be improved upon and needs standardization, but I did manage to turn a small batch of monuments into a pilot visualization. I decided to focus on the artworks in Cluj-Napoca, where the university is located, because I was most familiar with their cartographic arrangement. For this I used the QGIS software followed by fine-tuning the design on the ArcGIS platform. The map is available here: https://tinyurl.com/2zznarkz — with two remarks: this is a Romanian version and one that does not use the students' photographs. I chose this combination because it is what I am most familiar with in terms of cartography, but also because both platforms offer open-source options and I will thus be able to use them with my students to further develop the project. This map has been treated as an opportunity to create a workflow in order to be able to give them clear instructions and address some troubleshooting issues.

The case of Romania, even though not unique, is nevertheless interesting, as public spaces contain multiple "layers" of artworks hailing from vastly different regimes and these layers are not uniformly distributed. There are the older towns, whose monuments vary greatly between the historical provinces, since Transylvania was part of the Habsburg Empire, while other provinces were largely Romanian and thus Eastern Orthodox (so no religious statues were allowed); this period was followed by territorial unification that was underlined through historical figures that were meant to forge a national identity across the provinces. This endeavor took a sharp turn during communism, since patriotism was important, but healthy origins were even more so, which meant the occasional destruction of mementos of the bourgeoisie and the rise of monuments

dedicated to the New Man, especially in the newly-developed industrial towns. These in turn took a sharp fall after 1989 and we are now noticing a steady endeavor of recovering figures that could not be celebrated during communist times. No such efforts are made on behalf of bringing forth women figures, let alone the Roma population or other ethnic minorities who are virtually inexistent or bundled up with other groups in monuments recalling oppression.

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ART PERIODICALS "IN BETWEEN" PRINT AND DIGITAL: Opportunities and Shortcomings of the New Territories

The rise of the artistic periodical was closely tied to that of the press. In France, the first art reviews were published in Théophraste Renaudot's La Gazette in the 17th century, before Diderot began his epistolary chronicles of the "Salons de l'Académie de peinture" in the 18th century. More recently, the digital impact on culture has compelled contemporary art criticism, as any other aspect of social life, to a major reshaping.

This paper relies on ongoing research that focuses on the online activity of artistic periodicals. We intend to analyze the various ways in which art magazines can seize the Internet and social media as an opportunity to expand their take on the *contemporary*. What are the editorial dynamics prevailing in the layout of these websites? Are discourses, sections, and visual presentations similar — or different — between the paper and online formats? We hope to demonstrate that such discrepancies are indicative of the wide range of beliefs and values associated with the Internet and its opportunities, as well as the different audiences these magazines may seek to address. We aim to underscore the specificity of art journals' online forms, as well as to tackle the difficulties some journals can have in implementing such a major transition.

In order to offer a transnational analysis, our corpus is composed of four art magazines and their websites: Artforum (United States) Art press and Point contemporain (France), and Parkett (Switzerland). Our focus may seem restricted, but our intent is setting the ground for further research including a broader number of art journals rather than providing a strict comparison between various countries, or between Europe and the US.

This paper develops a method combining contemporary art history and semiotics, entailing the following features:

1) Material approach: editorial formats and the adaptability of visual identity

French scholars such as E. Souchier have underlined the necessity of taking into account the graphic, visual, and material aspect of

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periodicals: "Taking into account the graphic, visual dimension of the writing, and more generally of the written information, implies another glance, an attention other than the one usually devolved to the text" and this text presents then "a physical, material resistance, a social and ideological presence, which are expressed through history and culture" (Souchier, 1998). Therefore, we wish to address the translation of visual identity from paper to online formats: Which format allows more creativity? How does each journal manage to "translate" their editorial line to the online format? In terms of layout, graphic design, and the text/image ratio, what are the standards and characteristics of each medium?

2) Technical constraints and compliances
from one format to another

The main benefits of digitalization for an art magazine are the increasing visibility and reaching a broader readership. However, such opportunities also come with challenges. Digitalization implies competent personnel to manage the website, adaptability of the content to the specific format, and managing different readership from one format to another. The study of online/paper complementarity thus allows us to question the adaptability of a journal to the competitive setting of art journals on the global scene and the challenges it poses.

3) Archiving the contemporary: discursive
valorization and editorial standards

Listing and comparing the different sections of paper and online formats gives us a blueprint of each journal's editorial line and their standpoints regarding digitalization. Jérôme Glicenstein presents an art journal missions as following: "Educating on the actuality of contemporary art, commenting on it, suggesting models to understand it, [...] promoting some of its aspects — by participating in the processes of symbolic, commercial or institutional valorization to come" (Glicenstein, 2010). How do such missions transpose from paper to the web? The "online" presence makes it possible to compensate for the obsolescence of the paper format, and in

particular of the most established format of art criticism in the press: the exhibition review. Digital formats also allow for an increased treatment of sensitive political or social issues, as well as a stronger interaction with the readership (the comment section of websites, social networks in some cases).

The potentialities of paper and the web hence being very different, it is the hybridity of these two formats that we intend to highlight, those different press titles giving priority to one or the other.

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