

CERKEV SV. HELENE NA GRADIŠČU PRI DIVAČI

Mednarodna poletna šola konserviranja-restavriranja stenskih poslikav
– Gradišče Summer School 2021–2023

THE CHURCH OF ST HELEN IN GRADIŠČE PRI DIVAČI

International Summer School for the Conservation-Restoration
of Wall Paintings – Gradišče Summer School 2021–2023

SEVERNA STENA / NORTH WALL

Pohod in poklon svetih treh kraljev / Journey and Adoration of the Magi



PRIZORI SCENES

- | | | |
|---|------------------------------|----------------------------------|
| 1 | Pas trikraljevskega spreveda | The Journey of the Magi sequence |
| 2 | Pas žanrskih figur | The sequence of genre figures |
| 3 | Fikcijski pas | The fictional sequence |





DELA | PAPERS
RES8

CERKEV SV. HELENE NA GRADIŠČU PRI DIVAČI

Mednarodna poletna šola konserviranja-restavriranja stenskih poslikav
– Gradišče Summer School 2021–2023

THE CHURCH OF ST HELEN IN GRADIŠČE PRI DIVAČI

International Summer School for the Conservation-Restoration
of Wall Paintings – Gradišče Summer School 2021–2023

Ljubljana, 2024

Zavod za varstvo kulturne dediščine Slovenije / Institute for the Protection of Cultural Heritage of Slovenia
Restavratorski center / Restoration Centre

CERKEV SV. HELENE NA GRADIŠČU PRI DIVAČI
Mednarodna poletna šola konserviranja-restavriranja stenskih poslikav – Gradišče Summer School 2021–2023

THE CHURCH OF ST HELEN IN GRADIŠČE PRI DIVAČI
International Summer School for the Conservation-Restoration of Wall Paintings – Gradišče Summer School 2021–2023

RES.8

publikacije ZVKDS Restavratorskega centra / The publications of the IPCHS Restoration Centre

Založnik / Publisher:

Zavod za varstvo kulturne dediščine Slovenije (ZVKDS), zanj: Jernej Hudolin
Institute for the Protection of Cultural Heritage of Slovenia (IPCHS), on its behalf: Jernej Hudolin

Uredili / Editors:

Ajda Mladenović, Minka Osojnik

Uredniški odbor / Editorial board:

Neža Čebtron Lipovec, Alberto Felici, Ajda Mladenović, Minka Osojnik, Neva Pološki

Tehnična urednica / Technical editor:

Biserka Ribnikar Vasle

Avtorji besedil / Authors of papers:

Anka Batič, Marta Bensa, Neža Čebtron Lipovec, Suzana Damiani, Alberto Felici, Andrej Jazbec, Anita Kavčič Klančar, Katja Kavkler, Ajda Mladenović, Minka Osojnik, Neva Pološki, Jonas Roters, Blaž Šeme

Prevod / Translation:

iz slovensčine v angleščino / from Slovenian to English: Marko Petrovič, Eliana Geržević Macan

iz hrvaščine v angleščino / from Croatian to English: Ela Poljarevič

iz italijansčine v angleščino / from Italian to English: Sean Housby, Amidas d. o. o.

Lektoriranje / Proofreading:

slovenskih besedil / of the Slovenian texts: Aleksandra Gačić Belej

angleških besedil / of the English texts: Marko Petrovič

hrvaških besedil / of the Croatian texts: Duška Palibrk

italijanskih besedil / of the Italian texts: Claudia Marobin, Amidas d. o. o.

Oblikovna zasnova zbirke / Collection design: Mojca Višner

Oblikovanje / Design: Nuit d. o. o.

Tisk / Print: Paralele, d. o. o.

Naklada / Print run: 710

Ljubljana, 2024

Publikacija je nastala v okviru podoktorskega projekta »Potencial etnografskih metod v konservatorstvu stavbne dediščine spornih krajev, primer severne Istre« (Z6-3226), nosilka doc. dr. Neža Čebtron Lipovec (Univerza na Primorskem, Fakulteta za humanistične študije), ki ga financira Javna agencija za znanstvenoraziskovalno in inovacijsko dejavnost Republike Slovenije (ARIS) / This publication is part of the research results of the postdoctoral research project "The potential of ethnographic methods in the conservation of built heritage in contested sites, the case of Northern Istria" (project number Z6-3226), led by Neža Čebtron Lipovec, University of Primorska Faculty of Humanities, financed by ARIS - Slovenian research and Innovation Agency.

Podprto s Skladom za publikacije Univerze za umetnost v Bernu / Supported by the Publication Fund of the Bern University of the Arts

Sodelujoče ustanove / Participating institutions:

Zavod za varstvo kulturne dediščine Slovenije (ZVKDS; Institute for the Protection of Cultural Heritage of Slovenia)

Scuola universitaria professionale della Svizzera italiana (SUPSI; University of Applied Sciences and Arts of Southern Switzerland)

Univerza v Ljubljani, Akademija za likovno umetnost in oblikovanje (ALUO; University of Ljubljana, Academy of Fine Arts and Design)

Sveučilište u Zagrebu, Akademija likovnih umjetnosti (ALU; University of Zagreb, Academy of Fine Arts)

Hochschule der Künste Bern (HKB; Bern University of the Arts)

Univerza na Primorskem, Fakulteta za humanistične študije (UP; University of Primorska, Faculty of Humanities)

Sofinancerji / Co-funders:

Univerza na Primorskem, Fakulteta za humanistične študije (UP; University of Primorska, Faculty of Humanities)

Zavod za varstvo kulturne dediščine Slovenije (ZVKDS; Institute for the Protection of Cultural Heritage of Slovenia)

Kuća fresaka u Draguču, Povijesni i pomorski muzej Istre (PPMI; House of Frescoes in Draguč, Historical and Maritime Museum of Istria)

Hochschule der Künste Bern (HKB, Bern University of the Arts)

Javni zavod park Škocjanske jame, Slovenija (Škocjan Caves Public Service Agency, Slovenia)

Naslovnica / Cover: Detalj prizora *Pohod in poklon sv. treh kraljev* / Detail of the scene *Journey and Adoration of the Magi* (foto / photo: Rok Hafner, 2024)

Zavibki / Flaps: Poslikava severne in južne stene / Wall paintings on the north and south wall (foto / photo: Rok Hafner, 2024)



VSEBINA

CONTENTS

8 NAGOVORA

9 FOREWORDS

Jernej Hudolin, generalni direktor ZVKDS / Director General of the IPCHS
 Alenka Štruel Dovgan, županja Občine Divača / Mayor of Divača

ZA ZAČETEK

TO GET US STARTED

13 CERKEV SV. HELENE NA GRADIŠČU PRI DIVAČI – DEDIŠČINA, KI POVEZUJE

19 THE CHURCH OF ST HELEN IN GRADIŠČE PRI DIVAČI – HERITAGE THAT BRINGS TOGETHER

Minka Osojnik

22 GRADISCE SUMMER SCHOOL 2021–2023, LE RAGIONI DI UNA COLLABORAZIONE INTERNAZIONALE

24 GRADIŠČE SUMMER SCHOOL 2021–2023: THE REASONS FOR INTERNATIONAL COLLABORATION

Alberto Felici

PREDSTAVITVE SODELUJOČIH INSTITUCIJ

PRESENTATIONS OF PARTICIPATING INSTITUTIONS

28 ZAVOD ZA VARSTVO KULTURNE DEDIŠČINE SLOVENIJE

29 INSTITUTE FOR THE PROTECTION OF CULTURAL HERITAGE OF SLOVENIA

Martina Lesar Kikelj

30 UNIVERSITY OF APPLIED SCIENCES AND ARTS OF SOUTHERN SWITZERLAND

Giacinta Jean

31 ACADEMY OF THE ARTS BERN, DEPARTMENT OF THE BFH BERN UNIVERSITY OF APPLIED SCIENCES, CONSERVATION-RESTORATION PROGRAM

Jonas Roters

32 UNIVERZA V LJUBLJANI, AKADEMIJA ZA LIKOVNO UMETNOST IN OBLIKOVANJE, ODDELEK ZA RESTAVRATORSTVO

33 UNIVERSITY OF LJUBLJANA, ACADEMY OF FINE ARTS AND DESIGN, DEPARTMENT OF RESTORATION

Blaž Šeme

34 SVEUČILIŠTE U ZAGREBU, AKADEMIJA LIKOVNIH UMJETNOSTI, ODSJEK ZA KONZERVIRANJE I RESTAVRIRANJE UMJETNINA

35 UNIVERSITY OF ZAGREB, ACADEMY OF FINE ARTS, DEPARTMENT FOR CONSERVATION AND RESTORATION OF WORKS OF ART

Suzana Damiani

36 UNIVERZA NA PRIMORSKEM, FAKULTETA ZA HUMANISTIČNE ŠTUDIJE

37 UNIVERSITY OF PRIMORSKA, FACULTY OF HUMANITIES

Neža Čebtron Lipovec

MEDNARODNA POLETNA ŠOLA KONSERVIRANJA-RESTAVRIRANJA STENSKIH POSLIKAV

INTERNATIONAL SUMMER SCHOOL FOR THE CONSERVATION-RESTORATION OF WALL PAINTINGS

39 ORIS POLETNE ŠOLE

43 OVERVIEW OF THE SUMMER SCHOOL

Ajda Mladenović

45 PREGLED DEJAVNOSTI POLETNE ŠOLE PO POSAMEZNIH LETIH

53 OVERVIEW OF SUMMER SCHOOL ACTIVITIES BY YEAR

Anita Kavčič Klančar

CERKEV SV. HELENE IN NJENE POSLIKAVE

THE CHURCH OF ST HELEN AND ITS WALL PAINTINGS

57 CERKEV SV. HELENE NA GRADIŠČU PRI DIVAČI

71 THE CHURCH OF ST HELEN IN GRADIŠČE PRI DIVAČI

Minka Osojnik

77 OD KRALJA DO KUCHARJA – OPIS POSLIKAV

90 FROM KING TO COOK – DESCRIPTION OF THE WALL PAINTINGS

Minka Osojnik, Ajda Mladenović

97 ANALIZE MATERIALOV, MIKROKLIMATSKIH POGOJEV IN UČINKOVITOSTI KONSERVATORSKO-RESTAVRATORSKIH POSEGOV

103 ANALYSES OF MATERIALS, MICROCLIMATIC CONDITIONS AND THE EFFECTIVENESS OF CONSERVATION- RESTORATION INTERVENTIONS

Katja Kavkler

107 PAINTING TECHNIQUE

Alberto Felici, Neva Pološki

118 OPIS STANJA STENSKIH POSLIKAV

129 THE STATE OF THE WALL PAINTINGS

Anka Batič, Blaž Šeme

REZULTATI POLETNE ŠOLE
THE RESULTS OF THE SUMMER SCHOOL

136 L'INTERVENTO DI RESTAURO. TEST COMPARATIVI PRELIMINARI

144 THE RESTORATION INTERVENTION: PRELIMINARY COMPARATIVE TESTS

Alberto Felici, Marta Bensa

149 ČIŠČENJE IN UTRJEVANJE STENSKIH POSLIKAV

162 CLEANING AND CONSOLIDATING THE WALL PAINTINGS

Anka Batič, Andrej Jazbec

167 AESTHETIC REINTEGRATION - WHAT IS IT ABOUT?

Jonas Roters, Neva Pološki, Andrej Jazbec

175 STJECANJE DIJELJENJEM - DIDAKTIČKO ISKUSTVO LJETNE ŠKOLE

186 ACQUIRING BY SHARING - DIDACTIC EXPERIENCE OF THE SUMMER SCHOOL

Suzana Damiani

190 SHORT FEEDBACK FROM THE PARTICIPANTS

Editor: Jonas Roters

ZA KONEC
CONCLUDING WORDS

194 ŠIROKIM OBZORJEM NAPROTI

201 TOWARDS BROAD HORIZONS

Neža Čebren Lipovec, Minka Osojnik

206 AVTORJI BESEDIL

206 CONTRIBUTING AUTHORS



Spoštovani!

Razumevanje kulturne dediščine pomaga bolje razumeti nas same, druge ljudi in svet okoli nas. Naša dediščina je bistvena za ohranitev nacionalne identitete in je ena izmed ključnih gradnikov za boljšo kakovost življenja. Predstavlja pomemben člen v samobitnosti našega naroda in je hkrati nepogrešljiva vez z drugimi kulturami. Z zaključeno Mednarodno poletno šolo konserviranja-restavriranja stenskih poslikav in skozi njo z delno obnovljenimi stenskimi poslikavami v cerkvi sv. Helene na Gradišču pri Divači je pred nami tako še en njen del, del, ki nam kot kamenček v mozaiku pomaga bolje razumeti preteklost in hkrati graditi boljšo prihodnost.

Cerkev sv. Helene na Gradišču je za nekaj let zapored postala stičišče kulturnih, strokovnih, mednarodnih in prijateljskih povezav. Šlo je za povezavo različnih znanj in strokovnosti, mladostne zagnanosti in zrele izkušenosti, za povezavo med kulturno in naravno dediščino, za povezavo med različnimi institucijami in lokalno skupnostjo, navsezadnje za povezavo med različnimi narodnostmi in jeziki. In lepo je, da je prav dediščina tista, ki je vso to pisano paleto vsega povezovala.

Poleg Restavratorskega centra in Območne enote Nova Gorica Zavoda za varstvo kulturne dediščine Republike Slovenije je bilo v organizacijo tega pomembnega projekta vključenih več institucij in strokovnjakov, ki jih je treba omeniti in se jim tudi zahvaliti.

V prvi vrsti je to zagotovo profesor Alberto Felici s švicarske Univerze uporabnih znanosti in umetnosti Južne Švice, mednarodno priznan strokovnjak s področja konserviranja-restavriranja stenskih slik. S svojim znanjem in z izkušnjami, izjemnim pedagoškim čutom in s kulturno širino je bil duša oz. steber celotnega dogajanja na mednarodni Poletni šoli na Gradišču. Pri vodenju in usmerjanju študentov so mu pomagali še profesorica Neva Pološki in Suzana Damiani z Univerze v Zagrebu, Akademije likovnih umetnosti, Oddelka za konserviranje in restavriranje umetnin, ter profesor Blaž Šeme z Univerze v Ljubljani, Akademije za likovno umetnost in oblikovanje, Oddelka za restavratorstvo. Delo ne bi moglo tako dobro potekati brez zagnanega organizacijskega tima iz našega zavoda: Minke Osojnik in Marte Bensa iz novogoriške enote ter Anite Kavčič Klančar, Andreja Jazbeca, Ajda Mladenović in Anke Batič iz Restavratorskega centra.

Za odlično sodelovanje se je treba na tem mestu zahvaliti tudi Parku Škocjanske jame in Občini Divača ter vsem tistim lokalnim prebivalcem, ki so v času delavnice pravzaprav postali del ekipe. Občina Divača je nedolgo nazaj cerkev sv. Helene tudi prevzela v upravljanje, kar pomeni veliko skrb in odgovornost. Na tem mestu se ji za to gesto posebej zahvaljujemo.

Še enkrat hvala vsem sodelujočim v mednarodni Poletni šoli in procesu obnove. Enako vsem, ki ste verjeli v nas in nam zaupali, ter vsem neimenovanim, ki ste s svojim delom, spodbudami in z vzdrževanjem dinamike celotnega procesa prav tako odigrali eno od pomembnih vlog.

Vendar je vsak konec tudi nov začetek, odpirajo se nove poti in možnosti povezovanja in sodelovanja med raznovrstnimi ustanovami, ki tako ali drugače gravitirajo na polje kulturne dediščine. Tudi v cerkvi sv. Helene na Gradišču pri Divači. Kulturna dediščina nas povezuje, odraža našo identiteto, naše skupne vrednote in spomine. Brez našega jezika, kulturne krajine, naselij, cerkva, gradov, brez umetnin in arheoloških predmetov, ki nas že stoletja, pravzaprav tisočletja umeščajo v evropski prostor, nas ne bi bilo in nas tudi ne bo. Zato je skrb za kulturno dediščino še naprej naša skupna odgovornost.

Jernej Hudolin

generalni direktor Zavoda za varstvo kulturne dediščine Slovenije

Dear All!

Understanding our cultural heritage helps us better understand ourselves, other people and the world around us. Our heritage is essential for preserving our national identity and is one of the key building blocks for a better quality of life. It is an important link in our nation's identity and an indispensable link with other cultures. As the International Summer School for the Conservation-Restoration of Wall Paintings has drawn to a close, the result of which are the partially conserved-restored wall paintings in the church of St Helen in Gradišče pri Divači, we are now looking forward to another chapter which, like a stone in a mosaic, will help us better understand the past and build a better future.

For several years in a row, the church of St Helen in Gradišče has been a place where cultural, professional and international connections and friendships have been created. It has been the site where skills and expertise, youthful enthusiasm and mature experience, cultural and natural heritage, different institutions and the local community, and last but not least different nationalities and languages have all come together. And it's wonderful that heritage in particular is what has been uniting all these different elements.

In addition to the Restoration Centre and the Nova Gorica Regional Office of the Institute for the Protection of Cultural Heritage of Slovenia, several other institutions and experts have been involved in organising this important project, and we must mention and thank them.

First and foremost we must thank Professor Alberto Felici from the University of Applied Sciences and Arts of Southern Switzerland, an internationally renowned expert in the conservation-restoration of wall paintings. Thanks to his knowledge and experience, his exceptional pedagogical acumen and his cultural breadth, he was the soul and backbone of the Summer School in Gradišče. He was assisted in guiding and directing the students by Professors Neva Pološki and Suzana Damiani from the Department for Conservation and Restoration of Works of Art at the University of Zagreb's Academy of Fine Arts, and Professor Blaž Šeme from the Department of Restoration at the University of Ljubljana's Academy of Fine Arts and Design. The work could not have been carried out so well without our institution's enthusiastic organising team: Minka Osojnik and Marta Bensa from the Nova Gorica Regional Office and Anita Kavčič Klančar, Andrej Jazbec, Ajda Mladenović and Anka Batič from the Restoration Centre.

We would also like to thank the Škocjan Caves Park, the Municipality of Divača and all the local residents who became part of the team during the workshop's duration for their excellent cooperation. The Municipality of Divača also took over the management of the church of St Helen not long ago, which entails a lot of care and responsibility. A big thank you for this.

Thank you once again to all those involved in the Summer School and the restoration process, and to all those who believed in us and trusted us, all the unnamed people who played an important role through their work, by offering encouragement and keeping the momentum of the whole process going.

But every end is also a new beginning, opening up new paths and opportunities for connections and cooperation between the various institutions that in one way or another are connected with cultural heritage. This is also the case when it comes to the church of St Helen in Gradišče. Cultural heritage connects us, reflects our identity, our common values and memories. If it was not for our language, our cultural landscape, our villages, churches, castles, art and archaeological artefacts, which have defined our European identity for centuries, indeed millennia, we would not now exist and we will not exist in the future. That is why caring for our cultural heritage remains our joint responsibility.

Jernej Hudolin

Director General of the Institute for the Protection of Cultural Heritage of Slovenia

Spoštovani!

Občina Divača je nadvse bogata občina, saj jo krasí zaklad več kot dvestotih enot nepremične kulturne dediščine. Med njimi sta cerkva sv. Helene na Gradišču pri Divači in v njeni neposredni bližini tudi prazgodovinsko arheološko najdišče. Za majhno občino, kot je naša, tako veliko število enot kulturne dediščine terja premišljeno in strateško načrtovanje ter upravljanje, prav tako veliko stopnjo odgovornosti, saj so, hočemo ali nočemo, z varstvom dediščine naših prednikov povezana tudi finančna sredstva.

A dediščina preteklosti, ki odseva skozi zidove, kamne, pripovedi, poti, veščine in znanja, s svojo presežno vrednostjo opozarja na pomen ohranjanja, saj se prav v spominjanju skriva odgovor na vprašanje, kdo smo.

Cerkva sv. Helene je dolgo samevala kot skriti biser naše občine. Danes ponosno povemo, da smo v letu 2021 podpisali pogodbo o upravljanju in kot prva slovenska občina prevzeli odgovornost za usodo cerkvice za nadaljnjih dvajset let.

Vesela sem sodelovanja različnih deležnikov, ki so pripomogli k temu, da je danes cerkva takšna, kot je, da smo vsi vključeni v pripovedi preteklosti vtisnili svoje znanje, svoje veščine in svojo ljubezen do kulturne zapuščine. Osrednje mesto v tej pripovedi zasedajo domačini Gradišča pri Divači, ki so ta biser varovali vsa leta, nanj vztrajno opozarjali in vseskozi vedeli za neizmerno vrednost stenskih poslikav, ki jih nosi v svoji notranjosti. V sodelovanju in spoštovanju med ljudmi je moč pravih dejanj. Na ta način postaja še tako nemogoče popolnoma mogoče, in cerkva sv. Helene na temelju tega odseva svojo lepoto in vrednost v sedanji čas.

S smelostjo in pogumom zremo v prihodnje dejavnosti, ko bo cerkva eno od središč inovativnih in nekoliko drugačnih kulturnih dogodkov, ter ko jo bomo vključili v celostno turistično zgodbo v naši občini ter na ta način prispevali svoj kamenček v mozaik kulturnega in sonaravnega turizma v Sloveniji. Zgodba dediščine se nadaljuje – ko jo ohranjamo, prispevamo delček k ohranjanju identitete naroda, lastne kulture, in na ta način zlahtnimo kulturo in bogastvo celotnega človeštva.

Alenka Štrucl Dovgan
županja Občine Divača

Dear All!

The Municipality of Divača is a very rich municipality, as it boasts a treasure trove of more than 200 units of immovable cultural heritage. One of them is the church of St Helen in Gradišče pri Divači, and another the prehistoric archaeological site in its immediate vicinity. For a small municipality like ours, such a large quantity of cultural heritage requires thoughtful and strategic planning and management, as well as a high degree of responsibility because, whether we like it or not, financial resources are required to protect our ancestors' heritage.

The immense value of our heritage embodied in the walls, stones, stories, paths, skills and knowledge underscores the significance of preservation. It is through remembrance that we uncover the answer to the question of who we are.

For a long time, the church of St Helen stood alone as a hidden gem in our municipality. Today, we are proud to say that in 2021 we signed a management contract and became the first Slovenian municipality to take responsibility for a church's fate for twenty years.

I am delighted with the collaboration of the various stakeholders who have helped to make the church what it is today, and that all of us involved in the narratives of the past have invested our knowledge, our skills and our love for cultural heritage. Central to this narrative are the local people of Gradišče pri Divači who have protected this jewel over the years, persistently drawing attention to it, and who have always known of the immeasurable value of the wall paintings it harbours. It is in cooperation and respect between people that veritable acts possess the greatest power. In this way, the impossible becomes possible and the church of St Helen reflects its beauty and value into the present time.

We look forward with boldness and courage to future activities, when the church will be a centre of innovative cultural events and part of the municipality's overall tourist narrative, thus contributing a small stone to the mosaic of cultural and sustainable tourism in Slovenia. The story of heritage continues. When we preserve it, we make a small contribution to preserving the nation's identity and our own culture, thereby enriching all of humanity.

Alenka Štrucl Dovgan
Mayor of Divača



“Spomnim se, ko sem bila majhna, smo s prijateljicama Sonjo in Mileno nabirale marjetice v šopke in te rože smo potem zmeraj nosile v cerkev na oltar. I remember when I was a little girl, my friends Sonja and Milena and I used to pick bunches of daisies, and then we'd put these flowers on the altar in church.”

Jožica Sila

CERKEV SV. HELENE NA GRADIŠČU PRI DIVAČI – DEDIŠČINA, KI POVEZUJE

Minka Osojnik

Vas Gradišče je z devetimi hišami in le 16 prebivalci eno od najmanjših naselij v regiji. Čeprav je gostota prebivalcev majhna, je bogastvo nepremične kulturne dediščine v vasi ravno nasprotno, saj ima Gradišče kar štiri enote, ki so vpisane v Register nepremične kulturne dediščine: cerkev, naselje, domačijo Gradišče št. 8 in arheološko najdišče – gradišče, po katerem je naselje dobilo ime. Cerkev sv. Helene, ki kot nekakšen varuh na rahli vzpetini bdi nad svojo vasjo, stoji na stičišču Krasa in Istre, kar se jasno izraža v njeni podobi (slika 1).

Majhna kraška podružnična cerkev, v osnovi sicer še zgodnjegotska, vendar v 17. stoletju precej predelana stavba, se je na zemljevidu slovenske umetnostne zgodovine pojavila v 50. letih prejšnjega stoletja, po tem, ko so bile na stenah njene ladje odkrite poznosrednjeveške poslikave. Te je, med strganjem starih beležev s sten, odkril malar, ki je imel nalogo vaško cerkvico prebeliti. V cerkveni ladji odkrite poslikave, njihova barvitost, oblika in vsebina so prinesle spoznanje, da to sicer tipično kraško arhitekturo oplaja dediščina Istre, oz. da sodi cerkev sv. Helene celo med njene ključne spomenike.

Med leti 1966–67 sta restavtorja¹ Franc Kokalj in Franc Novinc iz Republiškega zavoda za spomeniško varstvo poslikave v celoti odkrila in restavriral, medtem ko so domačini sočasno »odkrivali« zidovje cerkve, saj je bila njena okolica do tistih časov precej zaraščena (slika 2). Od odkritja poslikav se je pristojna spomeniškovarstvena služba osredotočila na njihovo celovito prezentacijo, v naslednjih letih je objekt postopoma sanirala in poskusila ustvariti ustrezne pogoje, ki bi zagotovili varen ambient za dolgoročno ohranitev poslikav. Pri tem delu je bila včasih bolj, spet drugič manj uspešna.

Po ureditvi poslikav se je cerkev redno obravnavala v temeljnih pregledih slovenske srednjeveške umetnosti, zelo hitro je bila povezana s Hrastovljami in z delavnico Janeza iz Kastva. Posebno pozornost je pritegnil čudovit prizor *Pohoda svetih treh kraljev* na severni steni ladje, za katerega je France Stele napisal, da se v njem slikar »ni mogel premagati in je posnel tu mnogo več, kakor je bilo potrebno za sliko pohoda kraljev, tako da je v njegovi sliki ljudski okus zmagal nad viteškim.«² O cerkvi in njeni stavbni zgodovini sta v knjigi *Reka – Timav: podobe, zgodovina in ekologija kraške reke* pisala Borut in Mojca Uršič,³ poslikave v ladji so dobile tudi zasluženo mesto v obsežni študiji *Srednjeveške freske v Sloveniji* dr. Janeza Höflerja.⁴

Junija 2005 je na Gradišču potekalo srečanje prebivalcev Gradišč Slovenije in ob tej priložnosti je bil izdan krajevni vodnik *Gradišče pri Divači, vas z roba Regijskega parka Škocjanske jame*.⁵ Avtor vodnika, domačin Branko Cerkvnik, je v njem predstavil vas z okolico in njeno bogato zgodovino, medtem ko je posebno pozornost posvetil največji vaški lepotici, cerkvi sv. Helene, ki jo je sam večkrat poimenoval kar speča Trnuljčica. Čeprav je bila cerkev sv. Helene slovenski umetnostnozgodovinski stroki dobro poznana že pol stoletja in so jo v raznih obnovah postopno reševali tudi varuhi dediščine, je na vsesplošno »zaspanost« vseh odgovornih nenehno opozarjala majhna vaška skupnost.

Septembra 2006 so revija Kras, Razvojni center Divača in domačini Gradišča ob priliki dokončanja mučne in dolgoletne obnove kamnite cerkvene strehe organizirali večjo predstavitev cerkve in njenih stenskih poslikav, na kateri

¹ V pričujoči publikaciji za opisovanje sodobnih pristopov uporabljamo izraz *konserviranje-restavriranje* oz. izraz za strokovnjaka *konservator-restavrador*, vendar kadar je govora o preteklih posegih, uporabljamo izraza *restavriranje* oz. *restavrador*. Izraz *konservator-restavrador* je pri določanju strokovne terminologije sprejela vodilna svetovna organizacija na področju muzejev, Mednarodni muzejski svet ICOM, da bi poenotila mednarodno komunikacijo na področju ohranjanja in varovanja materialne kulturne dediščine. Izraz združuje obe vrsti ukrepov, tako konserviranje kot restavriranje. V Sloveniji se izraz *konservator-restavrador* od leta 1996 uporablja za poimenovanje strokovnjaka z akademsko izobrazbo, ki se ukvarja s konserviranjem premične ali nepremične dediščine, medtem ko izraz *restavrador* pomeni obrtnika, ki popravlja kakršne koli predmete in nima akademske izobrazbe. Pogovorno se sicer še vedno najpogosteje uporablja izraz *restavrador*, čeprav je izraz *restavriranje* zaradi zgodovinskih okoliščin v angleškem jeziku dobil negativno konotacijo. Mednarodno je danes namesto tega uveljavljen izraz *konserviranje*, ki ga razumemo v širšem smislu kot vse dejavnosti in ukrepe, usmerjene v ohranjanje in varovanje dediščine, vključno z restavriranjem. MLADENOVIC 2021, str. 14–18.

² STELE 1969, str. 57.

³ URŠIČ, URŠIČ 1990, str. 179–207.

⁴ HÖFLER 1997, str. 89–91.

⁵ CERKVENIK 2005.



Slika 1: Pogled na cerkev sv. Helene s SV smeri (foto: Emil Smole, 1968).

Fig. 1: A view of the church of St Helen from the north-east (photo: Emil Smole, 1968).



Slika 2: Delno odkrite poslikave na južni ladijski steni, prizor *Snemanje s križa* (foto: Emil Smole, 1968).

Fig. 2: Partially uncovered paintings on the south wall of the nave, scene of the *Descent from the Cross* (photo: Emil Smole, 1968).



Slika 3: Prostovoljci obnavljajo suhi zid okoli cerkve sv. Helene (foto: Minka Osojnik, 2017).

Fig. 3: Volunteers rebuilding the dry wall around the church of St Helen (photo: Minka Osojnik, 2017).



Slika 4: Podpis pogodbe med Župnijo Divača in Občino Divača decembra 2021 (foto: ALENFRA productions, profesionalne foto in video storitve, Alen Franetič s. p., 2021).

Fig. 4: Signing of the contract between the parish of Divača and the Municipality of Divača in December 2021 (photo: ALENFRA productions, professional photo and video services, Alen Franetič s. p., 2021).

sta s svojimi prispevki sodelovala tudi umetnostni zgodovinar Edvilijo Gardina⁶ in največji poznavalec primorskih kamnosekov Božidar Premrl.⁷ Sledilo je znatno povečanje števila obiskovalcev cerkve, domačini ocenjujejo, da na nekaj tisoč ljudi letno. Največji obisk se beleži na vsakoletnem *Pohodu ob ponoru reke Reke*, ki ga organizira Turistično društvo Škocjan.

Nekako od leta 2017 se cerkev sv. Helene ponovno intenzivno spremlja in postopno obnavlja. Pobude za obnove so vedno prišle iz strani domačinov, ki so že leta opozarjali na ta »vaški biser«, za katerega so upravičeno menili, da se mu ne posveča ustrezna pozornost. Tako je bil spomladi leta 2017 v cerkvi najprej izveden koncert divaškega pevskega zbora, v katerega je bilo vključeno predavanje o pomenu in vrednosti poslikav, nekaj mesecev kasneje je 45 prostovoljcev pod taktirko Partnerstva kraške suhozidne gradnje in v sodelovanju z ZVKDS OE Nova Gorica ter Odborom za varstvo kulturne dediščine Biosfernega območja Kras in porečja Reke v enem samem dnevu obnovilo propadajoči suhi zid okoli cerkve. Ta akcija je bila verjetno nekakšen jeziček na tehtnici, ki je spodbudil idejo in predvsem pravo voljo, da se cerkev celovito obnovi in njeno glavno bogastvo – poslikave – naredi javnosti čim dostopnejše (slika 3).

Tako je npr. pestra ponudba dobro ohranjenih srednjeveških poslikav v divaških cerkvah oživila nekdanjo tradicionalno *Romanje k fari*, ko so prebivalci bližnjih in tudi nekoliko bolj oddaljenih naselij za veliki šmaren romali k cerkvi Marijinega vnebovzeta v Vremskem Britofu, ki prav tako sodi med najpomembnejše spomenike srednjeveškega slikarstva na Slovenskem. TKŠD Urbanščica v sodelovanju z ZVKDS OE Nova Gorica in s Parkom Škocjanske jame od leta 2019 oživlja romarsko tradicijo, obogateno s predstavitevijo lokalne naravne in kulturne dediščine. Vse bolj obiskano romanje je vsako leto speljano po drugi trasi in seveda ni nobeno naključje, da stoji Gradišče pri Divači na eni izmed njih. V letu 2019 je bil o romanju posnet krajši dokumentarni film z naslovom: *Vitezi Reke – Med barve spomina*,⁸ ki se posebej posveča prav cerkvi sv. Helene in je prosto dostopen na spletu.

Izjemen pomen, ki ga je širša lokalna skupnost pripisala cerkvi sv. Helene, je na pobudo ZVKDS spodbudil Občino Divača, Župnijo Divača in Škofijo Koper k iskanju ustrezne rešitve, ki bi objektu omogočila kakovostno obnovo, redno vzdrževanje, vključitev v obstoječo bogato turistično ponudbo in s tem boljšo prepoznavnost. Podpis pogodbe med Župnijo Divača in Občino Divača decembra 2021, s čimer se je upravljanje cerkve za 20 let preneslo na občino, je rezultat dobrega sodelovanja med lokalno skupnostjo, predstavniki RKC, ZVKDS, Regijskega parka Škocjanske jame in Ministrstva za kulturo Republike Slovenije (slika 4).

Od prenosa upravljanja cerkve z župnije na občino se je cerkev sv. Helene ponovno znašla v soju reflektorjev – Trnuljčica je trenutno zagotovo zelo budna. Marca leta 2022 je ZVKDS v sodelovanju z Občino Divača za člane društva Turistični vodniki Kras in Brkini organiziral celodnevno izobraževanje o Gradišču, cerkvi sv. Helene in njeni zgodovini, konservatorsko-restavratorskih posegih in novih odkritjih (slika 5). Od leta 2020 ZVKDS s pomočjo Parka Škocjanske jame v cerkvi sv. Helene na Gradišču v sklopu Dnevoev evropske kulturne dediščine organizira vsakoletno delavnico spoznavanja lokalne kulturne dediščine za učence sedmih razredov OŠ dr. Bogomirja Magajna Divača (slika 6).

Zadnja leta se cerkev s pomočjo sredstev Ministrstva za kulturo RS, Občine Divača, vaške skupnosti, Škofije Koper in Javnega zavoda Park Škocjanske jame počasi, a nenehno obnavlja. Na pomoč pri svetovanju in včasih tudi pri obnovah je pogosto priskočil tudi kakšen prostovoljec, kar daje vedeti, da je za okolico cerkev postala zares pomembna. Zagotovo h konstruktivnemu pristopu k vzdrževanju objekta veliko pripomorejo tudi prebivalci Gradišča, ki vedno poskrbijo za dobro vzdušje in doma pripravljene dobrote, s katerimi delo lažje steče (slika 7).

Tako je na pozitivno vzdušje in navezanost lokalnega prebivalstva na vaško cerkvico na enem od svojih delovnih obiskov v Sloveniji v spremstvu kolegov konservatorjev-restavratorjev naletel mednarodno priznan italijanski konservator-restavrator Alberto Felici, ki je bil nad cerkvijo sv. Helene, njenimi poslikavami in vasjo Gradišče

⁶ GARDINA 2006.

⁷ PREMRL 2006.

⁸ KREBELJ 2019, spletni vir, citiran 15. 1. 2024: <https://www.youtube.com/watch?v=ImYBf2sIeYk>



Slika 5: Člani društva Turistični vodniki Kras in Brkini med predstavitvijo poslikav v cerkvi sv. Helene (foto: Minka Osojnik, 2022).

Fig. 5: Members of the association of Karst and Brkini tourist guides during a presentation of the paintings in the church of St Helen (photo: Minka Osojnik, 2022).



Slika 6: Učenci 7. razredov OŠ dr. Bogomirja Magajne Divača pod budnim očesom konservatorke-restavratork Anke Batič odkrivajo in čistijo modelne vzorce stenskih poslikav (foto: Lucija Prihavec Mahorčič, 2022).

Fig. 6: Year 7 pupils of the Bogomir Magajna Divača Primary School, under the watchful eye of conservator-restorer Anka Batič, uncovering and cleaning a model samples of wall paintings (photo: Lucija Prihavec Mahorčič, 2022).



Slika 7: Ob prireditvah v cerkvi sv. Helene na Gradišču za dobro počutje vedno poskrbijo domačini. Na fotografiji od leve: Jožica Sila, Snežna Benčina, Nives Sila, Maja Sila (foto: Minka Osojnik, 2021).

Fig. 7: The local always make sure a good atmosphere accompanies events at the church of St Helen in Gradišče. Pictured from left: Jožica Sila, Snežna Benčina, Nives Sila, Maja Sila (photo: Minka Osojnik, 2021).

preprosto navdušen. Med njegovim ogledom poslikav se je porodila ideja o tem, da bi lahko cerkev sv. Helene postala izvrstna učilnica za študente konservatorstva-restavracije. Ideja je prerasla v Mednarodno poletno šolo konserviranja-restavriranja stenskih poslikav – Gradišče Summer School, ki so jo organizirali ZVKDS, Akademija za likovno umetnost in oblikovanje iz Ljubljane, Akademija za likovno umetnost iz Zagreba ter švicarska Univerza za uporabne znanosti in umetnosti iz Lugana. Mednarodna šola je bila seveda v prvi vrsti namenjena izobraževanju mladih konservatorjev-restavracije, študentov treh univerz iz Slovenije, Hrvaške in Švice. V treh letih (2021–2023) se je postopek konserviranja-restavriranja predstavil v nekakšni idealni, šolski obliki: prvo leto so posvetili izdelavi natančne dokumentacije o objektu in poslikavah, drugo leto čiščenju in utrjevanju poslikav, tretje leto je bilo namenjeno končni estetski predstavitvi oz. retuši.

Vendar z izvedbo mednarodne šole niso veliko pridobili samo študenti in vsi mentorji oz. profesorji ter drugi sodelujoči, veliko je pridobila tudi cerkev s poslikavami. Zelo pomembna je že dokumentacija, ki so jo študentje in strokovnjaki v času šole v prvem letu izdelali, saj so natančno popisali vse značilnosti uporabljenih materialov in tehnik, prav tako tudi poškodbe in stanje stenskih poslikav. Zbrani podatki predstavljajo pomemben temelj za vse nadaljnje konservatorsko-restavratorske posege. V sklopu šole so bili izvedeni številni poskusi čiščenja in utrjevanja, pod vodstvom profesorjev in mentorjev so študenti določili najboljšo metodologijo dela, ki se bo v prihodnje uporabila pri konserviranju-restavriranju poslikav. Spomladi 2023 je ekipa restavracije ZVKDS že izvedla čiščenje in utrjevanje na poslikavah celotne južne stene ladje, saj je bilo to površino treba pripraviti za mednarodno šolo, ki je bila v zaključnem letu namenjena retuši. Na spodnjem delu južne stene je bila v sklopu šole nato izbrana metodologija retuširanja, ki predstavlja vzorčni primer dobre estetske prezentacije stenske poslikave. Zagotovo je bila uspešna izvedba Poletne šole tudi eden od pomembnih dejavnikov, ki je privedel do prenosa upravljanja cerkve na občino, saj je z veliko vključitvijo stroke lokalna skupnost pridobila upanje in zaupanje, da pri skrbi za ta pomemben, a hkrati zelo krhek objekt kulturne dediščine, ne bo ostala sama (slika 8).

Namen pričujoče publikacije je predstavitev triletne Mednarodne poletne šole konserviranja-restavriranja stenskih poslikav – Gradišče Summer School skozi oči organizatorjev, izvajalcev in udeležencev. Uredniški odbor je že ob pripravi osnutka publikacije določil, da bo napisana v različnih jezikih, saj je tako potekala tudi mednarodna šola, medtem ko so kot povezovalna besedila vključeni angleški prevodi. Poglavlja, ki so jih skupaj pisali avtorji z različnim maternim jezikom, so napisana v angleščini brez dodatnega prevoda.

Seveda je publikacija namenjena tudi predstavitvi cerkve sv. Helene, njene zgodovine in izvedenih posegov čim širši, ne samo strokovni javnosti. Ta poglavja so pisana v slovenskem jeziku, tako da bodo skupaj z angleškimi prevodi lahko dosegla vse, ki bi o tem majhnem, a hkrati velikem spomeniku želeli izvedeti čim več. Cilj publikacije, ki je z drznim pogledom v prihodnost zarisana v zaključnem delu, je priprava trdnega temelja, ki bo zagotovil, da cerkev sv. Helene ne bi bila nikoli več pozabljena oziroma da Trnuljčica ne bi spet zaspala.



Slika 8: Koncert Slovenskega okteta v cerkvi sv. Helene na Gradišču (foto: Minka Osojnik, 2022).
Fig. 8: A concert by the Slovene Octet at the church of St Helen in Gradišče (photo: Minka Osojnik, 2022).

Literatura in viri / References

- CERKVENIK 2005: Cerkevnik, Branko, *Gradišče pri Divači: vas z roba Regijskega parka Škocjanske jame*, Divača 2005.
- GARDINA 2006: Gardina, Edvilijo, Poklon treh kraljev Krasu, *Kras: revija o Krasu in krasu, o ljudeh in njihovem ustvarjanju*, 76, 2006, str. 29–34.
- HÖFLER 1997: Höfler, Janez, *Srednjeveške freske v Sloveniji, II. knjiga, Primorska*, Ljubljana 1997.
- KREBELJ 2019: Kребelj, Marjan, Vitezi Reke – Med barve spomina, 2019. Spletni vir / Online source: <https://www.youtube.com/watch?v=ImYBf2sIeYk> (dostop / cited on 15. 1. 2024).
- MLADENOVIC 2021: Mladenović, Ajda, *Etika in estetika pri konservatorsko-restavratorskih posegih – retuša in prezentacija srednjeveških stenskih slik v Sloveniji* (doktorska disertacija / doctoral thesis, Univerza v Ljubljani), Ljubljana 2021.
- PREMRL 2006: Premrl, Božidar, Cerkev sv. Helene na Gradišču pri Divači in njena stavbna zgodovina, *ANALES: anali za istrske in mediteranske študije. Annali di Studi istriani e mediterranee. Annals for the Istrian and Mediterranean studies. Series historia et sociologia*, 16, 2, 2006, str. 465–476.
- STELE 1969: Stele, France, *Slikarstvo v Sloveniji od 12. do 16. stoletja*, Ljubljana 1969.
- URŠIČ, URŠIČ 1990: Uršič, Mojca, Uršič, Borut, Umetnostna preteklost doline Reke, *Reka – Timav: podobe, zgodovina in ekologija kraške reke*, Ljubljana 1990, str. 179–207.

THE CHURCH OF ST HELEN IN GRADIŠČE PRI DIVAČI – HERITAGE THAT BRINGS TOGETHER

Minka Osojnik

With its nine houses and sixteen inhabitants, Gradišče is one of the region's smallest villages. Although the population density is low, the richness of the immovable cultural heritage in the village is quite the opposite, as Gradišče has no fewer than four units registered in the Register of Immovable Cultural Heritage: the church, the village, the homestead bearing the house number Gradišče 8 and the archaeological site – the hill-fort, after which the settlement takes its name. The church of St Helen watches over the village like a guardian on a slight elevation, and stands at the crossroads of the Karst and Istria. This is clearly reflected in its appearance (Fig. 1).

This small limestone church, still fundamentally an early Gothic building but considerably altered in the 17th century, appeared on the map of Slovenian art history in the 1950s after late medieval paintings were discovered on the walls of its nave. These were discovered by a painter who had been tasked with repainting the village church, while scraping old layers of whitewash off the walls. The paintings discovered in the nave, their colour, form and content have brought the realisation that this typical example of Karst architecture is enriched by the heritage of Istria. In fact, the paintings in the church of St Helen have turned out to be one of Istria's key monuments, despite being on the Karst and not in Istria.

In the years 1966-67, the paintings were completely uncovered and restored by the conservator-restorers¹ Franc Kokalj and Franc Novinc from the Institute for Monument Protection. At the same time the locals 'uncovered' the walls of the church, as the surrounding area was quite overgrown (Fig. 2). Since the discovery of the wall paintings, the competent conservation service has focused on their integral presentation and has gradually restored the building in an attempt to create the appropriate conditions to ensure a safe environment for their long-term preservation. Sometimes it has been successful in this work, other times not so much.

After the paintings were restored, the church was regularly discussed in general reviews of Slovenian medieval art, and was quickly associated with Hrastovlje and the workshop of Johannes from Kastav (Janez iz Kastva). The magnificent scene of the *Journey of the Magi* on the north wall of the nave drew particular attention. France Stele wrote that in this scene the painter 'could not help himself and painted much more than was necessary to depict the journey of the kings, thus, popular taste triumphed over the chivalrous.'² Borut and Mojca Uršič have written about the church and its architectural history in their book *Reka – Timav: podobe, zgodovina in ekologija kraške reke* (Reka - Timav: pictures, history and ecology of the Karst River),³ while the paintings in the nave have also been given a well-deserved place in Janez Höfler's comprehensive study *Srednjeveške freske v Sloveniji* (Medieval Frescoes in Slovenia).⁴

In June 2005, a meeting of the inhabitants of all the villages in Slovenia called Gradišče (the name means hill-fort in Slovene) was held in Gradišče pri Divači and the local guidebook *Gradišče pri Divači, vas z roba Regijskega parka Škocjanske jame* (Gradišče pri Divači, a village on the edge of the Škocjan Caves Regional Park) was published on this occasion.⁵ The book's author and local inhabitant Branko Cerkevnik presented the village, its surroundings and rich history, with special emphasis on the village's greatest treasure, the Church of St Helen, which he often called the

¹ In this publication, we use the terms *conservation-restoration* and *conservator-restorer* to describe these processes and the experts who carry them out. The term *conservator-restorer* was adopted by the world's leading museum organisation, the International Council of Museums (ICOM), in order to unify international communication in the field of conservation and protection of tangible cultural heritage. The term combines both types of action – conservation and restoration. In Slovenia, the term *conservator-restorer* has been used since 1996 to refer to a professional with an academic degree who conserves movable or immovable heritage, while the term *restorer* refers to a craftsman who repairs objects of any kind and does not have an academic degree. Colloquially, the term *restorer* is still the most commonly used, although the term *restoration* has acquired a negative connotation in the English language due to its historical context. Internationally, the term *conservation* is now used instead and it refers to all the different activities and measures aimed at preserving and protecting heritage, including restoration. MLADENOVIC 2021, pp. 14-18.

² STELE 1969, p. 57.

³ URŠIČ, URŠIČ 1990, pp. 179-207.

⁴ HÖFLER 1997, pp. 89-91.

⁵ CERKVENIK 2005.

Sleeping Beauty. Although the church of St Helen has been well known to Slovenian art historians for half a century and has gradually been rescued by guardians of heritage in the course of various renovations, the general 'lethargy' of all those responsible has constantly been pointed out by the small village community.

In September 2006, after the arduous and long-lasting renovation of the church's stone roof was completed, the journal *Kras*, the Divača Development Centre and locals from Gradišče organised a major presentation of the church and its wall paintings, with the participation of art historian Edvilijo Gardina⁶ and the foremost expert on the stonemasons of the Littoral region, Božidar Premrl.⁷ This was followed by a significant increase in the number of visitors to the church, estimated by locals at several thousand a year. The largest number of visitors is recorded at the annual 'Hike around the River Reka's Ponor', organised by the Škocjan Tourist Board.

Since 2017, the church of St Helen has been intensively monitored and gradually renovated. The initiatives for restoration have always come from local people who have for many years been drawing attention to this 'village treasure', which they rightly felt was not being given the attention it deserved. In the spring of 2017, a concert by the Divača Choir was first held in the church, together with a talk on the significance and value of the paintings. A few months later, 45 volunteers under the supervision of the Karst Dry Stone Walling Partnership and in cooperation with the Nova Gorica Regional Office of the Institute for the Protection of Cultural Heritage of Slovenia (IPCHS), and the Department for the Protection of Cultural Heritage of the Karst Biosphere Reserve and the Reka River Basin, rebuilt the crumbling dry wall around the church in a single day. This undertaking was probably crucial in building up the determination to restore the church in its entirety and to make its main asset – the paintings – as accessible to the public as possible (Fig. 3).

The various well-preserved medieval paintings in the churches around Divača revived the traditional 'Pilgrimage to the Parish', in which the inhabitants of nearby and distant villages make a pilgrimage to the church of Our Lady's Assumption in Vremški Britof on the feast of the Assumption. This church also contains some of Slovenia's most important medieval paintings. Since 2019, the TKŠD Urbanščica (Association for tourism, sport and culture), has been cooperating with the Nova Gorica Regional Office of the IPCHS and the Škocjan Caves Park in reviving the pilgrimage tradition, enriched with the presentation of natural and cultural heritage. The pilgrimage, which is increasingly well attended, follows a different route each year and it is of course no coincidence that Gradišče pri Divači features on one of the routes. In 2019, a short documentary about the pilgrimage was made, entitled 'Knights of the Reka – The Colours of Memories'.⁸ It focuses in particular on the church of St Helen and is freely available online.

The exceptional importance attached by the wider local community to the Church of St Helen and the initiative of the IPCHS has encouraged the Municipality of Divača, the Parish of Divača and the Diocese of Koper to find a suitable solution that would enable the building to be restored, regularly maintained, integrated into the existing wealth of tourist attractions and thus made more visible. The signing of the contract between the Parish of Divača and the Municipality of Divača in December 2021, which transferred the running of the church to the municipality for 20 years, is the result of good cooperation between the local community, representatives of the Roman Catholic Church, the IPCHS, the Škocjan Caves Regional Park and the Ministry of Culture (Figure 4).

Ever since the running of the church was transferred from the parish to the municipality, St Helen's has once again found itself in the spotlight – Sleeping Beauty is now very much awake. In March 2022, the IPCHS cooperated with the Municipality of Divača in organising a training day for Karst and Brkini tourist guides on the subject of Gradišče, the church of St Helen and its history, conservation-restoration interventions, and new discoveries (Fig. 5). Since 2020, the IPCHS, with the help of the Škocjan Caves Park, has been organising an annual workshop on local cultural

⁶ GARDINA 2006.

⁷ PREMRL 2006.

⁸ KREBELJ 2019, online source, cited on 15. 1. 2024: <https://www.youtube.com/watch?v=ImYBf2sleYk>

heritage for year 7 pupils of the Bogomir Magajna Divača Primary School in the church of St Helen in Gradišče as part of the European Heritage Days (Fig. 6).

In recent years, thanks to the help of the Ministry of Culture, the Municipality of Divača, the village community, the Diocese of Koper and the Public Institute of the Škocjan Caves Park, the church has been slowly but steadily restored. Volunteers have often helped by giving advice and sometimes helping with renovation, which shows that the church has become really important to the people living in the area. The constructive approach to the building's upkeep is greatly facilitated by the inhabitants of Gradišče, who always ensure there is a good atmosphere and prepare home-made goodies to make the work flow more smoothly (Fig. 7).

During one of his working visits to Slovenia, accompanied by fellow conservator-restorers, the internationally renowned Italian conservator-restorer Alberto Felici encountered the positive atmosphere and the attachment of the local population to the village church. He was simply delighted by St Helen's, its paintings and the village of Gradišče. During his examination of the paintings, the idea was born that the church could become an excellent classroom for students of conservation-restoration. The idea became the International Summer School for the Conservation-Restoration of Wall Paintings – Gradišče Summer School, organised by the IPCHS, the Academy of Fine Arts and Design in Ljubljana, the Academy of Fine Arts in Zagreb and the Swiss University of Applied Sciences and Arts in Lugano. The school's primary aim was to educate young conservator-restorers, the students of three universities from Slovenia, Croatia and Switzerland. Over three years (2021-2023), the conservation-restoration process was presented in a kind of ideal, school format: the first year was devoted to producing detailed documentation on the building and the paintings, the second year to cleaning and consolidating the paintings, and the third year was devoted to the final aesthetic presentation or retouching.

However, it is not only the students and all the mentors, professors and other participants who have gained a lot from the Summer School. The church and its paintings have also gained much. The documentation produced by the students and experts during the school's first year was already very important, as it describes in detail all the characteristics of the materials and techniques used, as well as the extent of the damage and the condition of the wall paintings. The data collected forms an important basis for all further conservation and restoration. The school also made a number of attempts to clean and consolidate the paintings. Under the guidance of the professors and mentors, the students determined the best methodology to be used in the future conservation-restoration of the paintings. In the spring of 2023, a team of IPCHS conservator-restorers carried out cleaning and consolidation work on the paintings on the entire south wall of the nave, as it had to be prepared for the Summer School 2023, which was to focus on retouching in its final year. The school then chose a retouching methodology for the lower part of the south wall that is an exemplary case of good aesthetic presentation of a wall painting. The success of the Summer School was certainly an important factor that led to the church's running being transferred to the municipality, as the considerable involvement of professionals meant the local community gained hope and confidence that it would not be left alone in caring for this important, but very fragile object of cultural heritage (Fig. 8).

The aim of this publication is to present the three-year International Summer School for the Conservation-Restoration of Wall Paintings – Gradišče Summer School through the eyes of the organisers, teachers and participants. When drafting the publication the editors decided it would be written in different languages, as this is how the Summer School was organised, and English translations have been included as a linking text. The chapters written jointly by authors with different mother tongues are written in English without additional translations.

Of course, the publication is also intended to present the church of St Helen, its history and the interventions carried out to as wide an audience as possible, not just to the professional public. These chapters are written in Slovene, so that together with the English translations they will be accessible to all who would like to learn as much as possible about this small but great monument. The aim of the publication – described with a bold look to the future in the final part – is to lay a solid foundation to ensure that the church of St Helen will never again be forgotten – that Sleeping Beauty should not fall asleep again.

GRADISCE SUMMER SCHOOL 2021–2023, LE RAGIONI DI UNA COLLABORAZIONE INTERNAZIONALE

Alberto Felici

La Summer School di Gradisce, realizzata con la collaborazione della Scuola universitaria professionale della Svizzera italiana, dell'Istituto per la tutela dei Beni Culturali della Slovenia, dell'Accademia di Belle Arti e Design di Lubiana e dell'Accademia di Belle Arti di Zagabria si è svolta dal 2021 al 2023, ogni anno nel periodo fra agosto e settembre, per la durata di due o tre settimane.

Studenti, docenti, esperti scientifici, storici dell'arte e restauratori di cinque diversi paesi europei hanno collaborato insieme per individuare e realizzare il restauro dei dipinti murali della chiesa di Sant'Elena a Gradišče pri Divači (Gradišchie di San Canziano), Slovenia. Una cooperazione fra istituti di ricerca, uffici di tutela e università che ha consentito di raggiungere questo fine integrando il lavoro di professionisti nel campo della conservazione alle attività didattiche necessarie alla formazione degli studenti. L'idea che ha guidato l'intera iniziativa è stata quella di utilizzare corsi di formazione di studenti in conservazione e restauro per svolgere le indagini e le operazioni necessarie alla valorizzazione e alla stabilizzazione del ciclo pittorico, per condividere il concetto dell'intervento e redigere il progetto con la guida dei docenti, utilizzando le informazioni ottenute dalla campagna diagnostica e dialogando con i restauratori che avrebbero eseguito l'intervento. Raggiungere questo scopo non è stato facile perché il background formativo-culturale di tutti i partecipanti, studenti, docenti e professionisti, era molto diverso: lingue diverse, livelli e tipologie di formazioni disparate, approcci differenti. Innanzitutto è stato necessario comprendere il contesto storico e ambientale della chiesa e della sua regione, poi raccogliere e organizzare le informazioni pregresse relative ai dipinti murali in modo tale che si potesse comporre un quadro sufficientemente chiaro di tutta la situazione, per poi trovare la forma più adeguata per istruire gli studenti. Tutto questo avendo a disposizione poche risorse e un tempo relativamente limitato.

Lo sforzo organizzativo non è stato indifferente ed è stato necessario coinvolgere anche le istituzioni locali affinché fosse possibile dimostrare l'importanza dell'iniziativa in modo da ottenere le risorse necessarie. Non si è trattato esclusivamente di affrontare e risolvere questioni logistiche, ma di mettere insieme esigenze estremamente diverse tra loro. Si è così creato un gruppo di lavoro che per quanto fosse eterogeneo, è stato capace di svolgere questo compito con estrema efficacia e grande soddisfazione. Un clima di reciproco rispetto e di forte volontà di collaborazione si è progressivamente sviluppato consentendo di realizzare con successo le attività programmate. Il contributo personale di ognuno dei partecipanti è stata la molla capace di innescare un circolo virtuoso che ha creato il desiderio di mettere a disposizione del gruppo le capacità individuali ed offrire il meglio di se stessi. Partecipare a questa Summer School è diventata un'esperienza che ha arricchito umanamente e professionalmente tutti i partecipanti. Progettare e realizzare il restauro dei dipinti murali di questa chiesa è stata l'occasione per conoscere una regione ricca di storia e di bellezze naturali, popolata da una comunità locale che con discrezione ha fatto sentire la propria presenza e ha manifestato le proprie esigenze con riservatezza e gentilezza. Una equilibrata miscela di spontanea partecipazione e genuina ospitalità nei rapporti personali, all'interno di un programma attentamente organizzato e scandito da serrati ritmi di lavoro, ha reso questo impegno meno gravoso per tutti. Seppure l'intervento di restauro abbia riservato maggiori difficoltà del previsto e malgrado le differenze di mentalità e di approccio professionale con cui affrontare queste difficoltà fossero piuttosto marcate fra i docenti e i professionisti coinvolti, è prevalsa la volontà di individuare una soluzione che fosse da tutti condivisa. Il valore del compromesso nelle scelte condivise, la capacità di lavorare con il gruppo e per il gruppo, l'assenza di individualismi sono stati i valori che tacitamente hanno sostenuto l'intera attività nei tre anni. Questi sono stati gli elementi fondanti di questa esperienza, questi sono stati i valori che sono emersi prima, durante e dopo i corsi della Summer School. Per gli studenti apprendere questo tipo di capacità, per i docenti avere la possibilità di poter fare affidamento su questo tipo di collaborazione, per i professionisti capire le potenzialità di questo approccio, è stata la dimostrazione che attraverso il lavoro comune è possibile raggiungere risultati concreti e duraturi nel tempo. Al di là degli innegabili risultati concreti, è stata tangibile la sensazione in ognuno di noi di aver partecipato a qualcosa di importante, utile sia per la comunità locale, sia per le istituzioni, sia per l'ambiente di lavoro. Ogni anno, prima delle attività sul campo, ci sono state lezioni preparatorie on line, una modalità consueta per tutti i partecipanti perché durante il periodo della pandemia molte lezioni si sono svolte in questo modo, e così si è potuto

preparare e ottimizzare il lavoro in chiesa. Lezioni introduttive su diverse materie, dalla chimica per la conservazione alla storia dell'arte e delle tecniche artistiche delle pitture murali di questa regione, hanno avuto lo scopo di formare gli studenti e di rodare il lavoro dei docenti.

Questa pubblicazione dà conto di quanto è stato fatto in questi anni, i risultati sono sinteticamente descritti, con la speranza che anche un pubblico di non specialisti possa conoscere meglio molti dettagli del ciclo pittorico della chiesa di Sant'Elena e di come sia stato eseguito il suo restauro. Tuttavia il lavoro iniziato non può dirsi concluso in quantoda questa esperienza è nato il desiderio di proseguire questa attività, dando avvio ad un'altra Summer School, che avrà per tema la creazione di un circuito museale relativo ai dipinti murali di questa regione. Già lo scorso anno un nuovo gruppo di studenti e di docenti ha iniziato a creare le basi per questo nuovo progetto. Anche quest'anno e nei prossimi anni studenti e docenti hanno intenzione di continuare il loro lavoro per portare a termine anche questo nuovo impegno.



Foto 1: L'incontro tra l'esperienza e il vigore giovanile in un'atmosfera di reciproco rispetto e di forte volontà di collaborazione (foto: arhiv Poletne šole, 2022).

Fig. 1: The experience of age meets the vigour of youth in an atmosphere of mutual respect and a strong desire for collaboration (photo: Summer School archive, 2022).

GRADIŠČE SUMMER SCHOOL 2021–2023: THE REASONS FOR INTERNATIONAL COLLABORATION

Alberto Felici

The Gradišče Summer School, run in collaboration with the University of Applied Sciences and Arts of Southern Switzerland, the Institute for the Protection of Cultural Heritage of Slovenia, the Academy of Fine Arts and Design in Ljubljana and the Academy of Fine Arts in Zagreb, took place from 2021 to 2023 in August and September of each of these years, for a period of two or three weeks each time.

Students, teachers, scientific experts, art historians and restorers from five different European countries worked together to identify and restore wall paintings in St Helen's Church at Gradišče pri Divači, Slovenia, in a collaboration involving research institutes, conservation offices and universities that facilitated the achievement of this aim by integrating the work of professionals from the conservation field with the teaching activities necessary for the training of the students. The idea guiding the entire initiative was that of using training courses designed to teach students about conservation-restoration as an opportunity to conduct the investigations and operations necessary for the enhancement and stabilisation of the cycle of paintings in the church, to share the concept of the intervention and, under the guidance of teachers, to draw up the project using the information obtained from the diagnostic campaign and through dialogue with the conservators-restorers who were to carry out the intervention. Reaching this goal was not easy, given the very different educational and cultural backgrounds of the participants – students, teachers and professionals alike: different languages, different levels and types of education, different approaches, and so on. In the first place it was necessary to understand the historical and environmental context of the church and the surrounding region. Next, prior information regarding the wall paintings had to be collected and organised in order to be able to put together a sufficiently clear picture of the entire situation and then find the most adequate mode of instructing the students. All this, with few resources and relatively limited time available.

The organisational effort was considerable and it also proved necessary to involve local institutions in order to be able to demonstrate the importance of the initiative and in this way obtain the necessary resources. It was not merely a question of addressing and resolving logistical issues, but of reconciling extremely different needs. The result was a working group that, despite its heterogeneity, proved capable of completing this task extremely effectively and to the satisfaction of all involved. The progressive development of an atmosphere of mutual respect and a clear willingness to collaborate permitted the successful completion of the planned activities. The personal contribution of every participant was the catalyst that triggered a virtuous cycle in which everyone was willing to put their own skills at the disposal of the group and offer the best of themselves to colleagues and students alike. Participation in this Summer School became an experience that enriched everyone involved, at both the human and the professional level. The planning and implementation of the conservation-restoration of the wall paintings in this church was an opportunity to get to know a region that is rich in history and natural beauty, populated by a local community that discreetly made its presence felt and expressed its needs with discretion and kindness. A balanced mixture of spontaneous participation and genuine hospitality in personal relationships, within a carefully organised programme characterised by tight work schedules, made this task less burdensome for everyone. Although the conservation-restoration intervention presented greater difficulties than initially expected, and despite the quite significant differences in mentality and professional approach among the teachers and professionals involved in the project when it came to addressing these difficulties, the desire to find a solution that everyone could agree on outweighed all other considerations. Recognition of the importance of compromise and shared choices, the capacity to work both with and for the group, and a complete absence of selfishness were the values that tacitly sustained the entire activity over the course of the three years. These elements were the cornerstone of this experience; these were the values that emerged before, during and after the courses of the Summer School. The fact that the students acquired skills of this type, that teachers had the opportunity to rely on this type of collaboration and that the professionals involved in the project understood the potential of this approach – this was the proof that through collective work it is possible to achieve solid and lasting results. Quite apart from the undeniable concrete results obtained, all involved had the tangible sensation of having taken part in something important that was beneficial both for the local community and for the participating institutions and, at the same time, conducive to a good working environment.

Each year, before beginning the activities in the field, preparatory lessons were held online. The online format is one that is familiar to all the participants, given that many lessons were given in this manner during the COVID-19 pandemic. This approach enabled us to optimise the work carried out in the church. Introductory lessons on different subjects, ranging from chemistry for conservation to history of art and the history of artistic techniques used in mural paintings in this region, served to provide students with essential information and prepare the ground for the subsequent work of the teachers.

This publication illustrates how much was achieved in these years. The results are described synthetically, in the hope that even non-specialist readers will be able to gain a better understanding of many of the details of the cycle of paintings in St Helen's Church and of how the restoration process was carried out. Nevertheless, the work begun cannot yet be said to be complete, since out of this experience has come a desire to continue the activity, giving rise to another Summer School, the theme of which will be the creation of a cycle of museum-type presentations of the murals of this region. A new group of students and teachers began laying the groundwork for this new activity last year. They will continue in 2024 and subsequent years in order to bring this new commitment to fruition.

PREDSTAVITVE SODELUJOČIH INSTITUCIJ
PRESENTATIONS OF PARTICIPATING INSTITUTIONS



“ Tu je hodilo dosti planincev, ker gre tu
čez slovenska transverzala, planinska pot.
Ti planinci so iskali žig, ki smo ga domačini
hranili. Dosti si jih je šlo pa tudi ogledat cerkev!
*A lot of hikers came because the Slovenian
Mountain Trail passes through here. These hikers
looked for a stamp that we locals kept. Many of
them also went to see the church!*”
Rudi Cerkvenik

ZAVOD ZA VARSTVO KULTURNE DEDIŠČINE SLOVENIJE

mag. Martina Lesar Kikelj, vodja Restavratorskega centra ZVKDS

Ustanovitelj Zavoda za varstvo kulturne dediščine (ZVKDS) je Republika Slovenija, Ministrstvo za kulturo. Delovanje in ureditev zavoda opredeljuje Zakon o varstvu kulturne dediščine (ZVKD-1) in Sklep o ustanovitvi Javnega zavoda RS za varstvo kulturne dediščine. Zavod ima v svoji sestavi dve glavni organizacijski enoti, in sicer Službo za kulturno dediščino in Center za konservatorstvo. Službo za kulturno dediščino sestavlja sedem območnih enot, ki delujejo po vsej državi. Center za konservatorstvo združuje neposredne izvedbene in raziskovalne naloge s področja konservatorstva-restavratorstva in preventivne arheologije. Ob tem skrbi za znanstveno-raziskovalni razvoj konservatorsko-restavratorske stroke. Pod okriljem Centra za konservatorstvo delujejo Restavratorski center, Center za preventivno arheologijo in Raziskovalni inštitut.

Ker ima Zavod za varstvo kulturne dediščine med številnimi nalogami, ki skrbijo za dobrobit kulturne dediščine, tudi nalogo izobraževanja ter identifikacije, vrednotenja in dokumentiranja kulturne dediščine, smo zlahka pristopili k projektu Mednarodne poletne šole konserviranja-restavriranja stenskih poslikav – Gradišče Summer School kot suveren in polnomočen partner, še posebej ob dejstvu, da strokovnjaki Restavratorskega centra in območne enote Nova Gorica s svojim dolgoletno pridobljenim znanjem s področja stenskih poslikav predstavljajo temelj za tovrstne izobraževalne delavnice.

Oddelek za stensko slikarstvo in mozaike na Restavratorskem centru je v zadnjih dvajsetih letih s svojim odprtim in inovativnim pristopom k obravnavi materije pridobil novo znanje prav na podlagi tesnega sodelovanja s tujimi in z domačimi strokovnjaki. Iskanje najboljših rešitev za ohranjanje stenskih poslikav je na Restavratorskem centru v zadnjih letih poglobilo več ravni: poudarek je bil na tehnološki ravni, izobraževanju, aktualizaciji strokovnih vprašanj. Z organizacijo različnih strokovnih delavnic, s katerimi smo znanje povzdignili na visoko strokovno raven, smo nadgradili preteklo znanje in izkušnje, kritično pogledali na delo stroke ter na podlagi samorefleksije ovrednotili posamezne pristope, jih začeli nadgrajevati in izboljševati. Ob tem smo stkali tudi dragocene vezi s strokovnjaki iz tujine. Te vezi nam še danes služijo kot povezovalni element pri uresničevanju projektov, kot je Poletna šola, ki nam pomeni več kot le izobraževanje, saj je ideja zrasla na podlagi dolgoletnega sodelovanja ter potreb naših in tujih strokovnjakov.

Povezava:
www.zvkds.si



INSTITUTE FOR THE PROTECTION OF CULTURAL HERITAGE OF SLOVENIA

Martina Lesar Kikelj, M.F.A., Head of the Restoration Centre IPCHS

The founder of the Institute for the Protection of Cultural Heritage (IPCHS) is the Republic of Slovenia, the Ministry of Culture. The Institute's operation and organisation are defined by the Cultural Heritage Protection Act (ZVKD-1) and the Decision establishing the Public Institute for the Protection of Cultural Heritage of Slovenia. The Institute has two main organisational units – the Cultural Heritage Service and the Conservation Centre. The Cultural Heritage Service has seven Regional Offices operating nationwide. Gradišče pri Divači is in the area covered by the Nova Gorica Regional Office. The Conservation Centre combines direct implementation and research tasks in the fields of conservation-restoration and preventive archaeology. It also ensures that the conservation-restoration profession carries out scientific research. The Restoration Centre, the Centre for Preventive Archaeology and the Research Institute all operate under the auspices of the Conservation Centre.

As the many tasks of the Institute for the Protection of Cultural Heritage include educating people and identifying, evaluating and documenting cultural heritage, we had no difficulty in joining the project of the International Summer School for the Conservation-Restoration of Wall Paintings – Gradišče Summer School, as a sovereign and authorised partner, especially given the fact that the educational workshops are organised by the experts of the Restoration Centre and the Nova Gorica Regional Office who have many years of experience in the field of wall paintings.

Over the last 20 years, the Restoration Centre's department for wall paintings and mosaics has gained new knowledge through its open and innovative approach to the treatment of materials, precisely on the basis of close cooperation with foreign and national experts. The Restoration Centre's search for the best solutions for conserving wall paintings has made progress on several levels in recent years: the emphasis has been on technology, education and bringing expertise up-to-date. By organising various professional workshops to bring our knowledge to a high professional level, we have built on past knowledge and experience, and taken a critical look at the work of the profession. Through self-reflection we have also evaluated different approaches and begun to upgrade and improve them. In the process, we have forged valuable links with experts from abroad. These links still serve us today as a connecting element when realising projects such as the Summer School, which is more than just a training course for us, as the idea grew out of many years of cooperation and the needs of our own and foreign experts.

Link:
www.zvkds.si



UNIVERSITY OF APPLIED SCIENCES AND ARTS OF SOUTHERN SWITZERLAND

Giacinta Jean, Head of Conservation Restoration study programme, Dipartimento ambiente, costruzioni e design

The University of Applied Sciences and Arts of Southern Switzerland (SUPSI) is one of the nine professional universities recognised by the Swiss Confederation. It offers a Bachelor and a Master programme in Conservation-Restoration with specialisations in wall painting, plaster, stucco and monumental stone. The program is developed in collaboration with the other conservation-restoration schools offering a university level education in Switzerland: the Abegg-Stiftung in Riggisberg and the Hochschule der Künste Bern (part of the Berner Fachhochschule), and the Haute Ecole Arc Conservation-Restoration in Neuchâtel (part of the Haute école spécialisée de Suisse occidentale). Drawing on the experience of international conservators, architects, art historians, chemists and geologists who teach at SUPSI, and benefitting from advanced technical and analytical facilities in the campus, the course aims at providing students with the skills to recognise an object's cultural value, develop a well-founded conservation intervention following a methodological decision-making process, which involves understanding the object and its conservation issues, developing and testing preventive and remedial treatments, evaluating and implementing them and developing a programme for its subsequent monitoring and maintenance. Students acquire their competences through theoretical lessons that are closely linked to professional practice.

Situated in the southern part of Switzerland, near the Italian border, the SUPSI offers its students the privileged opportunity – through its contacts with cantonal, national and international heritage institutions – to develop their research and practical skills on prestigious conservation projects, supervised by leading conservation professionals. A number of recent fieldworks have been undertaken in Switzerland (on the paintings in the Romanesque baptistery in Riva San Vitale and the 18th century stucco decoration in the church of S. Stefano in Arogno), in Italy (Villa Cicogna in Bisuschio, Villa Imperiale in Pesaro, the baptistery in Parma Cathedral and the cloister of Prato Cathedral), in the Czech Republic (Uherčice Castle) and in Slovenia.

During their studies students also practice documentation and communication skills in order to work in an efficient manner with professionals from other disciplines and institutions and with the stakeholders involved in conservation-restoration projects. For their Master's thesis students are very often involved in research projects or in challenging fieldwork where they can test and develop innovative conservation strategies or techniques.

Links:

Swiss Conservation-Restoration Campus
www.swiss-crc.ch/

SUPSI Conservation-Restoration study program
www.supsi.ch/en/bachelor-conservation
www.supsi.ch/en/master-conservation-restoration-eng

University of Applied Sciences and Arts
of Southern Switzerland

SUPSI

ACADEMY OF THE ARTS BERN, DEPARTMENT OF THE BFH BERN UNIVERSITY OF APPLIED SCIENCES, CONSERVATION-RESTORATION PROGRAM

Doz. Diplom-Restaurator Jonas Roters

As Switzerland's first transdisciplinary university of the arts, the Bern University of the Arts (HKB) offers diverse study programmes in the divisions of Music, Design and Fine Arts, Conservation and Restoration, Theatre and Literature. It is a department of the Bern University of Applied Sciences (BFH). The study of Conservation and Restoration is made up of the two consecutive degree programmes Bachelor *Conservation* and Master *Conservation-Restoration*. These two degree programmes contain the following four specialisations: Architecture and Furnishings (AA), Graphics, Documents and Photography (GSP), Paintings and Sculpture (GuS) and Modern Materials and Media (MMM). Cultural Values, the Art Technology Laboratory, the undergraduate teaching staff and the Materials Archive form the various areas of expertise. Together with the Abegg-Stiftung (textiles), the Haute Ecole Arc Conservation-Restoration (HE-Arc CR) and the Scuola universitaria professionale della Svizzera italiana (SUPSI), the study programmes at the Bern University of the Arts are part of the Swiss Conservation-Restoration Campus (Swiss CRC).

Link:

www.hkb.bfh.ch/en/conservation-and-restoration/studies/



Hochschule der Künste Bern
Haute école des arts de Berne
Bern University of the Arts

UNIVERZA V LJUBLJANI, AKADEMIJA ZA LIKOVNO UMETNOST IN OBLIKOVANJE, ODDELEK ZA RESTAVRATORSTVO

doc. dr. Blaž Šeme

Univerza v Ljubljani je najstarejša in največja visokošolska izobraževalna institucija v Sloveniji. Sestavlja jo 23 fakultet in tri umetniške akademije s skupaj približno 38.000 študenti in več kot 6.600 zaposlenimi.¹ Akademija za likovno umetnost in oblikovanje (ALUO) je ena od treh umetniških akademij Univerze v Ljubljani in je vodilna nacionalna univerzitetna izobraževalna ustanova na področjih likovnih umetnosti, konservatorstva-restavratorstva in oblikovanja. Akademija je bila ustanovljena leta 1945 in je na začetku omogočala le študij kiparstva, slikarstva in grafike. Že leta 1954 je bil uveden tudi specialistični študij konserviranja in restavriranja, ki je sprva potekal v prostorih Narodne galerije. Samostojni oddelek in študij konservatorstva-restavratorstva je na akademiji od leta 1996. ALUO je edina, ki omogoča visokošolski študij konservatorstva-restavratorstva v državi. Študijski program je usmerjen predvsem v področje konserviranja-restavriranja likovnih umetnin. Na drugi stopnji se študij deli na smer A: Konserviranje in restavriranje slik in polihromirane plastike ter smer B: Konserviranje in restavriranje stenskih slik in kamna. Od študijskega leta 2021/2022 je mogoč tudi doktorski študij konservatorsko-restavratorske zgodovine in teorije na študijskem področju Likovne vede v okviru Interdisciplinarnega doktorskega študijskega programa Humanistika in družboslovje. ALUO je s sodelujočimi profesorji Oddelka za restavratorstvo tudi članica Inštituta za trajnostno varstvo dediščine Univerze v Ljubljani.

Poleg organizacije razstav, projektov, delavnic in simpozijev z domačimi in s tujimi strokovnjaki ter ekskurzij doma in v tujini oddelek spodbuja tudi udeležbo študentov na mednarodnih konferencah ter Erasmus izmenjavah študija in prakse. Mednarodna poletna šola konserviranja-restavriranja stenskih poslikav na Gradišču je bila prva mednarodna konservatorsko-restavratorska poletna šola, ki jo je soorganiziral oddelek oziroma ALUO. Z novimi izkušnjami in pogledi na problematiko konserviranja-restavriranja stenskih slik, pridobljenimi v vseh treh letih poletne šole, smo lahko obogatili in nadgradili vsebine poučevanja konserviranja-restavriranja stenskih slik na obeh stopnjah študijske smeri Konserviranje-restavriranje likovnih del.

Povezava:

www.aluo.uni-lj.si



¹ Podatek za leto 2022.

UNIVERSITY OF LJUBLJANA, ACADEMY OF FINE ARTS AND DESIGN, DEPARTMENT OF RESTORATION

assist. prof. Blaž Šeme, PhD

The University of Ljubljana is the oldest and largest higher education institution in Slovenia. It consists of 23 faculties and three art academies, with a total of around 38,000 students and more than 6,600 employees¹. The Academy of Fine Arts and Design (ALUO) is one of the university's three art academies and is the leading national university-level educational institution in the fields of fine arts, conservation-restoration and design. The Academy was founded in 1945 and initially offered only the study of sculpture, painting and printmaking. In 1954, a specialised course in conservation and restoration was introduced and was initially held at the National Gallery. The Academy has had an independent conservation-restoration department and study course since 1996. The ALUO is the only institution in the country offering a course in conservation-restoration at higher-education level. The study programme mainly focuses on conservation-restoration of fine art. At the second level, the study is divided into A: conservation and restoration of paintings and polychrome sculptures, and B: conservation and restoration of wall paintings and stone. Since the academic year 2021/2022 it is also possible to study for a PhD in conservation-restoration history and theory in the field of visual arts as part of the Interdisciplinary Doctoral Programme of Humanities and Social Sciences. Together with the participating professors from the Restoration Department, the ALUO is also a member of the University of Ljubljana's Institute for Sustainable Heritage Conservation.

In addition to organising exhibitions, projects, workshops and symposia with national and international experts, and excursions in Slovenia and abroad, the department also encourages students to participate in international conferences and Erasmus study and practice exchanges. The International Summer School for the Conservation-Restoration of Wall Paintings in Gradišče was the first international restoration summer school, which was co-organised by the ALUO Department of Restoration. The experience and new perspectives on conservation-restoration of wall paintings gained during the three years of the summer school have enabled us to enrich and upgrade the content for teaching conservation-restoration of wall paintings at both levels of the Conservation and Restoration of Works of Art study programme.

Link:

www.aluo.uni-lj.si/en



¹ Figure for 2022.

SVEUČILIŠTE U ZAGREBU, AKADEMIJA LIKOVNIH UMJETNOSTI, ODSJEK ZA KONZERVIRANJE I RESTAURIRANJE UMJETNINA

prof. mr. art. Suzana Damiani

Akademija likovnih umjetnosti (ALU) u Zagrebu dio je Zagrebačkog sveučilišta, najstarijeg u Hrvatskoj i jugoistočnoj Europi. Sveučilište je osnovano 1669. godine, a danas se sastoji od 31 fakulteta i triju akademija. Akademija likovnih umjetnosti osnovana je 1907. godine kao Kraljevsko zemaljsko više obrazovno-umjetničko učilište za umjetnost i umjetni obrt. Danas ima šest odsjeka: Slikarski, Kiparski, Grafički, Nastavnički, Odsjek za animaciju i nove medije te Odsjek za konzerviranje i restauriranje umjetnina (OKIRU). Ukupan broj studenata Akademije je oko 400, a na njoj radi oko 80 nastavnika i suradnika.

Odsjek za konzerviranje i restauriranje umjetnina osnovan je 1995. godine, a njegovo osnivanje djelomično je potaknuto razaranjima nastalim tijekom Domovinskog rata. Studijski programi nekoliko europskih studija te glavni principi obrazovanja konzervatora-restauratora navedeni u dokumentima ECCO-a i ENCORE-a, utjecali su na oblikovanje studija na OKIRU. Prva generacija studenata upisala je studij akademske godine 1997./98. Oblikovan je kao integrirani prijediplomski i diplomski studij, traje pet godina. Na studij se upisuje desetak studenata godišnje i to na dva smjera – slikarski i kiparski, a na Odsjeku je zaposleno petnaestak nastavnika.

Studijski program može se podijeliti u nekoliko grupa koje sadrže kolegije posvećene umjetničkim disciplinama (slikanje, crtanje, kiparstvo), one posvećene tehnologiji i prirodnim znanostima (slikarska i kiparska tehnologija, fizika, kemija, biologija), humanističkom i društvenom području znanosti (povijest umjetnosti, etika) te području konzerviranja-restauriranja. Ovo područje obuhvaća kolegije koji se bave umjetninama različitih umjetničkih formi na različitim nosiocima kao što su štafelajne slike, zidne slike, polikromirana drvena skulptura te kamen i arhitektonska plastika. Značajan dio programa posvećen je praksi, kako na umjetninama unutar prostora Odsjeka, tako i na terenu, na objektima nepokretne baštine.

Link:

www.alu.unizg.hr



Sveučilište u Zagrebu
Akademija likovnih
umjetnosti

UNIVERSITY OF ZAGREB, ACADEMY OF FINE ARTS, DEPARTMENT FOR CONSERVATION AND RESTORATION OF WORKS OF ART

prof. Suzana Damiani, MA

The Academy of Fine Arts (ALU) in Zagreb is part of the University of Zagreb, the oldest university in Croatia and Southeast Europe. The university was founded in 1669 and today consists of 31 faculties and three academies. The Academy of Fine Arts was established in 1907 as the Royal College Educational of Arts and Crafts. Today, it has six departments: Painting, Sculpture, Graphics, Pedagogy, Department of Animation and New Media, and the Department for Conservation and Restoration of Works of Art (OKIRU – acronym in Croatian). The total number of students at the Academy is around 400, with approximately 80 teachers and collaborators.

The Department for Conservation and Restoration of Works of Art was established in 1995, partly prompted by the destruction caused during the Croatian War of Independence. The study programmes of several European schools and the main principles of education for conservator-restorers outlined in the ECCO and ENCoRE documents influenced the shaping of the curriculum at OKIRU. The first generation of students enrolled in the academic year 1997/98. The program is designed as an integrated undergraduate and graduate program, lasting for 5 years. Around ten students are enrolled annually in two disciplines – painting and sculpture, and the Department employs around fifteen teachers.

The study programme can be divided into several groups, which include courses dedicated to artistic disciplines (painting, drawing, sculpture), those focused on technology and natural sciences (painting and sculpture technology, physics, chemistry, biology), humanities and social sciences (art history, ethics), and the field of conservation-restoration. This area encompasses courses that deal with artworks of various artistic forms on different supports, such as easel paintings, wall paintings, polychrome wooden sculptures, stone, and architectural sculpture. A significant part of the program is devoted to practical training, both on artworks within the department's premises and in the field, working on immovable heritage objects.

Link:

www.alu.unizg.hr



University of Zagreb
Academy of Fine Arts

UNIVERZA NA PRIMORSKEM, FAKULTETA ZA HUMANISTIČNE ŠTUDIJE

doc. dr. Neža Čebren Lipovec

Fakulteta za humanistične študije (UP FHŠ) je osrednja humanistična in družboslovna enota Univerze na Primorskem. Sestavlja jo osem oddelkov, ki vključujejo arheologijo, dediščino, antropologijo, zgodovino, geografijo, medijske študije, uporabno jezikoslovje, slovenistiko in italijanistiko. Ima dve raziskovalni enoti, Inštitut za arheologijo in dediščino (IAD) ter Inštitut za medkulturne študije (IIS). V okviru IAD delujejo strokovnjakinje in strokovnjaki za kulturno dediščino ter arheologijo, predvsem na področju ohranjanja in interpretacije dediščine; sestavljajo jo arheologi, arheologi-muzealci in umetnostni zgodovinarji, specializirani na področju dediščinskih študijev. Člani IAD so obenem tudi člani istoimenskega Oddelka, kjer so nosilci predmetov na dodiplomskih, magistrskih in doktorskih študijskih programih s področja arheologije, kulturne dediščine in dediščinskega turizma. Člani IAD imajo 20 let izkušenj v nacionalnih, mednarodnih in čezmejnih projektih, predvsem na področju kulturne dediščine in njenega ohranjanja (npr.: nacionalni raziskovalni projekt Dediščina za vključujočo in trajnostno preobrazbo – HEI-Transform; Roof of Rock – Apnenec kot skupni imenovalec naravne in kulturne dediščine ob vzhodnem delu jadranske obale – IPA Adriatic Interreg; MACC – Modern Art Conservation Centre, SLO-ITA Interreg; Heritage of the Serenissima/ Dediščina Serenissime – Kultura 2000; Atas – Ancient traps in the Adriatic sea, thematic touristic route on underwater archaeological heritage from Greek and Roman period – EASME projekt; AD HOC – Accessible and digitalised cultural heritage for persons with disabilities – Erasmus+; AS – Archaeology for all/Arheologija za vse – Norveški mehanizmi idr.) ter številnih študentskih aplikativnih projektov. Oddelek izdaja mednarodno znanstveno revijo *Studia Universitatis Hereditati*, v okviru katere je vzpostavil tudi monografsko zbirko *Libri Universitatis Hereditati*. Inštitut za arheologijo in dediščino je od leta 2008 upravljavec Arheološkega parka Simonov zaliv, kjer je ohranjena in prezentirana rimska obmorska vila, ob sodobnem centru za obiskovalce. Od leta 2021 Fakulteta za humanistične študije prav zaradi bogatih izkušenj na področju dediščine vodi novoustanovljeno Unescovo katedro za izobraževanje in interpretacijo za spodbujanje celostnih pristopov k dediščini, ki jo je pridobila v partnerstvu s Parkom Škocjanske jame. Od leta 2023 skupina strokovnjakinj za dediščino na FHŠ vodi tudi mednarodno delovno skupino strokovnjakov kritične dediščinske študije, imenovano »Critical Heritage Lab«, znotraj evropske univerzitetne mreže Transform4Europe.

Povezava:

<https://fhs.upr.si>



UNIVERSITY OF PRIMORSKA, FACULTY OF HUMANITIES

assist. prof. Neža Čebren Lipovec, PhD

The Faculty of Humanities (UP FHŠ) is the central humanities and social sciences unit of the University of Primorska. It consists of eight departments, including Archaeology, Heritage, Anthropology, History, Geography, Media Studies, Applied Linguistics, Slovene Studies and Italian Studies. It has two research units, the Institute of Archaeology and Heritage (IAD) and the Institute of Intercultural Studies (IIS). Experts in cultural heritage and archaeology work within the framework of the IAD, especially in the field of preservation and interpretation of heritage; it is composed of archaeologists, archaeologists-museologists and art historians specialising in heritage studies. The members of the IAD are also members of the Department of the same name, where they teach courses in undergraduate, masters and doctoral programmes in the fields of archaeology, cultural heritage and heritage tourism. IAD members have 20 years of experience in national, international and cross-border projects, especially in the field of cultural heritage and its conservation (e.g.: the national research project Heritage for Inclusive and Sustainable Transformation - HEI-Transform; Roof of Rock - Limestone as a Common Denominator of Natural and Cultural Heritage Along the Eastern Adriatic Coast - IPA Adriatic Interreg; MACC - Modern Art Conservation Centre, SLO-ITA Interreg; Heritage of the Serenissima - Culture 2000; Atas - Ancient Traps in the Adriatic Sea, thematic touristic route on underwater archaeological heritage from Greek and Roman period - EASME Project; AD HOC - Accessible and Digitised Cultural Heritage for People with Disabilities - Erasmus+; AS - Archaeology for All - Norwegian Mechanisms, etc.) and numerous student applied projects. The Department publishes the international scientific journal *Studia Universitatis Hereditati*, within which it has also established a monographic collection *Libri Universitatis Hereditati*. Since 2008, the Institute of Archaeology and Heritage has been managing the Simon's Bay Archaeological Park, where a Roman seaside villa has been preserved and presented alongside a modern visitor centre. Since 2021, the Faculty of Humanities, thanks to its extensive experience in the field of heritage, has been managing the newly created UNESCO Chair in Education and Interpretation for the Promotion of Integrated Approaches to Heritage, which it acquired in partnership with Škocjan Caves Park. Since 2023, a group of heritage experts at the FHŠ also coordinates an international working group of experts in critical heritage studies, called the "Critical Heritage Lab", within the European university network Transform4Europe.

Link:

<https://fhs.upr.si/en>



MEDNARODNA POLETNA ŠOLA KONSERVIRANJA- RESTAVRIRANJA STENSKIH POSLIKAV INTERNATIONAL SUMMER SCHOOL FOR THE CONSERVATION-RESTORATION OF WALL PAINTINGS

ORIS POLETNE ŠOLE

Ajda Mladenović

Triletna Mednarodna poletna šola konserviranja-restavriranja stenskih poslikav – Gradišče Summer School (dalje Poletna šola) je potekala nekaj tednov v poletnih mesecih med letoma 2021 in 2023. Glavni cilj projekta sta bila načrtovanje in izvedba konservatorsko-restavratorskega posega na poznosrednjeveških stenskih poslikavah v cerkvi sv. Helene na Gradišču pri Divači. V organizaciji Zavoda za varstvo kulturne dediščine Slovenije, švicarske Univerze za uporabne znanosti in umetnosti SUPSI, Akademije za likovno umetnost in oblikovanje v Ljubljani, Akademije likovnih umetnosti iz Zagreba ter pod programskim vodstvom konservatorja-restavratorja Alberta Felicija z Univerze SUPSI je bila Poletna šola zasnovana kot idealna študija primera, na katerem se je s tesnim interdisciplinarnim sodelovanjem začrtal najustrežnejši metodološki pristop za ohranitev in obnovo dragocenih poslikav. Projekt je bil namenjen strokovnemu izpopolnjevanju študentov konservatorstva-restavratorstva in strokovnjakov, delujočih na področju ohranjanja dekorativnih arhitekturnih površin. Vsakoletne dejavnosti programskih sklopov so bile začrtane fazno in usmerjene v spoznavanje stanja in lastnosti stenskih poslikav, določanje ustreznih konservatorsko-restavratorskih postopkov in njihovo izvedbo. Pester izobraževalni program, ki so ga izvajali predavatelji in strokovnjaki iz sodelujočih institucij, je vključeval predavanja ter predstavitev domačih in tujih praks, praktično terensko delo in strokovne ekskurzije, ki so bile namenjene ne le pridobivanju novih znanj in veščin, temveč tudi spoznavanju kolegov in izmenjavi izkušenj.

Glavne vsebine programa Poletne šole

Program Poletne šole je vsako leto sledil enakemu zaporedju. Prvi teden se je začel z delom od doma, na spletu, kjer so spoznavanju udeležencev sledila predavanja in predstavitve, tematsko vezani na poslikave v cerkvi na Gradišču, stenske poslikave srednjeveškega obdobja nasploh ter naravoslovne, tehnične in metodološke konservatorsko-restavratorske vidike. Osrednji del Poletne šole so zajemale eno- ali dvotedenske dejavnosti na lokaciji v cerkvi sv. Helene v objemu kraškega nedrja, kjer je bilo v ospredju praktično delo na poslikavah – njihovo dokumentiranje, čiščenje, utrjevanje in estetska prezentacija. Ob vsakoletnem zaključku so bili ideja in dosežki Poletne šole predstavljeni stroki, zainteresirani javnosti in lokalni skupnosti. Ko so se udeleženci vrnili na svoje domove, je sledil še zadnji teden Poletne šole, izveden spet na spletu in namenjen razpravi o rezultatih ter pripravi zaključnega poročila o vseh v tistem letu izvedenih dejavnostih, kar je služilo kot izhodišče za delo v nadaljevanju.

Poletna šola 2021 je bila namenjena spoznavanju poslikav in cerkve, njene zgodovine in preteklih obnovitvenih posegov. Pri razumevanju zatečenega stanja poslikanih površin in vzrokov zanj ter vplivov okolja, v katerem se poslikave nahajajo, so nam bile v pomoč tudi številne raziskave in analize. Izdelana je bila natančna dokumentacija stanja, medtem ko so bili na podlagi vseh spoznanj nato začrtani konservatorsko-restavratorski postopki za nadaljnje delo. Spoznanja prvega leta so bila v Poletni šoli 2022 dopolnjena z dodatnimi analitskimi in naravoslovnimi preiskavami, medtem ko je bila glavnina terenskega dela usmerjena v vzpostavitev metodologije čiščenja in utrjevanja stenskih poslikav. Posegi z izbrano metodologijo so bili nato deloma izvedeni v sklopu rednega dela konservatorjev-restavratorjev Restavratorskega centra ZVKDS. V zadnjem letu so bile dejavnosti Poletne šole 2023 nadgrajene v skupni projekt z vzporedno potekajočo Mednarodno poletno šolo konservatorstva in interpretacije, pri čemer se je delo na poslikavah nadaljevalo z vzpostavitvijo metodologije sklepne faze v konservatorsko-restavratorskem posegu, izvedbo estetske prezentacije poslikave z različnimi načini retuširanja in tonskega podlaganja.

“Potem, ko so se odkrile freske, je bilo dosti obiska tu. Italijani so zelo dosti hodili gledat. Punce smo šle po ključek in odprle. Kako se nam je zdelo vsem lepo, da smo notri! After the frescoes were discovered, many visitors came. Many Italians came to see them. We girls went to get the key and opened it. We thought it was really nice to be inside!”

Jožica Sila

Seznam udeležencev Poletne šole 2021–2023

Organizatorji:

ZVKDS: Anka Batič (2021–2022), Marta Bensa (2021–2023), Andrej Jazbec (2021–2023), Anita Kavčič Klančar (2021–2023), Katja Kavkler (2021–2023), Jelka Kuret (2021), Ajda Mladenović (2021, 2023), Minka Osojnik (2021–2023); **SUPSI:** Alberto Felici (2021–2023), Giacinta Jean (2021–2023); **ALUO Ljubljana:** Blaž Šeme (2021–2023); **ALU Zagreb:** Suzana Damiani (2021–2023), Neva Pološki (2021–2023); **Univerza na Primorskem:** Neža Čebtron Lipovec (2023).

Leto 2021

Udeleženci:

Katarina Bartolj, Eva Marija Fras, Marko Odič (študentje ALUO), Luka Ružič Stasiow (student ALU), Mischa Hiltensperger, Lea Vollenweider Bianca (študenta HKB), Melissa Cannizzo, Chiara Milazzo, Cecile Roulin (študentke SUPSI).

Predavatelji:

Cristina Corti, Alberto Felici, Stefania Luppichini, Patrizia Moretti, Francesca Piquè, Giulia Russo (vsi SUPSI), Andrej Jazbec, Anita Kavčič Klančar, Katja Kavkler, Martina Lesar Kikelj, Minka Osojnik, Marta Bensa (vsi ZVKDS), Neva Pološki (ALU), Jonas Roters (HKB), Blaž Šeme (ALUO).



Slika 1: Skupinska fotografija udeležencev Poletne šole 2021 (foto: Minka Osojnik, 2021).
Fig. 1: Group photo of the 2021 Summer School participants (photo: Minka Osojnik, 2021).

Leto 2022

Udeleženci:

Katarina Bartolj, Maša Berdon, Irina Pozdorovkina, Urh Tacar (študentje ALUO), Antun Škrlec, Matea Primožič (študenta ALU), Alésia Barthoulot, Gabriel Sebastian Klopfenstein (študenta HKB), Lorenz Amann, Lara Bassoli, Angela Walther (študentje SUPSI).

Predavatelji:

Alberto Felici, Patrizia Moretti, Daniela Murphy, Francesca Pique, Francesca Reichlin, Giulia Russo (vsi SUPSI), Katarina Bartolj, Anka Batič, Marta Bensa, Andrej Jazbec, Anita Kavčič Klančar, Katja Kavkler, Martina Lesar Kikelj, Minka Osojnik (vsi ZVKDS), Neva Pološki (ALU), Jonas Roters (HKB), Blaž Šeme (ALUO).



Slika 2: Skupinska fotografija udeležencev Poletne šole 2022 (foto: arhiv Poletne šole, 2022).
Fig. 2: Group photo of the 2022 Summer School participants (photo: Summer School archive, 2022).

**MEDNARODNA POLETNA ŠOLA KONSERVIRANJA-RESTAVRIRANJA STENSKIH
POSLIKAV**
**INTERNATIONAL SUMMER SCHOOL FOR THE CONSERVATION-RESTORATION
OF WALL PAINTINGS**

Leto 2023

Udeleženci:

Michelle Vidovič, Viktorija Peternel (študentki ALUO), Lara Cizel, Karla Borenić (študentki ALU), Luzia Amrein, Carmen Hiltbrunner (študentki HKB), Alessia Grandoni, Marco Tosi, Elisa Luthi (študentje SUPSI).

Predavatelji:

Lorenz Amann, Alberto Felici, Giacinta Jean, Elisabeth Manship (vsi SUPSI), Marta Bensa, Andrej Jazbec, Katja Kavkler, Anita Kavčič Klančar, Martina Lesar Kikelj, Ajda Mladenović, Minka Osojnik, Mateja Neža Sitar (vsi ZVKDS), Neva Pološki (ALU), Jonas Roters (HKB), Katarina Bartolj, Blaž Šeme (ALUO), Darko Babić (UNI Zagreb), Andreja Padovnik (Fakulteta za gradbeništvo in geodezijo v Ljubljani), Borut Peric (Park Škocjanske jame).



Slika 3: Skupinska fotografija udeležencev Poletne šole 2023 in Mednarodne poletne šole konservatorstva in interpretacije (foto: Stojan Borštnar, 2023).

Fig. 3: Group photo participants of the 2023 Summer School and International Summer School for Conservation and Interpretation (photo: Stojan Borštnar, 2023).

OVERVIEW OF THE SUMMER SCHOOL

Ajda Mladenović

The three-year International Summer School for Conservation-Restoration of Wall Paintings – Gradišče Summer School (hereinafter Summer School) took place for several weeks in the summer months of the years 2021 to 2023. The main aim of the project was to plan and carry out conservation-restoration work on the late medieval wall paintings in the church of St Helen. Organised by the Institute for the Protection of Cultural Heritage of Slovenia, the Swiss University of Applied Sciences and Arts, the Academy of Fine Arts and Design in Ljubljana, the Academy of Fine Arts in Zagreb, and under the leadership of conservator-restorer Albert Felici from the SUPSI, the Summer School was conceived as an ideal case study in which the most appropriate methodological approach for conserving and restoring the valuable paintings was outlined through close interdisciplinary collaboration. The project was aimed at the professional training of conservation-restoration students and professionals working in the field of conserving decorative architectural surfaces. The annual activities of the programme sections were planned in phases and focused on understanding the condition and characteristics of the wall paintings, determining the appropriate conservation and restoration procedures and their implementation. The varied training programme, delivered by lecturers and experts from the participating institutions, included lectures and presentations on national and international practices, practical field work and professional excursions, aimed not only at acquiring new knowledge and skills, but also at getting to know colleagues and exchanging experience.

The main content of the Summer School programme

The Summer School programme followed the same order each year. The first week began with work from home (online), during which the participants got to know each other, followed by lectures and presentations thematically related to the paintings in the church in Gradišče, wall paintings of the medieval period in general, and the scientific, technical and methodological aspects of conservation and restoration. The core section of the Summer School consisted of one- or two-week activities on the site of St Helen's church in the Karst, where the focus was on practical work on the paintings – documenting, cleaning, consolidating and aesthetically presenting them. At the end of each Summer School, its idea and achievements were presented to professionals, the interested public and the local community. Once the participants had returned home, the final week of the Summer School was held online to discuss the results and prepare a final report on all the activities carried out that year. This served as a starting point for the work to follow.

The 2021 Summer School was dedicated to learning about the paintings and the church, its history and past restoration work. Much past research and analysis has helped us understand the current state of the painted surfaces, why they are in the state they are in, as well as the impact of the environment in which they are located. Detailed documentation describing the situation was produced and all the findings were used to outline future conservation-restoration procedures. The lessons learnt in the first year were complemented by additional analytical and scientific investigations during the 2022 Summer School, while the main focus of the fieldwork was on establishing a methodology for cleaning and consolidating the wall paintings. The interventions with the selected methodology were then carried out as part of the regular work of the conservator-restorers of the IPCHS Restoration Centre. Last year, the activities of the 2023 Summer School were upgraded to form a joint project with the International Summer School for Conservation and Interpretation that runs in parallel. Work on the paintings continued with the establishment of a methodology for the final phase of conservation-restoration – the aesthetic presentation of the paintings using different methods of retouching and tonal adjustment.

List of participants in the 2021-2023 Summer School

Organisers:

IPCHS: Anka Batič (2021-2022), Marta Bensa (2021-2023), Andrej Jazbec (2021-2023), Anita Kavčič Klančar (2021-2023), Katja Kavkler (2021-2023), Jelka Kuret (2021), Ajda Mladenović (2021, 2023), Minka Osojnik (2021-2023); **SUPSI:** Alberto Felici (2021-2023), Giacinta Jean (2021-2023); **ALUO Ljubljana:** Blaž Šeme (2021-2023); **AFA Zagreb:** Suzana Damiani (2021-2023), Neva Pološki (2021-2023); **University of Primorska:** Neža Čebtron Lipovec (2023).

2021

Participants:

Katarina Bartolj, Eva Marija Fras, Marko Odič (ALUO students), Luka Ružič Stasiow (ALU student), Mischa Hiltensperger, Lea Vollenweider Bianca (HKB students), Melissa Cannizzo, Chiara Milazzo, Cecile Roulin (SUPSI students).

Lecturers:

Cristina Corti, Alberto Felici, Stefania Luppichini, Patrizia Moretti, Francesca Piquè, Giulia Russo (all SUPSI), Andrej Jazbec, Anita Kavčič Klančar, Katja Kavkler, Martina Lesar Kikelj, Minka Osojnik, Marta Bensa (all IPCHS), Neva Pološki (ALU), Jonas Roters (HKB), Blaž Šeme (ALUO).

2022

Participants:

Katarina Bartolj, Maša Berdon, Irina Pozdorovkina, Urh Tacar (ALUO students), Antun Škrlec, Matea Primožič (ALU students), Alésia Barthoulot, Gabriel Sebastian Klopfenstein (HKB students), Lorenz Amann, Lara Bassoli, Angela Walther (SUPSI students).

Lecturers:

Alberto Felici, Patrizia Moretti, Daniela Murphy, Francesca Pique, Francesca Reichlin, Giulia Russo (all SUPSI), Katarina Bartolj, Anka Batič, Marta Bensa, Andrej Jazbec, Anita Kavčič Klančar, Katja Kavkler, Martina Lesar Kikelj, Minka Osojnik (all IPCHS), Neva Pološki (AFA), Jonas Roters (HKB), Blaž Šeme (AFAD).

2023

Participants:

Michelle Vidovič, Viktorija Peternel (ALUO students), Lara Cizel, Karla Borenič (ALU students), Luzia Amrein, Carmen Hiltbrunner (HKB students), Alessia Grandoni, Marco Tosi, Elisa Luthi (SUPSI students).

Lecturers:

Lorenz Amann, Alberto Felici, Giacinta Jean, Elisabeth Manship (all SUPSI), Marta Bensa, Andrej Jazbec, Katja Kavkler, Anita Kavčič Klančar, Martina Lesar Kikelj, Ajda Mladenović, Minka Osojnik, Mateja Neža Sitar (all IPCHS), Neva Pološki (ALU), Jonas Roters (HKB), Katarina Bartolj, Blaž Šeme (ALUO), Darko Babić (UNI Zagreb), Andreja Padovnik (Faculty of Civil and Geodetic Engineering in Ljubljana), Borut Peric (Škocjan Caves Park).

PREGLED DEJAVNOSTI POLETNE ŠOLE PO POSAMEZNIH LETIH

Anita Kavčič Klančar

Poletna šola 2021

2.–27. avgust 2021

5 dni po spletu (2.–6. 8.) + 12 dni na lokaciji (9.–20. 8.) + 5 dni na spletu (23.–27. 8.)

Prvo leto Poletne šole je bilo namenjeno spoznavanju in razumevanju poslikav – njihove tehnološke izvedbe, preteklih posegov, stanja ter z njim povezanih degradacijskih procesov in poškodb. Na podlagi pregleda, analiz, poskusov in raziskav so bile zastavljene usmeritve za čiščenje poslikav. Pomembna vidika Poletne šole 2021 sta bili tudi medsebojno spoznavanje in usklajevanje udeležencev, predavateljev in mentorjev, ki smo prihajali iz različnih držav, ustanov in univerz, z različnih strokovnih področij in smo imeli različno stopnjo konservatorsko-restavratorskih izkušenj. Na začetku je bilo treba vzpostaviti enoten jezik ter poenoteno in sistematizirano izrazoslovje za strokovne in tehnične izraze, ki so bili osnova za dokumentiranje in nadaljnje delo na poslikavah.



Slika 1: Med terenskim predavanjem in skupnim načrtovanjem del, cerkev sv. Helene na Gradišču (foto: arhiv Poletne šole, 2021).

Fig. 1: During the field lecture and joint planning of works, the church of St Helen in Gradišče (photo: Summer School archive, 2021).

Prvi teden, ki je potekal na spletu, smo začeli s kratkimi predstavitvami vseh sodelujočih: partnerjev, profesorjev, predavateljev in študentov. Sledila je predstavitev lokalitete in cerkve sv. Helene s preteklimi gradbenimi in restavratorskimi posegi ter z njeno zgodovinsko in kulturno vpetostjo v širšo kraško regijo. Za širše razumevanje problematike je bilo predstavljeno srednjeveško stensko slikarstvo na območju Krasa, a obenem tudi kratek zgodovinski in tehnološki pregled stenskega slikarstva v Sloveniji. Sledil je sklop predavanj, ki je naslavljal bolj tehnične in metodološke vidike: pripravo osnovne grafične dokumentacije za prihodnje mapiranje v programu AutoCad, zbiranje in upravljanje podatkov, izdelavo vizualnega slovarja, metodološke in interdisciplinarne pristope konserviranja-restavriranja stenskih poslikav, znanstvene in naravoslovne raziskave poslikav ter študije o okoljskem monitoringu in stanju cerkve.

Drugi in tretji teden je Poletna šola potekala na lokaciji, v cerkvi sv. Helene. Praktično delo se je začelo z neposrednim opazovanjem in s pregledovanjem poslikav, sledila sta opis in mapiranje slikarskih materialov in tehnik, nekdanjih posegov in pojavov propadanja. Izvedeni so bili različni testi: s trkanjem (ocena pomanjkanja adhezije), z gobico (ocena vpojnosti vode) in z vatiranimi palčkami (ocena kohezije). Uporabljene so bile dodatne optične preiskovalne tehnike, med drugim UV- in stranska svetloba ter ročni digitalni mikroskop, ki so prav tako predstavljale del obsežne fotografske dokumentacije. Poleg tega so bili odvzeti vzorci za naravoslovne analize, medtem ko so bile na



Slika 2: Strokovni ogled cerkve sv. Trojice v Hrastovljah (foto: arhiv Poletne šole, 2021).

Fig. 2: Guided tour of the church of the Holy Trinity in Hrastovlje (photo: Summer School archive, 2021).

lokaciji izvedene neinvazivne instrumentalne preiskave (prenosni XRF in Raman ter IR-termografija). Na podlagi poglobljenega pregleda, raziskav ter diagnosticiranja degradacijskih procesov in poškodb so bili izvedeni prvi poskusi čiščenja z različnimi metodami, ki so začrtali pot za nadaljnje delo na poslikavah. Vzoredno s preiskavami v cerkvi so študentje skupaj z mentorji pregledali tudi stanje zunanjsčine cerkve in naredili prve poskuse čiščenja ter utrjevanja originalnih fasadnih ometov z namenom priprave predloga metodologije za poseg na zunanjsčini.

Med tednom so bili v popoldanskih urah organizirani izleti v sosednje cerkve, poslikane s srednjeveškimi poslikavami (Famlje, Vremski Britof, Dolenja vas), obenem so si udeleženci ogledali nekatere naravne in kulturne znamenitosti regije (Škocjanske jame, Postojnska jama, Lipica, Hrastovlje, Piran), kar je dodatno vplivalo tako na boljše poznavanje področja kot tudi na dobro vzdušje in klimo med udeleženci Poletne šole. Obenem so bili s PPT-predstavitvami študentom predstavljeni tudi aktualni primeri konservatorsko-restavratorskih praks na Hrvaškem (Gologorica) in v Sloveniji (Dolenja vas). Zadnji dan na terenu so bili rezultati Poletne šole predstavljeni lokalni skupnosti, predstavnikom Ministrstva za kulturo Republike Slovenije in zainteresirani javnosti. Del predstavitve je potekal v promocijsko kongresnem centru Parka Škocjanske jame v Matavunu in del na sami lokaciji, v cerkvi sv. Helene na Gradišču.

V četrtem tednu so študentje ter njihovi mentorji in profesorji na spletu razpravljali o rezultatih analiz, o izvedenih postopkih in poenotenem dokumentiranju posegov. Poudarek je bil na izdelavi končnega poročila. Vsak študent je najprej izdelal svoje poročilo, medtem ko je bilo skupno končno poročilo v sodelovanju z mentorji in s profesorji zaključeno v zimskih mesecih leta 2021.

Poletna šola 2022

31. avgust–14. september 2022

3 dni na spletu (31. 8.–2. 9.) + 5 dni na lokaciji (5. 9.–9. 9.) + 3 dni na spletu (12. 9.–14. 9.)

Glede na rezultate preiskav in izvedenih poskusov iz leta 2021 so bili cilji Poletne šole 2022 pregled stanja po izvedenih postopkih ter izbira in izvedba ustrezne metodologije čiščenja in utrjevanja poslikav. Zaradi kompleksne problematike smo delo na poslikavah vključili tudi v redni program ZVKDS Restavratorskega centra, znotraj katerega smo izvedli dodatne poskuse, raziskave in strokovne konzultacije, ki so pripomogle k iskanju ustrezne metodološke rešitve.

Poletna šola 2022 je trajala tri tedne. V prvih treh dneh, ki so potekali na spletu, so bili predstavljeni posegi in dejavnosti Poletne šole 2021, sledila je predstavitev lokacije in zgodovine cerkve, stenskih poslikav Krasa in Slovenije ter tehnik in materialov slovenskega stenskega slikarstva. Drugi del predavanj je obravnaval bolj tehnične in metodološke vidike na temo čiščenja in utrjevanja stenskih poslikav z anorganskimi materiali.

V drugem, praktičnem delu na lokaciji so sledili predstavitev stanja poslikav in dosedanjega dela na njih, predstavitev problematike čiščenja in utrjevanja, razprava o dosedanjih analitičnih raziskavah, opazovanje tehničnih vidikov in materialov poslikave ter preteklih posegov in pojavov propadanja stenskih poslikav. Stanje ohranjenosti cerkvene stavbe in poslikav je bilo ocenjeno z neposrednim opazovanjem, s stransko in z UV-svetlobo ter uporabo ročnega digitalnega mikroskopa. Rezultate smo primerjali s podatki iz Poletne šole 2021, vključno z opazovanjem zunanosti cerkve. Študentje so se osredotočili na informacije o materialih, načinu gradnje cerkve, dosedanjih prenovah in konservatorsko-restavratorskih posegih. Interpretirani so bili rezultati naravoslovnih preiskav iz preteklih let in izvedena dodatna preiskava s prenosno ramansko spektroskopijo. Sledilo je praktično delo na poslikavah: poskusi in izvedba čiščenja, predutrjevanja in utrjevanja. Študentje so nato izvedli vrsto različnih poskusov, s katerimi so preverili možnosti odstranjevanja neželenih materialov, kot so prah, belkaste koprne, saje ... Pod vodstvom mentorjev so bili izvedeni tudi poskusi čiščenja z laserjem. Med delom na poslikavah je strokovni vodja dejavnosti na lokaciji, Alberto Felici, izvajal krajša predavanja in praktične demonstracije na temo poroznosti poslikav ter s tem povezanih

MEDNARODNA POLETNA ŠOLA KONSERVIRANJA-RESTAVRIRANJA STENSKIH POSLIKAV
INTERNATIONAL SUMMER SCHOOL FOR THE CONSERVATION-RESTORATION OF WALL PAINTINGS



Slika 3: Študentje med izvedbo dokumentiranja poslikav (foto: arhiv Poletne šole, 2022).
Fig. 3: Students documenting the wall paintings (photo: Summer School archive, 2022).



Slika 4: Lekcije o poroznosti stenskih poslikav (foto: arhiv Poletne šole, 2022).
Fig. 4: Lessons on the porosity of wall paintings (photo: Summer School archive, 2022).

pristopov njihovega čiščenja in utrjevanja z anorganskimi materiali. Po izvedenih postopkih sta bila izdelana osnutek zaključnega poročila o konservatorsko-restavratorskih posegih na stenskih poslikavah in PPT-predstavitev Poletne šole, namenjena širši javnosti.

Poleg terenskega dela in predavanj so si udeleženci Poletne šole ogledali mesto Piran in delovišče na poslikavah v Dolenji vasi. Zadnji dan terenskih dejavnosti so bili rezultati Poletne šole 2022 predstavljeni lokalni skupnosti, predstavnikom Ministrstva za kulturo RS in zainteresirani javnosti. Končno poročilo je bilo pod vodstvom mentorjev in profesorjev zaključeno v zimskih mesecih 2022/23.

Posegi čiščenja (z amonijevim bikarbonatom in anionskimi smolami) in utrjevanja (z barijevim hidroksidom) na južni steni ladje so bili izvedeni v času med drugo in tretjo Poletno šolo v sklopu rednega dela Restavratorskega centra. Prav tako so bili pred zadnjo Poletno šolo delno odstranjeni in nadomeščeni nekateri moteči predeli sekundarnih ometov, ki so bili nanesti med preteklimi restavratorskimi posegi. Urejena je bila še predstavitev dveh zazidanih srednjeveških okenc.



Slika 5: Zaključna prireditev s predstavitvijo Poletne šole 2022, dvorana Rudnik Vreme v Famljah (foto: arhiv Poletne šole, 2022).
Fig. 5: Closing event with the presentation of the 2022 Summer School, Rudnik Vreme Hall in Famlje (photo: Summer School archive, 2022).

Poletna šola 2023

21. avgust–6. september 2023

3 dnevi na spletu (21. 8.–23. 8.) + 8 dni na lokaciji (25. 8.–2. 9.) + 3 dnevi na spletu (4. 9.–6. 9.)

Cilji Poletne šole 2023 so bili pregled in ocena stanja poslikav po čiščenju in utrjevanju ter izvedba končne predstavitve poslikav. Študentje so se ukvarjali z estetsko predstavitvijo poslikav, vključno z obravnavo ometov, ki so bili nanesti v preteklih restavratorskih posegih, ter z razmislekom o tem, ali jih odstraniti, izravnati, tonirati ali samo očistiti in jih prikazati v sedanjem stanju. Ob tem so izvajali tudi poskuse estetske reintegracije in retušev na vajenicah oziroma na kopijah poškodovanih gotskih fresk. Sledilo je retuširanje abrazij in manjših poškodb na barvni plasti poslikave. Poletni šoli se je leta 2023 pridružila Mednarodna poletna šola konservatorstva in interpretacije, katere cilj je vzpostavitev razpršenega muzeja stenskih poslikav na Krasu. Tako so prvi trije dnevi na spletu poleg predstavitev Poletne šole 2021 in 2022 ponujali razprave na temo percepcije, interpretacije in estetske prezentacije umetnin. Predstavljeni so bili zgodovinski pregledi in primeri aktualnih retušev ter različnih pristopov reintegracije poslikav v Italiji, Sloveniji in na Hrvaškem.

Drugi in tretji teden, ki sta potekala na lokaciji, sta bila namenjena praktičnemu delu. Ob odpiranju problematike o celostni estetski predstavitvi poslikav in obravnavi sekundarnih ometov so bili na poslikavah izvedeni poskusi reintegracije poškodb, toniranja ometov in poskusi izvedbe retušev v podtonu. Vzporedno s posegi na poslikavah so študentje na vzorcih izvedli primere okrasnih toniranih ometov z različno sestavo in s površinsko obdelavo, obenem so svoje znanje retuširanja in estetske reintegracije poškodb preizkusili tudi na vajenicah in kopijah poslikav. Ob zaključku del je sledila predstavitev rezultatov obeh šol, ki je tokrat potekala kar pred cerkvijo sv. Helene in v njej. S tem se je zaključila Mednarodna poletna šola konserviranja-restavriranja stenskih poslikav, medtem ko je Mednarodna poletna šola konservatorstva in interpretacije zastavila usmeritve za nadaljnja tri leta.



Slika 6: Študentje med predstavitvijo problematike udeležencem Mednarodne poletne šole konservatorstva in interpretacije (foto: arhiv Poletne šole, 2023).

Fig. 6: Students presenting the subject matter to the participants of the International Summer School for Conservation and Interpretation (photo: Summer School archive, 2023).



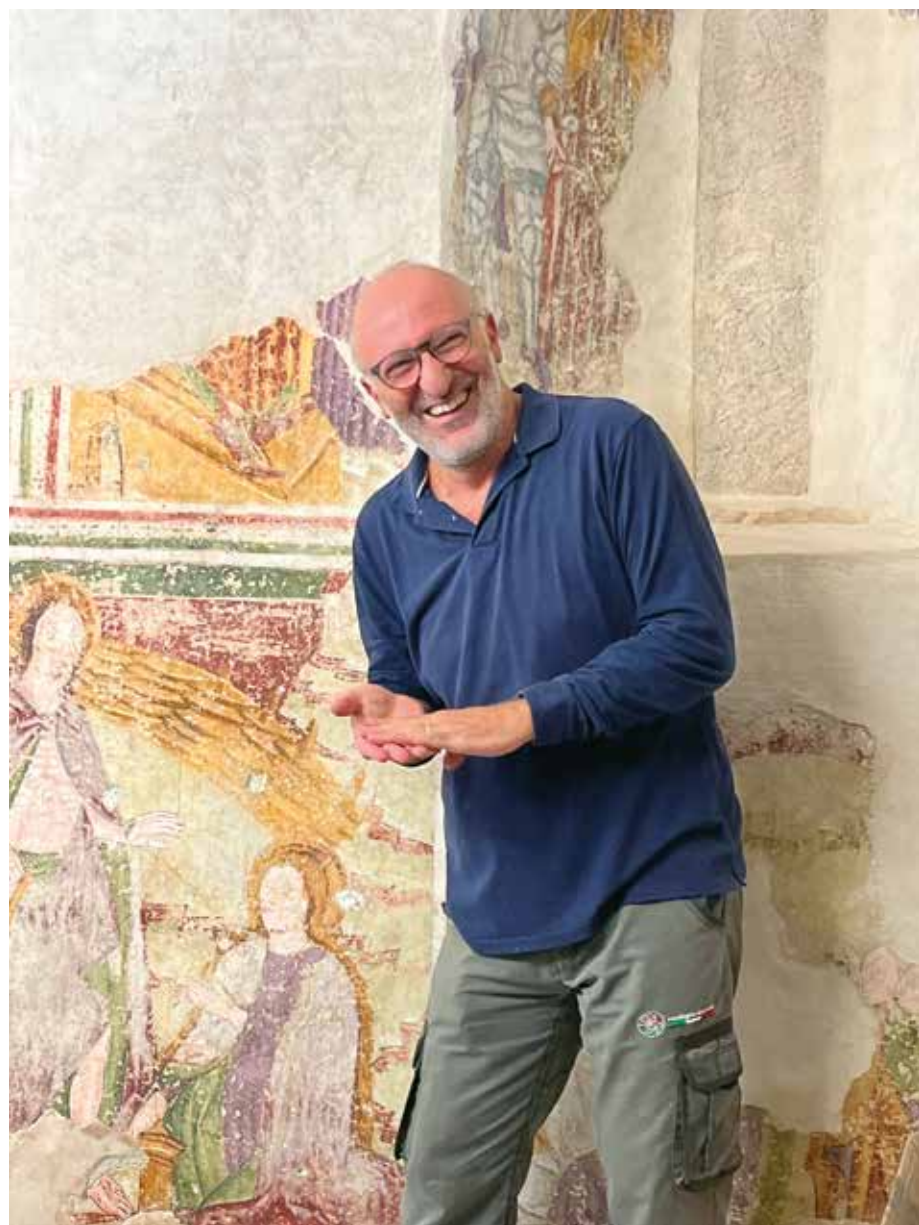
Slika 7: Predavanje za udeležence, dvorana Muzeja slovenskih filmskih ustvarjalcev v Divači (foto: arhiv Poletne šole, 2023).

Fig. 7: Lecture for participants, hall of the Museum of Slovenian Film Actors in Divača (photo: Summer School archive, 2023).



Slika 8: Prireditev ob zaključku obeh poletnih šol v letu 2023 pred cerkvijo sv. Helene na Gradišču (foto: Stojan Borštnar, 2023).

Fig. 8: Closing event for both summer schools in 2023 in front of the church of St Helen in Gradišče (photo: Stojan Borštnar, 2023).



Slika 9: Strokovni vodja konservatorsko-restavratorskih posegov na poslikavah, prof. Alberto Felici (foto: arhiv Poletne šole, 2023).

Fig. 9: Head of the on-site work, Professor Alberto Felici (photo: Summer School archive, 2023).

Zaključek

Pri celotnem projektu triletne Poletne šole je bolj kot za izvedbo posegov šlo za učni proces, za odpiranje poti, soočanje različnih mnenj in pogledov, ki so – podprti z različnimi raziskavami in s strokovnimi izkušnjami mentorjev in študentov – postopno gradili pravo pot in smer za reševanje in ohranitev poslikav v cerkvi sv. Helene. Odločilno vlogo pri tem »izgrajevalnem« in kompleksnem procesu je imel strokovni vodja konservatorsko-restavratorskih posegov, profesor Alberto Felici, ki je s svojimi bogatimi pedagoškimi izkušnjami, strokovnim znanjem in posebnim erosom, z zanosom do stenskih poslikav vodil zastavljeno pot v pravo smer. Lahko bi rekli, da je bila ta poletna šola močna izkustvena šola prav za vse nas: za študente, mentorje, profesorje in organizatorje. V nas je pustila neko sled, pozitiven model delovanja in pristopa k stenskim slikam, a obenem tudi primer dobrohotnega, strokovnega in produktivnega sodelovanja med nami, strokovnjaki. Kot rezultat in plod tega procesa je zadnje leto po Poletni šoli nastala tudi pričujoča publikacija, ki kaže le izsek skupnega dela, strokovnega sodelovanja in čudovitega druženja ob stenskih poslikavah v cerkvi sv. Helene na Gradišču. Naj bo njen izid spodbuda in kažipot za podobne dogodke v prihodnosti.

OVERVIEW OF SUMMER SCHOOL ACTIVITIES BY YEAR

Anita Kavčič Klančar

2021 Summer School

2 – 27 August 2021

5 days online (2 – 6 August) + 12 days on site (9 – 20 August) + 5 days online (23 – 27 August)

In its first year, the Summer School was dedicated to learning about and understanding the wall paintings – the techniques employed, past interventions, their condition and associated degradation processes and damage. Based on examination, analyses, trials and research, guidelines for cleaning the paintings were drawn up. An important aspect of the 2021 Summer School was also that the participants, lecturers and mentors from different countries, institutions and universities, from different fields of expertise and with different levels of conservation and restoration experience got to know and cooperate with one another. In the beginning, it was necessary to establish a common language and a unified and systematised terminology for professional and technical terms, which formed the basis for documenting and further work on the wall paintings.

The first week, which took place online, began with short presentations by all participants: partners, professors, lecturers and students. This was followed by a presentation of the site and the church of St Helen including past construction and restoration works, and its historical and cultural connection to the wider Karst region. In order to provide a broader understanding of the issue, medieval wall painting in the Karst region was presented, together with a brief historical and technological overview of wall painting in Slovenia. There followed a series of lectures addressing more technical and methodological aspects: preparing basic graphic documentation for future mapping in AutoCad, data collection and management, the creation of a visual dictionary, methodological and interdisciplinary approaches to the conservation-restoration of wall paintings, scientific research on the paintings, and studies on environmental monitoring and the state of the church.

In the second and third weeks, the Summer School took place on site, in the church of St Helen. The practical work began with the direct observation and examination of the wall paintings, followed by the description and mapping of painting materials and techniques, former interventions and decay phenomena. Different tests were carried out: the paintings were tapped to assess lack of adhesion, a sponge was used to assess water absorption and cotton buds were used to assess the level of cohesion. Additional optical examination techniques, including UV, raking light and hand-held digital microscopes were used and also formed part of the extensive photographic documentation. In addition, samples were taken for scientific analysis and non-invasive instrumental examinations (portable XRF, Raman and IR thermography) were carried out on site. On the basis of the in-depth inspection, research and diagnosis of the degradation processes and damage, the first attempts at cleaning using different methods were carried out, paving the way for further work on the paintings. In parallel with the investigations in the church, the students and their mentors also examined the condition of the church exterior and made some first attempts to clean and consolidate the original façade plasters in order to propose a methodology for an intervention on the exterior.

On weekday afternoons, excursions were organised to neighbouring churches that also had medieval paintings (Famlje, Vremski Britof, Dolenja vas). The participants also visited some of the region's natural and cultural attractions (Škocjan Caves, Postojna Cave, Lipica, Hrastovlje, Piran), providing them with a better knowledge of the area, as well as creating a good atmosphere among the Summer School participants. Current examples of conservation-restoration practices in Croatia (Gologorica) and Slovenia (Dolenja vas) were also presented to the students using PowerPoint presentations. On the last day of fieldwork, the results of the Summer School were presented to the local community, representatives of the Slovenian Ministry of Culture and the interested public. Part of the presentation took place in the promotion and congress centre of the Škocjan Caves Park in Matavun and part of it on site, in the church of St Helen in Gradišče.

In the fourth week, the students and their mentors and professors discussed online the results of the analyses, the procedures carried out and the unified documentation of the interventions. The focus was on drawing up the final report. Each student first prepared their own report, and the joint final report was finalised in collaboration with the mentors and professors during the winter months of 2021/22.

2022 Summer School

31 August – 14 September 2022

3 days online (31 August – 2 September) + 5 day on site (5 – 9 September) + 3 days online (12 – 14 September)

In light of the results of the examinations and trials carried out in 2021, the aim of the 2022 Summer School was to review the situation after the procedures were carried out and to select and implement an appropriate methodology for cleaning and consolidating the paintings in the church of St Helen. Due to its complexity, the work on the wall paintings was also included in the regular programme of the IPCHS Restoration Centre, which carried out additional experiments, research and expert consultations, all contributing to the search for an appropriate methodological solution.

The 2022 Summer School lasted three weeks. During the first three days, which took place online, the interventions and activities of the 2021 Summer School were presented, followed by a presentation of the church's location and history, wall paintings in the Karst region and Slovenia, and the techniques and materials of Slovenian wall painting. The second part of the lectures dealt with more technical and methodological aspects of cleaning and consolidating wall paintings using inorganic materials.

The second practical part on site began with a presentation of the condition of the wall paintings and the work done on them so far, a presentation of the problems of cleaning and consolidation, a discussion of the analytical studies carried out so far, observation of the technical aspects and materials of the wall paintings, as well as of past interventions and the decay phenomena. The state of preservation of the church building and the paintings was assessed by direct observation, raking and UV light and the use of a hand-held digital microscope. The results were compared with data from the 2021 Summer School, including observations of the church exterior. The students focused on information about the materials, the way the church had been built, and the renovation and conservation-restoration interventions carried out so far. The results of previous years' scientific investigations were interpreted, and an additional examination was carried out using portable Raman spectroscopy. This was followed by practical work on the wall paintings: trials followed by cleaning and consolidation. The students then carried out a series of different experiments to test the possibility of removing unwanted materials such as dust, white veils, soot, etc. Laser cleaning trials were also carried out under the guidance of mentors. While working on the paintings, the head of the on-site work, Alberto Felici gave short lectures and practical demonstrations on the porosity of the paintings and related approaches to cleaning and consolidating them with inorganic materials. Following the above procedures, a draft final report on the conservation and restoration work on the wall paintings and a PowerPoint presentation of the Summer School were produced for the general public.

In addition to the field work and lectures, the Summer School participants visited the town of Piran and the church in Dolenja vas where wall paintings are being restored. On the last day of the field activities, the results of the 2022 Summer School were presented to the local community, representatives of the Ministry of Culture and the interested public. The final report was completed in the winter months of 2022/23 under the guidance of the mentors and professors.

Between the second and third Summer School the south wall of the nave was cleaned (using ammonium bicarbonate and anionic resins) and consolidated (with barium hydroxide) as part of the Restoration Centre's regular work. Before the last Summer School some interfering surfaces of decorative plaster that had been applied during previous restoration work were partially removed and replaced. A presentation of two walled up medieval windows was also executed.

2023 Summer School

21 August – 6 September 2023

3 days online (21 – 23 August) + 8 days on site (25 August – 2 September) + 3 days online (4 – 6 September)

The aim of the 2023 Summer School was to inspect and assess the condition of the paintings after cleaning and consolidation and to carry out a final presentation. The students dealt with the aesthetic presentation of the paintings, discussed the plasters that had been applied during previous restoration work and considered whether to remove them, level them, tone them or just clean them and display them in their current state. At the same time, aesthetic reintegration and retouching trials were carried out on copies of damaged Gothic frescoes. This was followed by the retouching of abrasions and minor damage to the paint layer.

In 2023, the Summer School was joined by the International Summer School for Conservation and Interpretation, which aims to create a dispersed museum of wall paintings in the Karst region. As a result, the first three days online offered discussions on the perception, interpretation and aesthetic presentation of artworks, in addition to the presentations of the 2021 and 2022 Summer Schools. Historical overviews, current examples of retouching and different approaches to reintegrating wall paintings in Italy, Slovenia and Croatia were presented.

The second and third weeks, held on site, were dedicated to practical work. While raising the issue of the overall aesthetic presentation of the paintings and addressing the past decorative plasters, attempts were made to reintegrate damaged areas, to retouch them with tonal adjustment and to adjust the tone of the plasters. Alongside the interventions on the paintings, the students produced decorative toned plasters using different compositions and surface treatments on samples, while also testing their skills in retouching and the aesthetic reintegration of damage on practice surfaces and copies of wall paintings. When the work was completed, a presentation of the results of the two schools was held in front of the church of St Helen and inside it. This marked the end of the International Summer School for the Conservation-Restoration of Wall Paintings, while the International Summer School for Conservation and Interpretation set its course for the next three years.

Conclusion

The three-year Summer School project was more about a learning process than about the interventions. It was all about opening paths, confronting different opinions and views which, thanks to various studies and the professional experience of the mentors and students, gradually found the right path for saving and preserving the wall paintings in the church of St Helen in Gradišče. A crucial role in this complex process was played by the head of the on-site work, Professor Alberto Felici, whose wealth of teaching experience, expertise and a special affinity for the subject matter – a passion for wall paintings, led everyone in the right direction. We could say that this Summer School was a powerful experience and a true school for all of us: students, mentors, professors and organisers. It left a mark on us, a positive model of action and approach to wall paintings, but also an example of good-natured, professional and productive collaboration between professionals. This publication was produced in the year that followed the Summer School, as a result and fruit of this process. It presents just a fragment of all the joint work, professional cooperation and wonderful atmosphere during work on the wall paintings in the church of St Helen in Gradišče. May its publication serve as inspiration and as a guide for similar events in the future.

CERKEV SV. HELENE IN NJENE POSLIKAVE

THE CHURCH OF ST HELEN AND ITS PAINTINGS

“ Ta cerkev je zelo dragocena. Saj se niti ne zavedamo, kaj imamo! Taka cerkvica, s takimi freskami in to v vasi, kjer je le osem hiš ... To je morala včasih biti ena pomembna, važna točka! *This church is very precious. We don't realise what we have! A church like this, with such frescoes, in a village with only eight houses. This must once have been an important, very important place!*”
Branko Cerkvjenik



CERKEV SV. HELENE NA GRADIŠČU PRI DIVAČI

Minka Osojnik

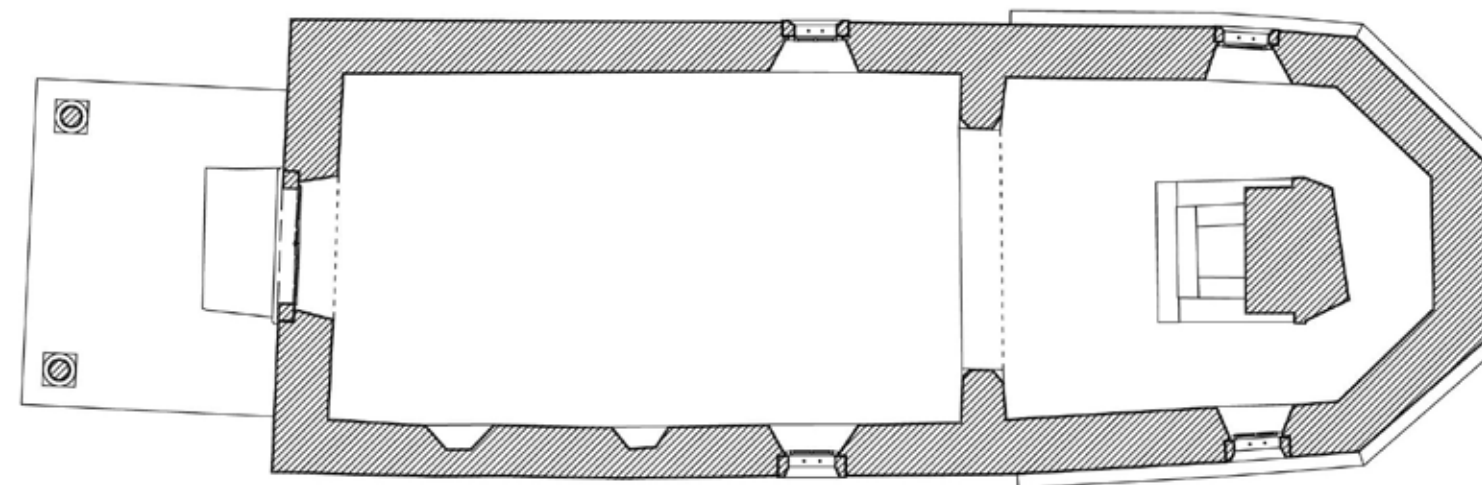
Cerkev je bila nekdanja podružnica župnije v Vremah, v virih se prvič omenja sredi 17. stoletja s patrocinijem sv. Nikolajem, ki se pojavlja še v 18. stoletju.¹ Danes je kot cerkev svete Helene podružnična cerkev v župniji Divača. Odsotnost rednih verskih obredov v zadnjih nekaj letih in vse večji interes turistov za obisk kraja sta porodila idejo o prenosu upravljanja objekta z župnije na Občino Divača. Pogodba je bila podpisana decembra 2021 kot prvi tovrstni primer v Sloveniji.

Lokacija in opis

Cerkev sv. Helene stoji na vzpetini severno nad vasjo znotraj nizke kamnite ograde, zgrajene v tehniki suhega zidu. Ograda se s svojo ovalno obliko prilagaja tlorisu cerkve in je prekinjena samo na zahodu, kjer je urejen preprost dostop. Cerkev, ki je dolga 14,63 in široka 5,54 metra, je pravilno orientirana, tako da si od vzhoda sledijo poligonalno zaključen prezbiterij, enako široka ladja in odprta lopa pred vhodom (slika 1).

Zunanjščina stavbe kaže bistvene elemente tipične kraške podružnice, ki je bogato okrašena s kamnitimi arhitekturnimi členi. Prezbiterij obteka kamnit pristrešen talni zidec, celotno stavbo pa njemu zrcalno oblikovan podstrešni venec, na katerem sloni enotna strma skrlata streha. Prezbiterij in ladja imata v južni in severni stranici po eno kamnito pravokotno okno s poševno porezanimi ostenji, kamniti šivani vogali stavbe so neometani. Zahodno pročelje krasí pravokoten kamnit profiliran portal s klesanimi rastlinskimi ornamentami na podbojih in z napisom z letnico 1653 na prekladi. V strmem zatrepu prehaja zahodna fasada preko polkrožno oblikovanega horizontalnega venca v zvončnico z dvema ločnima linama za zvonove, ki jo zaključujeta dvokapna skrlata streha in kamnit kegljast nastavek. V desni lini visi zvon. Ob zahodno fasado je prislonjena lopa (klonica) s preprosto trikapno korčno streho, ki sloni na dveh vitkih kamnitih stebrih, okrašenih z rastlinskim ornamentom. Pod lopo je pred vhodom ohranjenih nekaj plošč kamnitega tlaka (slika 2).

Fasade cerkve razkrivajo njen raščeni značaj. Medtem ko sta prezbiterij in zahodna stena ladje razen šivanih vogalov ometana v celoti, se na južni in severni fasadi ladje kaže izrazita dvojnost. Do višine 2,7 metra je ladja grajena iz



Slika 1: Tloris cerkve (načrt obstoječega stanja: ZVKDS, Restavratski center, Katja Cimperman, u.d.i.a., Anton Marn, u.d.i.a., 2003).
Fig. 1: Church floor plan (current situation: IPCHS, Restoration Centre, Katja Cimperman, u.d.i.a., Anton Marn, u.d.i.a., 2003).

¹ HÖFLER 2022, str. 183.



Slika 2: Pogled na cerkev sv. Helene s severozahodne smeri (foto: Minka Osojnik, 2023).
Fig. 2: View of the church of St Helen from the north-west (photo: Minka Osojnik, 2023).

pravilno oblikovanih klesancev, ki se vrstijo v urejenih horizontalnih plasteh. Stiki med njimi so majhni in zapolnjeni z apneno malto. Na južni fasadi se kot del prvotne zidave kažeta dve manjši zazidani kamniti okni s šilastim zaključkom. Severna fasada, kot je značilno za srednjeveške cerkve, oken prvotno ni imela. Zgornji del fasade ladje je ometan z enakim ometom, kot ga vidimo na prezbiteriju (slika 3).

Notranjost cerkve je sestavljena iz podolgovate ravno krite ladje in tristrano zaključenega prezbiterija z rombasto-zvezdastim obokom. Rebra pravokotnega profila, ki tečejo v nekoliko nepravilnih linijah, slonijo na konzolah v obliki ščitkov, sečišča so okrepjena z okroglima sklepnikoma in s sklepniki v obliki ščitkov. Sondiranja ometov so pokazala, da v prezbiteriju ni poslikav. Prezbiterij in ladjo ločuje širok kamnit slavolok s potlačnim šilastim zaključkom, posnetimi robovi in z bazami v obliki ploskih ajdovih zrn. Tlak v cerkvi sestavljajo velike pravokotne apnenčaste plošče. Notranjost osvetljujejo pravokotna okna, dve v prezbiteriju in dve v ladji, ki sta umeščeni skoraj ob slavoloku. Desno od vrat je v steni vzdignjen konzolni kamnit kropilnik skledaste oblike.

Arhitekturno preprostost notranjščine povsem zasenči bogat slikarski okras, ki nepoučenega obiskovalca popolnoma preseneti. Spodnji dve tretjini ladijskih sten namreč prekrivajo izredno pisane poslikave. Ikonografska kompozicija je običajna za manjšo srednjeveško cerkev. Na slavoloku, kjer bi sicer lahko pričakovali prizor *Oznanjenja*, so ohranjeni samo fragmenti v vogalih. Na južni steni ladje so v dveh vodoravnih pasovih kronološko razporejeni prizori iz *Kristusovega pasijona*. Zgodba se začne v zgornjem pasu na desni s prizorom *Kristusa primejo* in nadaljuje proti levi, kjer se zaključuje s prizorom *Križanja*. Nato preide v spodnji pas s *Snemanjem s križa* in se nadaljuje nazaj proti vhodu, kjer se zaključuje s *Vnebohodom*. Na zahodni steni je večina poslikav uničenih, dobro ohranjen je le skrajno desni prizor *Jesusovega vhoda v Jeruzalem*. Na severni steni ladje sta upodobljena *Pohod in poklon sv. treh kraljev*, ki ju dopolnjujejo lovski in drugi žanrski prizori iz vsakdanjega življenja ljudi tistega časa ter nekateri živalski anekdotični motivi in prizori iz basni (slika 4).



Slika 3: Pogled na južno fasado (Foto: Minka Osojnik, 2023).
Fig. 3: View of the south facade (photo: Minka Osojnik, 2023).

Zgodovinski razvoj cerkve sv. Helene

Vas Gradišče leži na območju prazgodovinske naselbine, obdane z nasipom z obsegom skoraj kilometer, ki je danes delno ohranjen le na severni strani. Na začetku 20. stoletja, ko je to območje raziskoval tržaški arheolog dr. Carlo Marchesetti (1850–1926), je bil nasip ohranjen v dolžini približno 330 metrov in ponekod širok 8 do 15 metrov, na severovzhodu je še bil viden 8 do 15 metrov visok kup ruševin nekdanjega srednjeveškega gradu.² Ljudsko izročilo povezuje nastanek cerkve sv. Helene z omenjeno grajsko utrdbo, ki naj bi stala na najvišji vzpetini nad vasjo, na Škalah.

Srednjeveška cerkev

Na vprašanje, ali je cerkev zgrajena na mestu nekdanje kapele gradu oz. ali je to bila njena prvotna funkcija, stroka za zdaj ne more odgovoriti, nedvomno pa je cerkev sv. Helene v osnovi še popolnoma srednjeveška stavba. Na podlagi ohranjenega arhitekturnega tkiva in načinov gradnje so posamezni avtorji datirali ladjo cerkve v zgodnje ali pozno 14. stoletje, morda celo na začetek 15. stoletja, a je dokončno prevladalo mnenje, da je cerkev sv. Helene v svojem jedru primer zgodnjegotske arhitekture.³ Njeno prvotno podobo lahko orišemo le na območju ladje, ki je bila relativno dolga in nizka, osvetljevala so jo tri majhna okenca na južni steni – dve sta danes ohranjeni v celoti in zazidani, medtem ko je tretje kasneje uničilo večje pravokotno okno, ki danes osvetljuje ladjo, tako da je od prvotnega okna ohranjena le ena špaleta. Da sta zazidani okni na južni fasadi oblikovani še podobno kot romanska okna, saj imata šilasti zaključek izklesan iz enega kosa kamna, je opozoril že Ivan Komelj, ki je mislil, da sta ostenji okna sezidani iz lomljenca.⁴ Med

² MARCHESETTI 2020, str. 82.

³ PREMRL 2006, str. 467.

⁴ KOMELJ 1973, str. 43.



Slika 4: Notranjščina cerkve proti zahodu (foto: Rok Hafner, 2024).
Fig. 4: The church interior to the west (photo: Rok Hafner, 2024).

obnovo fasade leta 2022, ko sta bili konservirani-restavrirani tudi zazidani okni, se je na obeh pokazala spodnja polica, vendar je jasno vidno tudi, da sta bila pokončna kamna špalet pred zazidavo odstranjena (sliki 5a in 5b). Cerkev je bila morda že od samega nastanka poslikana. Levo od okna v južni steni ladje je namreč v vogalu prizora *Križanja* ohranjen fragment neke starejše poslikave, ki očitno sega pod poznogotsko poslikavo *Kristusovega pasijona*.

O preostalih elementih zgodnjegotske cerkve lahko le sklepamo oz. ugibamo. Prezbitarij je bil verjetno ožji in nižji od današnjega, saj je tudi ladja segala le do višine zidave iz pravilnih klesancev na zunanjščini oz. stenskih poslikav v notranjosti. Oltarni prostor, ki je imel lahko tudi obliko polkrožne apside ali je bil ravno oz. triosminsko zaključen, je bil skoraj zagotovo tudi poslikan. Vendar pravih podatkov o prvotnem prezbitariju skupaj zaenkrat ni, saj tudi geofizikalne raziskave, izvedene leta 2003, niso podale informacij o temeljih kakršnih koli starejših struktur.⁵ Po vsej verjetnosti je bil oltarni del obokan, medtem ko bi lahko v ladji pričakovali raven lesen (poslikan) strop ali odprto ostrešje.

V obdobje srednjega veka seveda sodijo tudi znamenite poslikave v ladji. Čeprav avtor stenskih poslikav ni znan, nam slogovne in ikonografske podobnosti s stenskimi poslikavami v cerkvi svete Trojice v Hrastovljah iz leta 1490 omogočajo nedvomno povezavo s slikarjem Johannesom iz Kastva (Janez iz Kastva). Pravzaprav obe poslikavi povezuje vsaj en tekstilni vzorec, medtem ko je upodobitev Marije v *Poklonu sv. treh kraljev* skorajda kopija hrastoveljske slike.⁶ Najverjetneje je cerkev na Gradišču poslikal kateri od Janezovih pomočnikov ali sodelavcev z ekipo, s katerimi je morda že sodeloval v Hrastovljah.

⁵ MUŠIČ 2003.

⁶ HÖFLER 1997, str. 89–91.



Slika 5a: Zazidano gotško okno na južni fasadi ladje (foto: Emil Smole, 1968).

Fig. 5a: Walled-up Gothic window on the south façade of the nave (photo: Emil Smole, 1968).



Slika 5b: Isto okno po zaključeni obnovi zunanjščine (foto: Minka Osojnik, 2024).

Fig. 5b: The same window after the exterior was renovated (photo: Minka Osojnik, 2024).

Predelave v 16. in/ali 17. stoletju

Pri opredelitvi nadaljnega stavbnega razvoja cerkve sv. Helene si stroka ni popolnoma enotna. Posegi v 16. oz. 17. stoletju so bili obsežni in temeljiti, cerkvi pa so dali podobo, kakršno bolj ali manj vidimo še danes. Bistvena sprememba je bila zagotovo gradnja novega večjega prezbitarija, ki je povzročila tudi dvig zidov ladje na sedanjo višino. Tako predelano cerkev, ujeta v enotno stavbno lupino tako po širini kot po višini, je povezal kamnit podstrešni venec, ki je verjetno nosil tudi novo kamnito streho in po vsej verjetnosti zvončnico. V notranjščini je gradnja večjega slavoloka imela za posledico uničenje poslikav na slavoločni steni. Iz opisa prezbitarija je jasno razvidno, da so njegovi posamezni arhitekturni elementi sicer še gotski, toda njihova izvedba nakazuje vsaj na poznogotski nastanek, če ne na popolnoma zakasnelo različico gotike, ki se je na širšem območju Primorske predvsem v oblikah prezbitarijev ohranila še globoko v 17. stoletje.

Druga velika sprememba je temeljita barokizacija cerkve z vgradnjo novih okenskih odprtín, portala in s postavitvijo lope pred vhodom. Vgradnja novih oken in vhodnega portala je uničila večje partije poslikav na severni in južni steni (med drugim *Poklon sv. treh kraljev*) in večino poslikav na zahodni steni. Te posege, ki so z letnico na portalu datirani v leto 1653, je z arhivskimi viri povezal Božidar Premrl, ki je prezidavo cerkve sv. Helene pripisal stavbarskemu mojstru Gašperju Perhavcu iz Dolnjih Ležeč ter zidarjema/kamnosekoma Andreju in Ivanu Cerkvniku, ki sta bila brata, doma z Gradišča⁷ (sliki 6 in 7).

Kljub Premrlovi dobro argumentirani opredelitvi gradnje prezbitarija v 16. stoletju in barokizacije v sredini 17. stoletja

⁷ PREMRL 2006, str. 471.



Slika 6: Spodnji del zahodne fasade (foto: Minka Osojnik, 2023).
Fig. 6: Lower part of the west façade (photo: Minka Osojnik, 2023).

ostaja mikavna tudi razlaga, da so se vsi zgoraj naštetih posegi vendarle zgodili bolj ali manj sočasno. Na to misel nas napeljuje že splošno zgodovinsko ozadje: za nove gradnje nič kaj prijazno 16. stoletje, v katerem se je prebivalstvo še vedno borilo s tegobami pogostih vojn in turškimi vpadi, ter povsem drugačno 17. stoletje, ki predstavlja za cerkve na Slovenskem pravi preporod, ki sta ga sprožila t. i. katoliška prenova in relativno blagostanje z daljšimi obdobji miru. Težko si je tudi predstavljati, da bi se v prezbitერიju, zgrajenem v 16. stoletju, po stotih letih spreminjala gotska oblika oboka v nekoliko bolj poznogotsko – naši predniki so bili pri gradnjah veliko bolj pragmatični, kot smo danes mi. Sredi 17. stoletja so npr. v bližnjih Famljah med baročno prenovo gotska rebra v prezbitერიju preprosto odbili z oboka. Še en podatek morda govori v prid časovno enotni veliki preobrazbi cerkve – grafiti na poslikavah. Gradnja prezbitერიja je skoraj zagotovo povzročila tudi sočasni dvig zidov ladje in če ne prej, so takrat prebelili tudi poslikave. Tiste na slavočni steni so bile namreč takrat uničene, medtem ko so poslikave v ladji ostale omejene le na spodnji del sten. Na ohranjenih predelih je Premrl prebral, izpisal in prevedel kar nekaj zelo zanimivih grafitov, med katerimi so tisti na južni steni datirani v leto 1526 (prizor *Bičanja*), 1533 (prizor *Snemanja s Križa*), 1535 (prizor *Kristusa pribijejo na križ*), 1574 (prizor *Vstajenja*), medtem ko je bilo na severni steni v enem grafitu možno razbrati ime Urban in letnico 1606⁸ (slika 8). Ker so bili grafiti zagotovo vgravirani na še vidne poslikave, lahko sklepamo, da so bile te na začetku 17. stoletja vsaj na severni strani še vidne. Ob tem je treba omeniti še možnost, da so bili tudi naši predniki podobno očarani nad pisanim in ikonografsko tako bogatim prizorom *Pohoda sv. treh kraljev*, da so ga pustili vidnega nekoliko dlje kot preostale poslikave. Tej tezi v prid bi lahko govorilo od preostalih nekoliko drugače oblikovano pravokotno okno v severni steni ladje, ki je na vrhu ravno zaključeno, medtem ko imajo ostala tri okna polkrožen lok.

⁸ PREMRL 2006, str. 475.



Slika 7: Detajl kamnitega portala (foto: Majda Kunst, 2013).
Fig. 7: Close-up of the stone portal (photo: Majda Kunst, 2013).



Slika 8: Detajl grafitu iz leta 1535 na prizoru *Kristusa pribijejo na križ* na južni steni (foto: Minka Osojnik, 2024).
Fig. 8: Close-up of a graffito from 1535 on the scene showing *Christ Nailed to the Cross*, on the south wall (photo: Minka Osojnik, 2024).

18. in 19. stoletje

Za obdobje 18. in 19. stoletja je nekaj podatkov o cerkvi ohranjenih v urbarju.⁹ Stavba je dobila novo opremo, veliko je bilo popravil, vendar večjih sprememb na cerkvi v tem času ni zaznati. V 18. stoletju je bilo kar trikrat popravljeno pokopališče pri cerkvi, kar je zanimivo, saj med domačini prevladuje prepričanje, da so njihove prednike od nekdanj pokopavali v Škocjanu. Kamniti oltar stebrnega tipa z marmornimi inkrustacijami je dal leta 1744 (letnica je vidna na oltarju) postaviti vremski vikar Garzarolli. Prvotna oltarna slika, na kateri je bil po vsej verjetnosti upodobljen (tudi) sv. Nikolaj, ni ohranjena. Slika sv. Helene, ki oltar krasi danes, je nastala leta 1865 izpod čopiča idrijskega oz.

⁹ PREMRL 2006, str. 471.



Slika 9: Prezbiterij z glavnim oltarjem (foto: Rok Hafner, 2024).
Fig. 9: The sanctuary with the main altar (photo: Rok Hafner, 2024).

cerkljanskega slikarja Jakoba Raspeta, ki je del svojega življenja živel in ustvarjal tudi v Vremski dolini. Na njej vidimo cesarico Heleno s Kristusovim križem v rokah, ki kleči pred oltarjem, na katerem sta položena njena krona in žezlo. Slabo materialno stanje slike vpije po nujnem konservatorsko-restavratorskem posegu (slika 9). Leta 1753 je bil položen nov kamnit tlak, deset let kasneje je bila obnovljena skrlata streha, popravljeno je bilo tudi leseno ostrešje. V istem času je bil v notranjščini narejen nov lesen poslikan strop,¹⁰ katerega ostanke so našli na podstrešju med obnovo kamnite strehe leta 1986 (sliki 10a in 10b). Narejena so bila tudi nova vrata iz orehovitih plohov, ki so, podobno kot kamniti tlak, ohranjena še danes. Leta 1761 je bila popravljena lopa, ki je bila takrat po vsej verjetnosti še prekrita s skrlami, podobno kot lahko danes vidimo na cerkvi v Dolnjih Ležecah.

20. stoletje

Po pričevanju domačinov je med prvo svetovno vojno avstro-ogrška oblast z Gradišča vzela oba zvonova, ki sta bila kasneje vrnjena. Pod Italijo so ju leta 1929 obnovljena slovesno obesili na svoji mesti in posvetili enega sv. Heleni in drugega sv. Andreju, a je slednjega že leta 1940 italijanska vojska ponovno odnesla.¹¹ Ta zvon se sicer nikoli ni vrnil, toda na Gradišču ostaja živo prepričanje, da v času vojne ni bil pretopljen, temveč je še vedno nekje shranjen, morda

¹⁰ PREMRL 2006, str. 473.

¹¹ CERKVENIK 2005, str. 30.



Sliki 10a in 10b: Ostanke lesenega poslikanega stropa, najdeni med obnovo kamnite strehe (foto: Robert Červ, 1987).
Figs. 10a and 10b: Remains of the painted wooden ceiling found during the reconstruction of the stone roof (photo: Robert Červ, 1987).

v kakšnem italijanskem skladišču, kjer čaka na svojo vrnitev domov. Zvon sv. Helene, na katerem sta s fašističnimi simboli okrašena besedilo z letnico VII, t. i. fašistične dobe, in ime livarja Cezarja Brighentija iz Bologne, je zaradi dotrajanega jarma do nedavno predstavljal prej nevarnost kakor veselje.

Sicer pa je 20. stoletje zaznamovalo predvsem odkritje poslikav v cerkveni ladji, ki je Gradišče postavilo na umetnostnozgodovinski zemljevid Slovenije. Med prve omembe v strokovni literaturi lahko štejemo poročila v strokovni reviji Varstvo spomenikov, kjer so opisana nova odkritja in posamezni izvedeni posegi. Leta 1959 Marijan Zadnikar opisuje najdbo stenskih poslikav v ladji, in sicer pasijonski ciklus na južni strani, medtem ko so poskusne sonde pokazale tudi poslikave na zahodni in severni steni. Slikarije je opredelil kot podobne tistim v bližnjih Famljah in jih umestil v pozno 15. stoletje.¹² V Famljah so nekaj let pred tem namreč po naključju odkrili poslikave v prezbitteriju, ker je zaradi zamakanja tedaj še kamnite strehe odpadel večji kos baročnega ometa in razkril starejše gotške figuralne poslikave.¹³ Ko so nekaj let kasneje na Gradišču ugotovili, da tudi tam pušča streha, so prav s Fameljske cerkve prišle skrla za njeno popravilo. Ivan Komelj v poročilu iz leta 1965 že opiše vsebino poslikav, ki so bile takrat očitno bolj ali manj že odkrite, avtorstvo pa pripiše hrastovljskim slikarjem, morda kar samemu Janezu iz Kastva.¹⁴ Omeni tudi, da je Zavod za spomeniško varstvo poskrbel za zasteklitev objekta in da bo v kratkem poskrbel za predstavitev poslikav. Emil Smole v naslednji številki leta 1966 poroča, da so poslikave, ki pripadajo krogu Vincenta iz Kastva,¹⁵ že odkrite in na severni steni zelo dobro ohranjene, medtem ko na južni odstopajo, večji predeli so uničeni. Franc Kokalj v isti številki nadaljuje, da je bilo v sklopu restavratorskih del odprto tudi prvo poslikano gotško okno ter da poslikave čakajo na dokončno restavriranje in predstavitev.¹⁶ V daljšem poročilu iz istega leta, ki je shranjeno v dosjeju cerkve na ZVKDS OE Nova Gorica, Kokalj poslikave jasno pripiše Janezu iz Kastva. Opozori tudi, da streha na nekaterih mestih malenkost pušča in da jo je župnik pripravljen popraviti, če bi Zavod pri tem kaj prispeval.¹⁷ V 12. številki Varstva spomenikov iz leta 1967 poročajo tako Emil Smole kot Franc Kokalj in Franc Novinc, da je bilo popravljenih

¹² ZADNIKAR 1959, str. 73.

¹³ ZADNIKAR 1955, str. 146.

¹⁴ KOMELJ 1965, str. 222.

¹⁵ Vincent iz Kastva je istrski slikar, ki je leta 1474 vodil slikarsko delavnico v Marijini cerkvi na Škrilinah pri Beramu v zaledju Pazina. Njegovo delo kaže, podobno kot pri nekoliko mlajšem rojaku Janezu, izrazito istrski značaj, prepleten z južnotirolskimi vplivi, ki jih je v istrski prostor vnesel neznani avtor poslikav na oboku prezbitterija župnijske cerkve v Pazinu. HÖFLER 1997, str. 27–28.

¹⁶ SMOLE, KOKALJ 1966, str. 144.

¹⁷ Dokumentacija ZVKDS OE Nova Gorica.



Slika 11: Poškodovana streha cerkvene lope (foto: Nada Osmuk, 1985).
Fig. 11: Damaged roof of the church porch (photo: Nada Osmuk, 1985).



Slika 12: Detajl stebra lope (foto: Emil Smole, 1968).
Fig. 12: Close-up of the porch column (photo: Emil Smole, 1968).



Slika 13: Pogled na cerkev po odstranitvi kamnite kritine in lesenega ostrešja (foto: Robert Červ, 1987).
Fig. 13: The church after the stone tiles and the wooden roof structure were removed (photo: Robert Červ, 1987).



Slika 14: Izdelava armiranobetonske strehe (foto: Robert Červ, 1987).
Fig. 14: Reinforced concrete roof under construction (photo: Robert Červ, 1987).

4 m² strehe, ob čemer so se našli ostanki kasetiranega stropa. Ta podatek bi lahko bil napaka, saj so se kasneje ob obnovi strehe našle poslikane deske, in sicer kot del nekdanjega poslikanega stropa. Možno je, da je bil strop cerkve nekdanj zares kasetiran, kakršnega lahko še danes vidimo v Marijini cerkvi na Škrilinah pri Beramu v hrvaški Istri. Restavratorji so odprli preostali dve gotski okni in opozorili, da je stanje poslikav na južni steni zelo slabo in jih je treba nujno restavrirati.¹⁸ Emil Smole leta 1979 poroča o tem, da so restavratorji ZRSV SRS leta 1976 utrdili poslikave, ki so odstopale. Smole potarna, da bi bilo treba narediti nova okna, obnoviti razpadajočo lopo in popraviti skrlato streho, vendar denarja za tovrstne posege ni.¹⁹

V 80. letih se je začela temeljita obnova, katere cilj je bila postopna celovita prezentacija objekta. Najprej je bila leta 1985 obnovljena cerkvena lopa, na kateri je bila zamenjana dotrajana lesena konstrukcija, zgrajeni so bili temelji za stebre in streha na novo prekrita s korci²⁰ (sliki 11 in 12). Vendar je zagotovo cerkev sv. Helene najbolj zaznamovala obnova kamnite strehe, ki je sledila. Streha je sicer puščala že v 60. letih – takrat so jo za silo popravili, kot je že zapisano zgoraj, s skrlami, pridobljenimi s strehe cerkve sv. Tomaža apostola v bližnjih Famljah. Celovita obnova strehe je stekla med leti 1986–87. V tem času je bilo na cerkvi sv. Helene narejene kar nekaj nepopravljive škode. V skladu s takratno konservatorsko doktrino je bilo odstranjeno verjetno precej dotrajano ostrešje in namesto njega izvedena armiranobetonska dvokapnica, na katero so se položile skrle (sliki 13 in 14). A ker nova betonska plošča ni v celoti prekrila vrha obodnih zidov, temveč se je zaključila na sredini, je kmalu prišlo do pronicanja meteorne vode v zidovje. Po alarmu, ki so ga sprožili domačini, je bila leta 2001 streha ponovno odkrita, pri čemer so se pokazale večje poškodbe betonske strehe. Tokrat je bila betonska lupina zaščitena s sekundarno hidroizolacijo in cementno prevleko, ki je pokrila tudi vrh obodnih zidov. A ker se je izkazalo, da so skrle, s katerimi je bila streha nazadnje prekrita, v slabem stanju in niso bile primerne za ponovno uporabo, je bilo treba poiskati nove. Na tem mestu je treba nekaj besed nameniti problematiki obnavljanja kamnitih streh, ki predstavljajo izjemen arhitekturni element, značilen za Kras in širšo Primorsko. Zaradi zapletene zakonodaje na področju rudarstva, ki v praksi onemogoča odpiranje starih kamnolomov, je pridobivanje primerne materiala zelo otežkočeno, zato je bil že v preteklosti splošno uveljavljen običaj, da so skrle preprosto reciklirali. Poleg tega je prekrivanje s kamnom postalo zelo drago, mojstrov, ki bi delo obvladali pa je vsako leto manj. Usoda je določila, da je prav pri obnovi strehe cerkve sv. Helene na Gradišču dokončno zmanjkalo starih skrl na deponijah in ker tudi novih ni bilo mogoče nikjer dobiti, je bila cerkev nekaj let prekrita samo z betonsko streho. V poletju 2005, ko je bilo za obnovo najdeno zadostno število skrl, je bila cerkev dokončno pod streho.

Recentni posegi

Med letoma 2001 in 2004 je Restavratorski center na cerkvi sv. Helene opravil številne meritve in raziskave: grafično in arhitektonsko dokumentiranje, termografsko snemanje za ugotovitev stanja ometov in poslikav, georadarsko globinsko preiskavo tal za odkrivanje zidanih ostalin pod površino, identifikacijo materialov in tehnik stenskih poslikav, biološko analizo z oceno ogroženosti in mikroklimatske meritve. Od leta 2017, ko se je na pobudo lokalne skupnosti okoli cerkve začelo odvijati lepo število dogodkov, so začele stavbi ponovno posvečati večjo pozornost vse z njo povezane institucije: ZVKDS, Ministrstvo za kulturo RS, Občina Divača, Park Škocjanske jame, domača župnija in Škofija Koper. Poleti leta 2017 je bil v celoti obnovljen propadajoči suhi zid okoli cerkve. Istega leta si je cerkev sv. Helene ogledal zavodski statik, ki je ugotovil, da je stanje objekta stabilno, čeprav sta vzhodni in južni zid ladje deformirana.²¹ Leta 2018 so bile preventivno vgrajene prečne vezi, ki so sidrane v betonsko konstrukcijo. V

¹⁸ SMOLE, KOKALJ, NOVINEC 1967, str. 116.

¹⁹ SMOLE 1979, str. 352.

²⁰ ČERV 1986, str. 318.

²¹ GERLIČ 2017.



Slika 15: Detajl cerkvenega zvona (foto: Minka Osojnik, 2021).
Fig. 15: Close-up of the church bell (photo: Minka Osojnik, 2021).

naslednjem letu so bila v cerkev vgrajena nova lesena okna, ki imajo v steklu dodano UV-zaščito, kar je pomembno za obstoj dragocenih poslikav v notranjščini. Te so konservatorji-restavratorji temeljito pregledali in hitro ugotovili, da niso v dobrem stanju. Na več delih je omet odstopal od podlage, poslikave so bile zaprašene, umazane in tudi barvna plast ni bila popolnoma trdna. Na enem od svojih delovnih obiskov v Sloveniji si je poslikave ogledal tudi priznani italijanski konservator-restavrator Alberto Felici in kmalu se je porodila ideja o organizaciji poletne šole za študente konservatorstva-restavratorstva.

Leta 2022 so se končala obnovitvena dela na zunanjščini, ki je bila v celoti konservirana-restavrirana. Cerkev sv. Helene je imela v veliki meri še ohranjene avtentične apnene omete, zaradi česar je ZVKDS določil, da se zunanjščina konservira-restavrira po načelu največjega možnega ohranjanja avtentične podobe in materiala. Vsi kakovostni apneni ometi so bili ohranjeni in utrjeni, manjkajoči deli so bili dopolnjeni z novimi po vzoru originala. Prav tako so bili ohranjeni in utrjeni prvotni apneni beleži, ki niso bili prekriti z novimi, temveč so bili rekonstruirani deli tonsko prilagojeni originalu. Konservirani-restavrirani so bili vsi kamniti elementi, popravljena sta bila stika zvončnice in lope z ladjo, kar bo preprečilo nadaljnji vdor vlage v objekt. V letih 2022 in 2023 je bil v ladji obnovljen strop in ometane stene nad poslikavami, konservirana-restavrirana so bila tudi originalna lesena vrata. Za »piko na i« je bil v letu 2023 obnovljen še cerkveni zvon, ki je imel pred tem popolnoma dotrajan jarem in je bilo zvoniti z njim nevarno. Sredstva za to obnovo so zbrali domačini, ki so se strinjali z mnenjem ključarja Rudija Cerkvénika, da »je cerkev brez zguna kot gostilna brez vina!« (slika 15).

Čeprav je danes cerkev sv. Helene v relativno dobrem stanju, delo še zdaleč ni končano. V resnici dela na takih objektih nikoli v celoti ne zmanjka, saj zahtevajo nenehno vzdrževanje. Po drugi strani pa prav potreba po nenehnem vzdrževanju tovrstne objekte velikokrat drži »pri življenju«. Pred izvedbo nadaljnjih posegov bi bilo priporočljivo v objekt napeljati elektriko, saj je ta za izvedbo vseh dejavnosti v cerkvi nujna. Pred leti je Občina Divača uredila

električno omarico v bližini cerkve, od koder se zdaj po potrebi uredi napeljava. V notranjščini je treba v prihodnje obnoviti ostenje in strop prezbiterja, ki ni poslikan, konservirati-restavrirati je treba tudi kamniti oltar s sliko sv. Helene, ki je v zelo slabem stanju. Poslikave v ladji se postopno konservirajo-restavrirajo, delno s pomočjo izvedbe konservatorsko-restavratorskih delavnic in Poletne šole, delno tudi v sklopu rednega programa Restavratorskega centra. Po zaključenem letu 2023 je v celoti utrjena in očiščena le južna ladijska stena, tako da je tudi na poslikavah dela še veliko.

V smislu raziskav bi bilo prav, da se izvedejo tako dodatno umetnostnozgodovinsko ovrednotenje poslikav kot tudi nadroben popis in ovrednotenje vseh starih grafitov, ki so vrezani na različnih mestih na poslikavah. Dela na sveti Heleni je za strokovnjake različnih ved, ki bi jih to zanimalo, vsekakor dovolj.

Literatura in viri / References

- CERKVENIK 2005: Cerkvénik, Branko, *Gradišče pri Divači: vas z roba Regijskega parka Škocjanske jame*, Divača 2005.
- Dokumentacija ZVKDS OE Nova Gorica, dosje Gradišče pri Divači – Cerkev sv. Helene, EID 1-001566.
- ČERV 1986: Červ, Robi, Gradišče pri Divači, *Varstvo spomenikov*, XXVIII, 1986.
- GERLIČ 2017: Gerlič, Gorazd, *Poročilo o ogledu objekta Cerkev sv. Helene – Gradišče pri Divači, EŠD 1566*, Maribor 2017.
- HÖFLER 1997: Höfler, Janez, *Srednjeveške freske v Sloveniji, II. knjiga, Primorska*, Ljubljana 1997.
- HÖFLER 2022: Höfler, Janez, *Historična topografija predjožefinskih župnij na Slovenskem: Primorska* (Oglejski patriarhat, Tržaška škofija), spletna izdaja, Ljubljana 2022.
- KOMELJ 1965: Komelj, Ivan, Gradišče pri Divači, *Varstvo spomenikov*, X, 1965.
- KOMELJ 1973: Komelj, Ivan, *Gotska arhitektura na Slovenskem: razvoj stavbnih členov in cerkvenega prostora*, Ljubljana 1973.
- MARCHESETTI 2020: Marchesetti, Carlo, *Prazgodovinska gradišča Trsta in Julijske krajine*, Gorjansko 2020.
- MUŠIČ 2003: Mušič, Branko, Poročilo o georadarski raziskavi, Ljubljana 2003, hrani dokumentacija ZVKDS OE Nova Gorica.
- PREMRL 2006: Premrl, Božidar, Cerkev sv. Helene na Gradišču pri Divači in njena stavbna zgodovina, *ANALE: anali za istrske in mediteranske študije. Annali di Studi istriani e mediterranee. Annals for the Istrian and Mediterranean studies. Series historia et sociologia*, 16, 2, 2006, str. 465–476.
- SMOLE, KOKALJ 1966: Smole, Emil, Kokalj, Franc, Gradišče pri Divači, *Varstvo spomenikov*, XI, 1966.
- SMOLE, KOKALJ, NOVINEC 1967: Smole, Emil, Kokalj, Franc, Novinec, Franc, Gradišče pri Divači, *Varstvo spomenikov*, XII, 1967.
- SMOLE 1979: Smole, Emil, Gradišče pri Divači, *Varstvo spomenikov*, XXII, 1979.
- ZADNIKAR 1955: Zadnikar, Marijan, Famlje pri Vremah, p.c. sv. Tomaža, *Varstvo spomenikov*, V, 1955.
- ZADNIKAR 1959: Zadnikar, Marijan, Gradišče pri Divači, *Varstvo spomenikov*, VI, 1959.

THE CHURCH OF ST HELEN IN GRADIŠČE PRI DIVAČI

Minka Osojnik

The church was once a succursal church of the parish in Vreme and is first mentioned in sources from the middle of the 17th century. The patron saint back then and in the 18th century was St Nicholas.¹ The present-day patron is St Helen and the church now belongs to the Parish of Divača. An absence of regular church services in recent years combined with a growing interest from tourists in visiting the site gave rise to the idea of transferring the running of the building from the parish to the Municipality of Divača. The contract was signed in December 2021 and was the first of its kind in Slovenia.

Location and description

The church of St Helen stands on a hill to the north of the village and is surrounded by a low dry stone wall. The oval shape formed by the wall follows the church's outline, with a gap to the west allowing access to the church. The church is 14.63 metres long and 5.54 metres wide, and is correctly liturgically oriented towards the east. It has a sanctuary with a polygonal (three-sided) termination, a nave of the same width and an open porch in front of the entrance (Fig. 1).

The building's exterior has the basic elements of a typical Karst succursal church, richly decorated with stone architectural features. The sanctuary is flanked by a stone plinth with a chamfered top, and the whole building has a cornice that mirrors it, on which rests a uniform steep roof covered with limestone tiles. Both the north and south sides of the sanctuary and nave have one rectangular stone window with splayed jambs. The stone quoined corners of the building are unplastered. The west façade has a rectangular stone portal with carved floral ornaments on the jambs and the year 1653 inscribed on the lintel. The gable on the west façade is topped by a cornice with a semi-circular profile, on top of which stands a bellcote with two separate bell openings, topped by a gable roof covered with stone tiles, and a small conical stone finial. A bell hangs in the right opening. There is a porch attached to the western façade which has a simple hip roof covered with barrel tiles. It rests on two slender stone columns decorated with floral ornamentation. A few slabs of stone paving are preserved under the porch in front of the entrance (Fig. 2).

The church's façades reveal that different parts of the building were constructed in different periods. While the sanctuary and the west wall of the nave are fully plastered except for the quoined corners, the south and north façades of the nave show a distinct duality. Up to a height of 2.7 metres, the nave is built of regularly carved stone blocks arranged in neat horizontal layers. The joints between them are narrow and filled with lime mortar. On the south façade two small walled up stone windows with pointed crowns appear as part of the original masonry. Typically of medieval churches, the north façade originally had no windows. The upper part of the nave's façade has the same plaster as the sanctuary (Fig. 3).

The church's interior consists of a long flat-ceilinged nave and a sanctuary that ends with three walls and has a lozenge and star shaped vault. The ribs are rectangular in profile and run in slightly irregular lines. They rest on corbels in the shape of coats-of-arms, and the rib intersections are reinforced with two rounded bosses and other bosses shaped like coats-of-arms. Probing of the plaster revealed that there are no paintings in the sanctuary. The sanctuary and nave are separated by a wide stone arch with an only slightly pointed crown, chamfered edges and bases with typical Gothic triangular elements. The church floor consists of large rectangular limestone slabs. The interior is illuminated by rectangular windows – two in the sanctuary and two in the nave, very close to the sanctuary arch. To the right of the entrance, a bowl-shaped stone holy water font is built into the wall.

The architectural simplicity of the interior is completely overshadowed by the rich pictorial decoration, which takes the unprepared visitor completely by surprise. The bottom two-thirds of the nave walls are covered with extremely colourful paintings. The iconographic composition is typical of a small medieval church. On the sanctuary arch, where one would expect to see the *Annunciation* scene, only fragments have been preserved in the corners. On the south wall of the nave, scenes from the *Passion of Christ* are arranged chronologically in two horizontal sequences.

¹ HÖFLER 2022, p. 183.

The story begins in the upper line on the right with the scene of the *Arrest of Christ* and continues towards the left, where it ends with the *Crucifixion*. It then moves to the lower line with the *Descent from the Cross* and continues back towards the entrance, where it ends with the *Ascension*. On the west wall most of the paintings have been destroyed. Only the scene on the far right depicting *Jesus' entry into Jerusalem* is well preserved. The north wall of the nave bears the *Journey* and *Adoration of the Magi*, complemented by hunting and other genre scenes from everyday life, as well as some anecdotal animal motifs and scenes from fables (Fig. 4).

The historical development of the church of St Helen

The village of Gradišče lies on the site of a prehistoric settlement, which was surrounded by a rampart almost a kilometre in circumference. The rampart is partially preserved only on the northern side. In the beginning of the 20th century, when the area was visited and described by the archaeologist Carlo Marchesetti (1850-1926) from Trieste, about 330 metres of the rampart were preserved and it was between eight and fifteen metres wide in places. At the time there was an eight to fifteen metre high pile of ruins of a medieval castle still visible in the north-eastern part of Gradišče.² Folk tradition links the church of St Helen with the castle, which is said to have stood on the highest hill above the village called Škale.

The medieval church

The question of whether the church was built on the site of the former castle chapel, or whether this was its original function, cannot as yet be answered, but there is no doubt that the church of St Helen is a medieval building. On the basis of the preserved architectural elements and methods of construction, some authors have dated the nave of the church to the early or late 14th century, perhaps even to the beginning of the 15th century, but the prevailing opinion is that the church's core is an example of early Gothic architecture.³ Its original appearance can only be traced in the nave, which was relatively long and low, and illuminated by three small windows on the south wall. Two of these are fully preserved and walled up, while the third has been destroyed by the larger rectangular window that now illuminates the nave, so that only one jamb of the original window remains. Ivan Komelj pointed out that the two walled-up windows on the south façade are almost Romanesque with their pointed crowns carved from single pieces of stone. He also thought the window jambs were made of unhewn stone.⁴ During the restoration of the façade in 2022, when the walled-up windows were also conserved-restored, the lower sills of both windows were revealed, but it is also clearly visible that the upright stone jambs were removed prior to the walling-up (Fig. 5a and 5b). It is possible that the church already had wall paintings at the very outset. To the left of the window in the south wall of the nave, in the corner of the *Crucifixion* scene, there is a fragment of an older painting, which apparently lies beneath the late Gothic depiction of the *Passion of Christ*.

We can only infer or speculate about the other elements of the early Gothic church. The sanctuary was probably narrower and lower than it is now, as the nave only reached up to the height of the regular stone blocks on the outside or the wall paintings on the inside. The altar area, which may have had a semi-circular apse or it may have ended in a simple straight wall or five sides of a regular octagon, almost certainly had wall paintings. However, no proper information has been found about the original sanctuary, as geophysical surveys carried out in 2003 did not provide any information about the foundations of any older structures.⁵ The altar section was probably vaulted, while the nave probably had a flat wooden (painted) ceiling or an open roof structure.

² MARCHESETTI 2020, p. 82.

³ PREMRL 2006, p. 467.

⁴ KOMELJ 1973, p. 43.

⁵ MUŠIČ 2003.

The outstanding paintings in the nave also date back to the Middle Ages. Although the author of the wall paintings is unknown, the stylistic and iconographic similarities with the wall paintings in the church of the Holy Trinity in Hrastovlje from 1490 allow us to make a clear connection with the painter Johannes from Kastav. The wall paintings in both churches are actually linked by at least one textile pattern, while the depiction of the Virgin Mary in the *Adoration of the Magi* is almost a copy of the painting from Hrastovlje.⁶ The church in Gradišče was most probably painted by one of Johannes's assistants or collaborators with perhaps the same team that had already cooperated in Hrastovlje.

Alterations in the 16th and/or 17th centuries

Experts do not fully agree on the changes that the church of St Helen later underwent. The extensive interventions carried out in the 16th and 17th centuries more or less gave the church its present-day appearance. The construction of a new, larger sanctuary was certainly a significant change, which also meant the walls of the nave were raised to their present height. The modified church, which now had a unified body both in terms of width and height, was united by a stone cornice, which probably also supported the new stone roof and probably also the bellcote. Inside, the construction of a larger sanctuary arch resulted in the destruction of the paintings on the wall of the arch. The description of the sanctuary makes it clear that although the different architectural elements are still Gothic, the manner of construction suggests at least a late Gothic origin, if not an entirely late Gothic style, which was preserved throughout Primorska well into the 17th century, especially in the sanctuaries.

The second major change is the thorough Baroqueisation of the church with new window openings, a portal and a porch. The installation of new windows and the entrance portal destroyed large parts of the paintings on the north and south walls (including the *Adoration of the Magi*) and most of the paintings on the west wall. These interventions, which the inscription on the portal indicates were carried out in 1653, were linked to archival sources by Božidar Premrl. He attributed the church's reconstruction to the master builder Gašper Perhavec from Dolnje Ležeče and to the builders/stonemasons Andrej and Ivan Cerkvėnik, who were brothers from Gradišče⁷ (Figs. 6 and 7).

Despite Premrl's well-founded explanation that the sanctuary was constructed in the 16th century and that Baroqueisation took place in the middle of the 17th century, the alternative explanation that all the interventions took place more or less at the same time also seems convincing. The general historical background also supports this idea. While the 16th century was not very favourable for the construction of new buildings as people were still struggling with the hardships of frequent wars and Turkish incursions, the 17th century saw a veritable rebirth for churches in Slovenia, triggered by the so-called Catholic renewal and relative prosperity with prolonged periods of peace. It is also hard to imagine that a sanctuary built in the 16th century would have its Gothic vault modified into a slightly later Gothic style after only a hundred years – our ancestors were much more pragmatic in construction than we are today. For example, in the mid-17th century, during the Baroque renovation in nearby Famlje, the Gothic ribs in the sanctuary were simply removed from the vault. Another detail may argue in favour of a single major transformation of the church – the graffiti on the paintings. The construction of the sanctuary almost certainly meant the walls of the nave were raised at the same time and the paintings were also whitewashed then, if they had not already been before. That was when the paintings on the sanctuary arch were destroyed, while the paintings in the nave were limited to the lower part of the walls. Premrl noted down and translated some very interesting graffiti on the preserved paintings. Those on the south wall date back to 1526 (on the scene of the *Flagellation of Christ*), 1533 (*Descent from the Cross*), 1535 (*Christ Nailed to the Cross*), and 1574 (*the Resurrection*), while on the north wall it was possible to make out the

⁶ HÖFLER 1997, pp. 89–91.

⁷ PREMRL 2006, p. 471.

name Urban and the year 1606⁸ (Fig. 8). As the graffiti was certainly engraved on the still visible paintings, it can be assumed that they were still visible at the beginning of the 17th century, at least on the north side. There is also the possibility that our ancestors were similarly enchanted by the colourful and iconographically rich scene of the *Journey of the Magi*, so they left it visible for a little longer than the other paintings. This theory could be supported by the slightly different shape of the rectangular window in the north wall of the nave. It has a flat top, while the other three windows have semi-circular arches.

The 18th and 19th centuries

Some details about the church in the 18th and 19th centuries have been preserved in the urbarium.⁹ The building acquired new furnishings and there were many repairs, but no major changes were made to the church in the meantime. The cemetery next to the church was repaired three times in the 18th century, which is interesting, as the locals now believe their ancestors were always buried in Škocjan. The stone altar of the pillar type with marble inlays was erected in 1744 (the year is visible on the altar) by the vicar of Vreme, Garzarolli. The original altar painting, which most probably depicted (also) St Nicholas, has not been preserved. The painting of St Helen, which now adorns the altar, was painted in 1865 by Jakob Raspet, a painter from around Idrija or Cerklje who also lived and worked in the Vreme valley for part of his life. It shows the Empress Helena holding the cross of Christ, kneeling in front of an altar on which her crown and sceptre are placed. The painting's poor condition is begging for urgent conservation-restoration (Fig. 9).

In 1753, a new stone floor was laid and ten years later the limestone tiled roof was renovated and the wooden roof structure repaired. At the same time, a new painted wooden ceiling was installed in the interior,¹⁰ the remains of which were found in the attic during the restoration of the stone roof in 1986 (Figs. 10a and 10b). A new door was made out of walnut planks and, like the stone pavement, it is still preserved today. The porch was repaired in 1761 and at that time it was most probably still covered with limestone tiles, similar to the ones we can see today on the church in Dolnje Ležeče.

The 20th century

According to the locals, the Austro-Hungarian authorities took the two bells from Gradišče during World War I, but they were later returned. In 1929, under Italian rule, the restored bells were solemnly re-hung. One was dedicated to St Helen and the other to St Andrew but the latter was taken away again by the Italian army in 1940.¹¹ This bell was never returned but there is a firm conviction in Gradišče that it was not melted down during the war, but is still stored somewhere, perhaps in an Italian warehouse awaiting its return home. The bell of St Helen bears the year VII of the so-called Era Fascista, and the name of the master bell founder Cesare Brighenti of Bologna. Both are decorated with fascist symbols. Until recently the bell was considered more of a danger than a joy, due to its worn-out yoke.

The 20th century was marked above all by the discovery of the wall paintings in the church nave, which put Gradišče on Slovenia's art-history map. The first references in expert literature include reports in the professional journal *Varstvo spomenikov*, which describe new discoveries and the different interventions that were carried out. In 1959, Marijan Zadnikar describes the discovery of wall paintings in the nave, namely the Passion Cycle on the south side, while experimental probes also revealed paintings on the west and north walls. He described the paintings as similar to

⁸ PREMRL 2006, p. 475.

⁹ PREMRL 2006, p. 471.

¹⁰ PREMRL 2006, p. 473.

¹¹ CERKVENIK 2005, p. 30.

those in nearby Famlje and dated them to the late 15th century.¹² In Famlje, the paintings in the sanctuary had been discovered a few years earlier by accident when a large piece of the Baroque plaster fell off due to a leak in the old stone roof, revealing the older Gothic figural paintings.¹³ A few years later, when the roof in Gradišče sprung a leak, the limestone tiles needed to repair it came from the church in Famlje. In his report from 1965, Ivan Komelj describes the content of the paintings, which by then were apparently more or less uncovered, and attributes authorship to the painters of Hrastovlje, perhaps even to Johannes of Kastav himself.¹⁴ He also mentions that the Institute for Monument Protection arranged for the building to have windows installed and that it would soon arrange for the paintings to be presented. Emil Smole reports in the next issue in 1966 that the paintings belonging to Vincent of Kastav's circle¹⁵ have already been uncovered and are very well preserved on the north wall, while on the south wall they are detaching from the wall and large parts have been destroyed. In the same issue, Franc Kokalj goes on to report that the first painted Gothic window was opened as part of the restoration work and that the paintings are awaiting a final restoration and presentation.¹⁶ In a long report from the same year, which is kept in the church's folder at the Nova Gorica Regional Office of the IPCHS, Kokalj clearly attributes the paintings to Johannes of Kastav. He also points out that the roof is leaking a little in some places and that the parish priest would be willing to repair it if the Institute would make a contribution.¹⁷ In the 12th issue of *Varstvo Spomenikov* from 1967, Emil Smole, Franc Kokalj and Franc Novinc report that 4 m² of the roof was repaired, and that the remains of a coffered ceiling were found during the repair work. This could be an error, as painted boards were later found when the roof was renovated, and they were seen to be part of the former painted ceiling. It is possible that the church ceiling was once coffered, as can still be seen today in the church of Our Lady in Škriljine near Beram in Istria. The restorers opened the remaining two Gothic windows and pointed out that the condition of the paintings on the south wall was very poor and in urgent need of restoration.¹⁸ Emil Smole reported in 1979 that in 1976 the ZRSV SRS restorers had fixed the paintings that had become detached. Smole complains that new windows should be made, the dilapidated porch renovated and the limestone tiling repaired, but that there is no money for such interventions.¹⁹

In the 1980s, major renovation work began. Its aim was to gradually present the building in its entirety. First, the church porch was renovated in 1985. The dilapidated wooden structure was replaced, the foundations for the columns were built and the roof was covered with barrel tiles²⁰ (Figs. 11 and 12). However, the church of St Helen was undoubtedly marked most significantly by the renovation of the stone roof that followed. The roof was already leaking in the 1960s and makeshift repairs were carried out, as noted above, using limestone tiles taken from the roof of the church of St Thomas the Apostle in nearby Famlje. The roof was comprehensively repaired in the years 1986-87. During these years, the church of St Helen suffered some irreparable damage. In line with the conservation doctrine of the time, the probably rather dilapidated roof structure was removed and replaced by a reinforced concrete gable roof on which the limestone tiles were laid (Figs. 13 and 14). However, as the new concrete slab did not completely cover the top of the perimeter walls but ended in the middle, rainwater soon seeped into the walls. After the local residents

¹² ZADNIKAR 1959, p. 73.

¹³ ZADNIKAR 1955, p. 146.

¹⁴ KOMELJ 1965, p. 222.

¹⁵ Vincent of Kastav was an Istrian painter who led the painting workshop at the church of Our Lady in Škriljine near Beram in the hinterland of Pazin, in 1474. His work, like that of his slightly younger compatriot Johannes, has a distinctly Istrian character, intertwined with South Tyrolean influences introduced to Istria by the unknown author of the paintings on the sanctuary arch of the parish church in Pazin. HÖFLER 1997, pp. 27–28.

¹⁶ SMOLE, KOKALJ 1966, p. 144.

¹⁷ Documentation of the Nova Gorica Regional Office of the IPCHS.

¹⁸ SMOLE, KOKALJ, NOVINEC 1967, p. 116.

¹⁹ SMOLE 1979, p. 352.

²⁰ ČERV 1986, p. 318.

raised the alarm, the roof was again uncovered in 2001 revealing extensive damage to the concrete roof. This time, the concrete shell was covered with a secondary waterproofing layer and a cement coating, which also covered the top of the perimeter walls. However, as the limestone tiles that had previously covered the roof were in poor condition and not suitable for re-use, new ones had to be found. At this point, a few words should be said about the issue of restoring stone roofs, which represent an exceptional architectural element in the Karst and the wider Primorska region. Due to complex mining legislation, which makes it extremely difficult to open up old quarries, it is very difficult to obtain suitable material, so in the past it was common practice to simply recycle limestone tiles. In addition, stone roofing has become very expensive and the number of craftsmen who can do the job is decreasing every year. As fate would have it, when the roof of St Helen's church in Gradišče was being renovated there were no old limestone tiles left anywhere, and as no new limestone tiles could be found either the church had only a concrete roof for several years. In the summer of 2005, when enough tiles were found, the church finally got a new roof.

Recent interventions

Between 2001 and 2004, the Restoration Centre carried out a number of measurements and surveys on the church of St Helen: graphic and architectural documentation, thermal imaging to determine the condition of the plasterwork and paintings, ground penetrating radar to detect masonry remains beneath the surface, identification of the materials and techniques used to make the wall paintings, biological analyses to assess the risk level and microclimatic measurements. Since 2017, when the local community initiated various events around the church, the building has received renewed attention from all the institutions that are connected with it: the IPCHS, the Ministry of Culture, the Municipality of Divača, Škocjan Caves Park, the Parish of Divača and the Diocese of Koper. In the summer of 2017, the dilapidated dry wall around the church was completely rebuilt. In the same year the church of St Helen was inspected by the Institute's structural engineer, who found the building to be in a stable condition, although the eastern and southern walls of the nave are deformed.²¹ In 2018, wall ties were installed as a precautionary measure and anchored into the concrete structure. The following year, new wooden windows were installed in the church, with UV protection added to the glass. This is important for the preservation of the precious paintings inside. These were thoroughly examined by the conservator-restorers who quickly found they were in a poor state. In several areas the plaster was detaching from the wall, the paintwork was dusty and dirty, and the paint layer was not solid. During one of his working visits to Slovenia, the renowned Italian conservator-restorer Alberto Felici came to see the paintings and soon the idea of organising a summer school for students of conservation-restoration was proposed.

In 2022, restoration work was completed on the exterior, which was fully conserved-restored. The church of St Helen had retained a significant part of its original lime plaster, prompting the IPCHS to determine that the exterior should be conserved-restored according to the principle of preserving its authentic appearance and materials to the greatest extent possible. All the high-quality lime plasters were preserved and consolidated, and the missing parts were replaced with new ones based on the original. The original lime whitewash was also preserved and strengthened. It was not covered with new whitewash – only the reconstructed sections were tonally adapted to the original. All the stone elements have been conserved-restored and the junctions between the bellcote and porch with the nave have been repaired, preventing further ingress of moisture into the building. In 2022 and 2023, the ceiling and plastered walls above the paintings in the nave were renovated, and the original wooden doors were conserved-restored. Finally, the church bell was restored in 2023. The yoke was completely dilapidated and it was unsafe to ring the bell. The funds for this restoration were raised by the locals who agreed with the sexton Rudi Cerkvénik that 'a church without a bell is like a tavern without wine!' (Fig. 15).

²¹ GERLIČ 2017.

Although the church of St Helen is now in relatively good condition, the work is far from over. In reality, such buildings require constant maintenance. However, this need for constant maintenance is frequently what keeps such buildings 'alive'. It would be advisable to install electricity in the building before any further work is carried out, as this is essential for all activities in the church. A few years ago, the Municipality of Divača installed an electricity box near the church from where the wiring is now routed as needed. In future, the interior walls and the ceiling of the sanctuary, which do not have paintings, should be renovated. The stone altar with the painting of St Helen, which is in a very poor state, should also be conserved-restored. The paintings in the nave are gradually being conserved-restored, partly through conservation-restoration workshops and the Summer School, and partly as part of the Restoration Centre's regular programme. At the end of 2023 only the south wall of the nave has been fully consolidated and cleaned, so there is still a lot of work to be done on the paintings.

In terms of research, it would be useful to carry out a further art-historical evaluation of the paintings. Detailed records and evaluations of all the old graffiti that are engraved in various places on the paintings should also be made. There is certainly enough work left to be done on St Helen's for all experts in various disciplines who would be interested.

OD KRALJA DO KUJARJA – OPIS POSLIKAV

Minka Osojnik, Ajda Mladenović

Slovenija se ponaša z bogato zakladnico dobro ohranjenih gotskih stenskih poslikav.¹ Na območju občine Divača je njihova gostota presenetljivo velika, saj so na relativno majhnem prostoru ohranjene kar v petih cerkvah: na Gradišču pri Divači, v Famljah, Naklem, Dolenji vasi in Vremskem Britofu, kar predstavlja raznolik kompendij duhovnega in likovnega izraza omenjenega obdobja. V prispevku si bomo podrobno ogledali poslikave v cerkvi sv. Helene na Gradišču in opozorili na marsikatero podrobnost, ki se razkrije pozornemu opazovalcu.

Vloga poslikav v srednjeveških arhitekturnih notranjščinah

Poslikave so krasile obredne prostore, namenjene zbiranju vernikov, in sicer že od začetkov krščanske vere. Barva in slikarska dekoracija namreč predstavljata pomemben del arhitekture, saj pripomoreta k njenemu celovitemu razumevanju. Kot je zapisal avstrijski konservator-restavrator Ivo Hammer, prostor dokončno zgradi šele poslikava: »Stenske slike so pomemben del oblikovanja celote profanega in sakralnega prostora, saj so skozi umetniški, zgodovinski, duhovni in kulturni konteksti različnih obdobj in geografskih območij izraženi v materialni substanci.«² Poslikave so tesno vezane na arhitekturno lupino. Poudarjajo sublimen in transcendenten značaj cerkvene stavbe, zabrisujejo mejo med resničnim in iluzornim prostorom ter uresničujejo slikoviti vtis celote. Njihov ikonografski program, podrejen enotni zamisli, prispeva k opredelitvi arhitekturnega prostora s poudarjanjem tektonskih delov in ponazarjanjem njegovih funkcij v obliki simboličnih podob.

Cerkvena stavba velja za ponazoritev božjega kraljestva, nebeškega Jeruzalema ali rajskega vrta, pri čemer imajo njeni posamezni členi natančno določene pomene. Arhitektura tako predstavlja zemeljski svet kot odsev nevidnega sveta in pomaga opazovalcu pri dvigu duha od vidnega k nevidnemu.³ V arhitekturah predstavljajo poslikave okras, ki dopolnjuje ali celo preoblikuje videz prostora, saj slikarstvo arhitekturo podredi svojemu svetu in jo dematerializira.⁴ Poslikava lahko nadomešča realne arhitekturne elemente in nastopa v vlogi tektonskih konstruktivnih načel (barvno menjajočih se polj, imitacije kamna in poudarjanja arhitekturnih členov), medtem ko barvna obravnava reber, sklepnikov, venčnih zidcev in drugih elementov služi ustvarjanju navidezno kompleksnejše arhitekture, jo naredi dragocenejšo in pomaga jasno strukturirati prostor. Na Slovenskem enega od vrhuncev skoraj v popolnosti ohranjenega barvitnega prostora predstavlja cerkev sv. Trojice v Hrastovljah. Notranjščina, okrašena s slikarskim okrasom leta 1490, kjer so poslikane vse zidne površine (prevladujejo temno siva, temno rdeča, temno vijolična, zelena in rumena barva), rdečkast pa je bil tudi prvotni tlak, je izreden primerek barvno uglasenega krasilnega sistema (slika 1).⁵ Barvitost celote je izredno pomembna predvsem pri obravnavi kompleksnejših poslikanih prostorov, pri katerih celota preglaši podrobnosti, saj nas tako prostornina nagovarja v svojem slogovno ustreznem jeziku.

Na Slovenskem je slikarski razvoj v obdobju gotike vezan na preproste, največkrat z ravnim lesenim stropom krite enoladijske cerkve s poligonalno zaključenim, rebrasto obokanim prezbiterijem, znotraj katerih se je razvil premišljen ikonografski program poslikav. Ta sicer ni bil strogo načrtan, a se je ujema s funkcijo posameznih delov stavbe, jih simbolično razlagal in se stopnjeval od vhoda proti osrednjemu poudarku v prezbiteriju. V obdobju, ko je bila velika večina prebivalstva nepismena in je bogoslužje potekalo v navadnemu človeku nerazumljivem jeziku, so poslikave predstavljale poslikan evangelij. Njihov namen je bil Sveto pismo približati preprostem verniku. Razporeditev poslikav po cerkvenem prostoru je bila prav zato skrbno premišljena, saj se je moral slikarski program opreti na simbolični pomen delov stavbe, ki jih krasi, in na pomen cerkve kot duhovnega organizma. Poslikave so bile zasnovane

¹ Omenjeni arhitekturni spomeniki na Slovenskem zajemajo časovni razpon od zgodnjega 13. stoletja z začetki gotike vse do njenega izteka, ki odmeva še globoko v 16. stoletje, preden dokončno izzveni v novih renesančnih pobudah.

² HAMMER 2010, str. 2.

³ BANDMANN 1979, str. 66s.

⁴ ROZMAN 1964, str. III.

⁵ ZADNIKAR, ŠUBIC 1952, str. 18–26.



Slika 1: Notranjščina cerkve sv. Trojice v Hrastovljah, ki predstavlja enega od vrhuncev skoraj v popolnosti ohranjenega barvitega sakralnega prostora na Slovenskem (foto: Valentin Benedik, 2010).

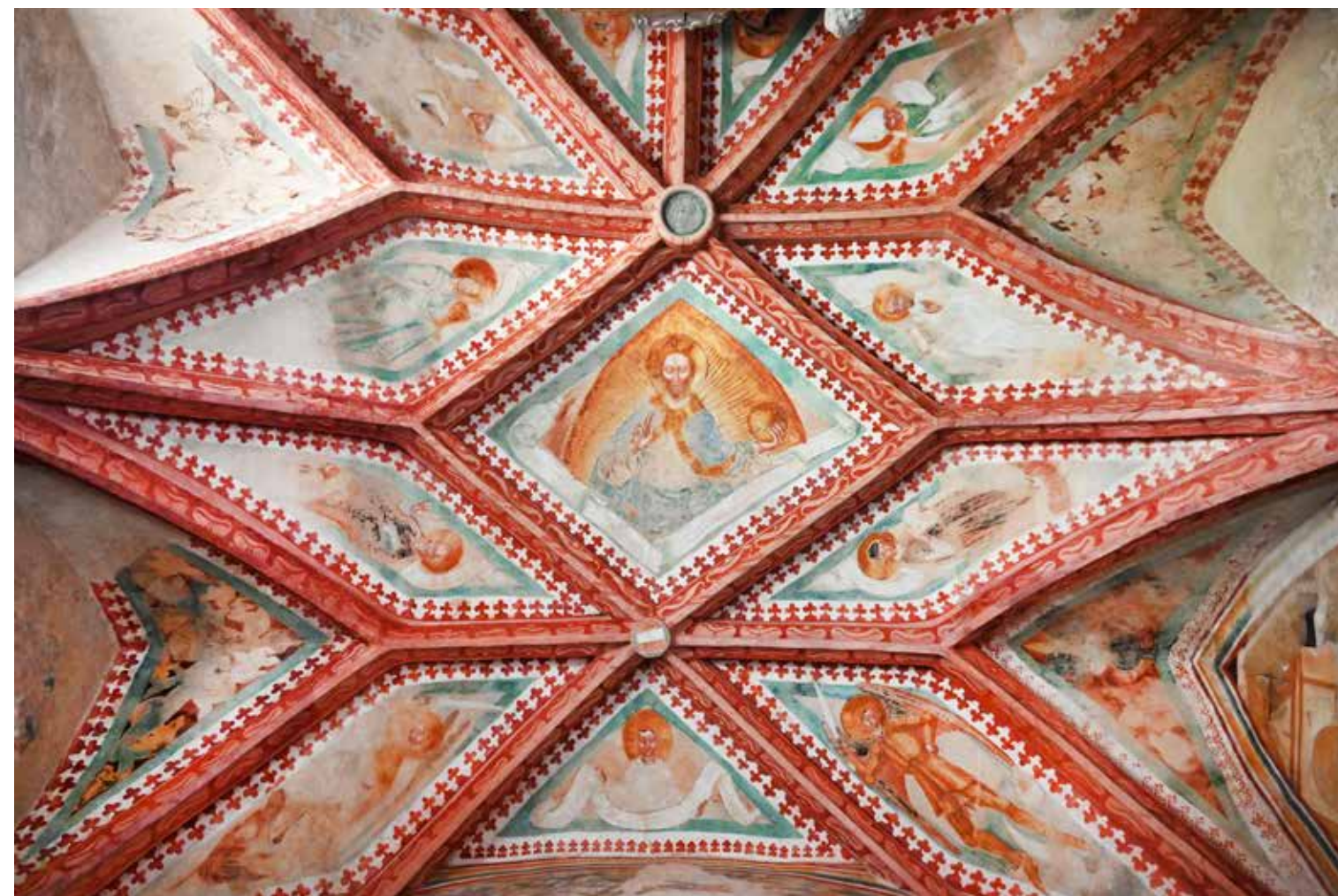
Fig. 1: The interior of the church of the Holy Trinity in Hrastovlje – one of the finest examples of an almost perfectly preserved coloured sacral space in Slovenia (photo: Valentin Benedik, 2010).

tako, da so pozornost vernika postopoma usmerjale proti najsvetejšemu delu – prezbiteriju, ki je predstavljal »nebeški del« stavbe, medtem ko je bila ladja prostor za »zemeljski del«.

Prvi slovenski konservator France Stele je postavil temelje raziskovanja srednjeveškega stenskega slikarstva na Slovenskem in v slovensko umetnostno zgodovino vpeljal pojma »kranjski prezbiterij« in »slovenska gotska podružnica« ter z njima razložil slikarski program srednjeveškega cerkvenega prostora, ki si ga pogledimo v nadaljevanju.⁶ Najbolj dognan je sistem poslikave prezbiterija, kjer se je na bogatih gotških rebrasto obočnih shemah uveljavil razširjeni ikonografski program s *Kristusom v slavi* ali *Kristusom sodnikom*, obdanim s simboli evangelistov, cerkvenimi očeti, svetniki in z angeli s simboli mučenja, z glasbenimi instrumenti ali napisnimi trakovi.⁷ Na stenah prezbiterija so običajno upodobljeni posredniki in pričevalci verskega nauka – apostoli in svetniki ter legendarni ali evangelijski prizori, medtem ko shemo v spodnjem delu navadno zaključuje naslikana okrasna zavesa v imitaciji dragocenega brokata (slika 2). Pri tem so poleg vsebine in figuralnih elementov pomembne tudi dekorativne prvine (poslikava reber krepi dinamično napetost in zagon kvišku, naslikane niše optično poglobljajo steno v smislu kornega obhoda, kot ga poznamo iz velikih gotških

⁶ O ikonografskih shemah podružnic piše STELE 1935; STELE 1969; STELE 1972.

⁷ Gotski obok se razpenja nad oltarjem kot baldahin, kjer je v središču podoba Kristusa, medtem ko njegova beseda poteka preko evangelistov do apostolov na stenah, ki predstavljajo stebre cerkve. STELE 1969, str. 46ss.



Slika 2: Poslikave prezbiterija cerkve Žalostne Matere Božje v Dolenji vasi pri Senožečah, nastale približno med letoma 1480 in 1500, sledijo ikonografski shemi kranjskega prezbiterija (foto: Andrej Jazbec, 2023).

Fig. 2: The paintings in the sanctuary of the church of Our Lady of Sorrows in Dolenja vas near Senožeče, which date back to 1480-1500, follow the iconographic scheme of the Carniolan sanctuary (photo: Andrej Jazbec, 2023).

katedral), pri čemer ikonološki koncept in poslikana arhitektura dosežeta vrh učinkovitosti.⁸

S prezbiterijem se ikonološko povezuje slavoločna stena, ki predstavlja slovesni vhod vanj ter poudarja mejo med verniki in oltarnim prostorom. Na zunanji (ladijski) strani jo krasi največkrat *Marijino Oznanjenje*, *Daritev Kajna in Abila*, sicer pa teme, kot so *Boj sv. Jurija z zmajem*, *Pametne in nespametne device* ali *Zadnja sodba*, ki niso strogo vezane na zunanjo ali notranjo (prezbiterijsko) stran (slika 3). Ozko ostenje slavoloka je namenjeno prerokom ali Kristusovim prednikom, čeprav tudi tu ni obveznega ikonološkega programa. Na sklenjenih stenah ladje se razmahnejo narativni cikli z zgodbami iz življenja Jezusa, Marije in svetnikov. Severna stena je praviloma rezervirana za veliko kompozicijo pohoda in poklona svetih treh kraljev, medtem ko program južne stene ni strogo določen. Pogosto je poslikana s prizori iz Marijinega življenja ali svetniškimi legendami, razporejenimi v več horizontalno potekajočih pasov. Na zahodni steni lahko po bizantinskem izročilu nastopa *Zadnja sodba*, ki se lahko premakne tudi na notranjo ali zunanjo stran slavoloka ali celo na vhodno fasado.⁹ Cerkve so bile resda nemalokrat poslikane tudi na zunanjšini, vendar so te poslikave redkeje ohranjene, v občini Divača se žal ni ohranila prav nobena.

⁸ STELE 1969, str. 38s; STELE 1972, str. XXXIV, XXIX. Na Slovenskem velja za najzgodnejši ohranjeni primer celovite poslikave kornega prostora cerkev v Bregu ob Kokri (poslikava dat. ok. 1401–20).

⁹ STELE 1972, str. XXXII, XXXIV. Primeri, kjer so poslikane vse stene ladje in prezbiterij v celoti, so posebno redki. Poleg že omenjenih Hrastovlj tudi cerkev na Muljavi, v Bodeščah pri Bledu in grajska kapela na Turjaku. STELE 1969, str. 20.



Slika 3: Oznanjenje na slavoločni steni cerkve sv. Brikcija v Naklem iz časa okoli 1480–1490 (foto: Andrej Jazbec, 2019).

Fig. 3: The Annunciation on the sanctuary arch of the church of St Brice in Naklo from the period 1480–1490 (photo: Andrej Jazbec, 2019).

Poslikave v cerkvi sv. Helene

Poslikave v cerkvi sv. Helene na Gradišču sledijo standardnemu ikonografskemu programu, značilnemu za gotško podružnico. Zaradi predelave prezbiterija so ohranjene le poslikave v ladji, vendar lahko skoraj z gotovostjo trdimo, da je bil tudi prvotni oltarni prostor poslikan. V letih, ko je na Gradišču potekala Poletna šola, so bile poslikave podrobno raziskane. Določeni so bili tehnika, v kateri so bile izvedene, in izvorni uporabljeni materiali, popisane so bile poškodbe, nekateri deli poslikav so bili v konservatorsko-restavratorskem posegu očiščeni in utrjeni. Med raziskavami se je na poslikavah pokazala tudi marsikatera podrobnost, ki se prej ni dobro videla. Odkritih je bilo nekaj podrobnosti, ki so jih do tedaj še prekrivali beleži, medtem ko je pregled pod UV-lučjo pokazal tudi kakšno (očem sicer nevidno) zanimivost. Kljub nekaterim orisom poslikav v strokovni literaturi¹⁰ natančna ikonografska študija prizorov v cerkvi sv. Helene še ni bila izvedena. Njena priprava žal presega tudi namen pričujoče publikacije. V naslednjih vrsticah je podan natančen opis poslikav, ki smo jih v tednih dela v cerkvi lahko spoznali udeleženci Poletne šole in ki predstavlja dobro osnovo, morda celo spodbudo za nadaljnje ikonografske študije. Pri razumevanju opisa poslikav naj bodo bralcu v pomoč platnice te knjige, kjer sta fotografiji severne in južne stene ladje.

Poslikava severne stene

Kot je že bilo omenjeno, je v cerkvi sv. Helene ohranjena poslikava v ladijskem delu, kjer je na severni steni upodobljen *Pohod in poklon svetih treh kraljev*, na južni *Kristusov pasijon*, medtem ko so na zahodni in na slavoločni steni ohranjeni zgolj fragmenti.

Poslikava severne stene je razdeljena v tri horizontalne pasove. V zgornjem je predstavljen osrednji motiv, *Pohod in poklon sv. treh kraljev*, ki jih spremljamo od njihovega slovesa od Heroda na levi do ponižne daritve pred prestolom z Marijo in Jezusom na skrajni desni. V pasu pod njimi so umeščene spremljevalne figure z žanrskimi elementi (posvetni motivi), pod tem je pas z upodobitvijo basni (fikcijski prizori). Osrednjo motiviko torej dopolnjuje pravo bogastvo čisto posvetnih motivov, humorističnih lovskih prizorov, »malih ljudi«, oblečenih v sočasna oblačila, anekdotičnih živalskih motivov, legend in basni. Umetnostni zgodovinar Edvilijo Gardina je severno steno na Gradišču takole opisal: »Toliko uglašene dvorske gospode, dragocenih oblačil, rasnih konj, ki se gibljejo z vso eleganco in skladnostjo izurjenih lipicancev, lepe opreme in zgodbic v zgodbi premore le redka srednjeveška cerkev na Slovenskem.«¹¹ Slikarjeva pripovednost in domišljija sta tukaj zares stopnjevana do te mere, da se zdi, kot bi bil prizor samo dober izgovor, da je lahko naslikal vse ostalo. Kot je zapisal že Stele, je na Gradišču dosežen višek spremembe viteškega motiva v poljudnega.¹² V spremljevalci obogatenu *Pohodu in poklonu sv. treh kraljev* smo pričra posvetni poživitvi sicer slovesnega prizora, ki je ključna tudi za datiranje takšnih tipov pohoda,¹³ hkrati nudi tudi obilje prikritih pomenov in moralnih nauk. Na tem mestu omenimo le dva, in sicer zamorca, ki pije iz čutare, in leva, ki v šapah drži miško.

Spremljevalci, med katerimi je tudi zamorec, ki pije iz čutare, so v tem obdobju že standardna figura sprevodov. Gre za žanrski element, ki ima še dodatno teološko dimenzijo, saj trije kralji potujejo v Betlehem po vodo večne milosti, ki je bila prinesena človeštvu s Kristusovim rojstvom, medtem ko spremljevalec, ki pije, namiguje na žejo po zemeljski vodi. Na upodobitvah je nasprotje med zemeljsko in nebeško vodo poudarjeno s tem, da so spremljevalci, ki žejno srkajo zemeljsko vodo, ignorantni do čaščenja treh kraljev in so pogosto upodobljeni v karikaturni obliki ali označeni s črno kožo.¹⁴ Na Gradišču podoba ne more biti popolnoma zagotovo opredeljena kot zamorec, saj bi lahko prišlo do

¹⁰ HÖFLER 1997, str. 89–91.

¹¹ GARDINA 2006, str. 32.

¹² STELE 1969, str. 181.

¹³ Razlikujemo dva tipa Pohoda, in sicer starejšo tradicionalno shemo iz 14. stol., kjer so kralji na pohodu in v poklonu (dva še jezditca, medtem ko tretji že kleči pred Marijo), ter mlajši ikonografski tip pohoda, ki se je uveljavil v sredini 15. stoletja in pri čemer so vsi trije kralji hkrati najprej na pohodu, nato vsi pri poklonu (kot je to denimo na Gradišču). HÖFLER 2004, str. 117–119.

¹⁴ MEGYEŠI 2021, str. 344–351.

kasnejših barvnih sprememb na tem mestu poslikave, a glede na analogije Pohodov v srednjeveški umetnosti tistega časa je to zelo verjetno. Lev z mišjo v šapah je upodobitev Ezopove basni, katere nauk je še vedno aktualen. Lev se miši, ki mu je lezla po kožuho, usmili in ji prizanese z življenjem, medtem ko mala miš ob neki drugi priložnosti v zahvalo reši leva iz lovčeve mreže, ki jo z zobmi pregrize in ga osvobodi. Basen tako govori o sodelovanju in dobroti.¹⁵

Pas trikraljevskega spreveda

V nadaljevanju si pogledajmo še podrobneje prizor *Pohoda* in *Poklona*. Slikar je bil spreten pri slikanju figur, ki imajo značilno poudarjene oči in ličnice, prepričljiv volumen in dokaj pravilne proporce, njihova postavitve je zelo razgibana, predvsem na prizoru Pohoda. Seveda so razmerja velikosti figur, kot je značilno za srednjeveško umetnost, popolnoma nerealna: pomembnejše figure so večje, spremljevalne manjše. Tako so figure kraljev s spremstvom bistveno večje od figur v spodnjih dveh pasovih, Marija na prestolu pa je prava velikanka. Konjeniški prizor na severni steni je postavljen v pokrajino z griči in arhitekturo, v njegovem spodnjem pasu je travnata pokrajina s cveticami. Obdaja ga enoten okvir iz tribarvnega traku, na katerem je patroniran (šablonski) ornament v obliki štirilista, pri čemer zgornji rob nad njim dodatno zaključuje bordura z deteljčastim ornamentom. Zanimivo je, da segajo določeni deli prizora tudi preko naslikanega okvirja (npr. trobente, streha gradu, okrasje na pokrivalih ...) in tako iluzorno vdirajo v prostor gledalca. V zgornjem pasu so velike figure upodobljene v dveh planih. Sprednjega, ki predstavlja vsebinsko bistvo poslikave celotne stene in ga zavzemajo glavni protagonisti prizora (Herod in trije kralji), in tistega v drugem planu, kjer je upodobljeno kraljevo spremstvo. Vsi konji so okrašeni, kraljevski še nekoliko bolj, in so naslikani precej realistično, večinoma iz profila, nekateri celo od zadaj. Na skrajni levi je naslikana arhitektura, ki predstavlja grad oz. mesto Jeruzalem v obliki stolpa z manjšim prizidkom v pritličju in balkonom, na katerem je ženska figura. Na obzidanem mostu stoji od zadaj upodobljen rdečkast konj, na katerem sedi Herod s krono na glavi in podaja desno roko prvemu kralju, ki se ozira nazaj proti njemu – očitno se poslavljata. Kralj, ki je najmlajši od treh, kar označujeta nežen izraz in golobradost, je oblečen v zeleno obleko in odet v vihrajče rumenkasto ogrinjalo. Obe oblačili sta bogato posuti s šabloniranim vzorcem. Jaha belega konja, okrašenega s kraguljčki, ki je v očitnem poskoku. Mladi kralj v levici dviga svoj dar, gotski ciborij. Drugi kralj je srednji tudi po starosti, saj brado že ima, vendar še ni siva kot pri najstarejšem. Jaha svetlo rjavega konja, ki z elegantno dvignjeno sprednjo nogo nakazuje gibanje. Z eno roko ga drži za uzdo, z drugo, prav tako kot mlajši kralj, dviga v zrak svoj ciborij. Tudi on je bogato oblečen: čez zeleno srajco nosi z vzorci okrašeno rjavo tuniko z izjemno dolgima rokavoma, ki vihrata za njim. Tretji kralj, upodobljen s sivo brado in lasmi, jaha belega konja in po sonožno dvignjenih sprednjih nogah sodeč, je tudi ta v teku. Kralj drži v levi roki ciborij, z desno drži uzdo. Sprevod jezdecev prekinja velika poškodba na poslikavah, ki je posledica kasneje vzdanega okna, tako da je prizor *Poklona kraljev* skoraj popolnoma uničen. Na skrajno desni strani stene je na prestolu, bogato okrašenem z rastlinskimi ornamentami, upodobljena Marija z Jezusom v naročju. Odeta je v dolg svetel plašč, ki je pod vratom spet s sponko, na glavi ima krono, v levici drži jabolko, z desnico podpira Jezusa. Jezus ima okoli boka ovito belo blago, levo roko steguje proti Mariji, desna je obrnjena proti kraljem, vendar poškodovana, tako da geste ne moremo razbrati. V ozadju za njim vidimo le delček Jožefa, ki v roki drži sodček s pipico, za prestolom je do zgornjega roba slike segajoča arhitektura z leseno dvokapno streho in majhnim strešnim okencem. V zatrepu je delno vidna okrogla odprtina ali vrh polkrožno zaključene vhoda, ki ga zakriva podoba Marije. Hiša je ob strani podaljšana v odprt hlevček z leseno pultno strešico, v katerem sta bel osliček in rjav vol.

V zadnjem planu zgornjega pasu sta med Herodom in najmlajšim kraljem upodobljena dva konjenika, eden trobi v dolgo trobento. Med najmlajšim in srednjim kraljem sta naslikana še dva konjenika. Levi nosi prapor in se skupaj s konjem ozira nazaj k mlajšemu kralju, drugi trobi v trobento. Desno od konja je upodobitev gradu z okroglim stolpom. Med drugim in tretjim kraljem so upodobljene štiri osebe iz spremstva ter zanimiva veduta na dveh gričih

stoječih gradov (slika 4). Oseba na desni tik ob srednjem kralju, ki ima širok bel ovratnik, se ozira nazaj proti srednjemu kralju. Sledi ji konjenik v zeleni obleki in z visokim pokrivalom, ki je s svojim belim konjem upodobljen s hrbta. Tako konj kot konjenik sta z glavami ozrta v nasprotno smer od gibanja ostalih figur, s svojo pozo pa v sprevedu ustvarjata nekakšno vrzel, v katero je na vrhu umeščena že omenjena veduta. Desno pod njo sta še dve osebi, ki sedita na ne prav razumljivo razvrščenih konjih. Ena od oseb ima potemnel obraz, z eno roko drži trobento, v katero trobi, v drugi drži sulico. Desno od nje je vrinjena še ena figura, ki zre v nebo in je postavljena nekoliko nižje, tako da ni jasno, ali morda stoji, ali sedi na nenavadno zasukanem vijoličastem konju, ki ga delno vidimo pod konjem kralja in je z zadnjima nogama zagotovo obrnjen tako, da hodi v nasprotno smer od spreveda. Razumevanje prizora na tem mestu dodatno otežuje večja poškodba na mestu kraljeve desnice. Desno od najstarejšega kralja je naslikan še en konjenik z zelenim pokrivalom, ki zagotovo ni bil zadnji, a je na tem mestu prizor uničen.

Pas žanrskih figur

Figure v srednjem pasu se sprehajajo po zelenem travniku in so posvetni, žanrski spremljevalci kraljevskega pohoda. Nekatero izmed njih so naslikane v manjšem formatu in v monokromni (enobarvni) tehniki. Tik ob jeruzalemskem obzidju stoji v levo obrnjen manjši mož s temnim pokrivalom, ki v eni roki nekaj drži, z drugo s prstom sega k nosu, kot da bi nekaj vonjal. Sledi dvorni norček, okrašen s kraguljčki, ki v rokah drži gorjačo, pod katero je monokromno naslikan manjši človek, ki ima v rokah tudi nekaj gorjači podobnega. Naslednji je lovec s sulico in plenom čez ramo (manjša bela žival), na njegovi desni sedi zelo majhen, monokromno naslikan medved s sulico (slika 5). Sledi mož v dolgem razkoraku, ki ima belo ogrinjalo in izredno kratke hlače – morda jih sploh nima. Ozira se nazaj in v rokah drži povodec nedoločljive, v monokromatskih tonih naslikane živali. Naslednji v povorki je bradati mož z gorjačo, s katero bo morda udaril po goli zadnjici moža pred sabo. Ta se namreč povsem brez hlač pripogiba naprej, v roki pa drži veliko kuhalnico. Pred njim teče bel pes, ki se ozira nazaj in možu očitno kaže jezik. Desno od nagajivega psa hodi mož v temni obleki, ki z eno roko drži svoje pokrivalo, za pasom ima velik nož, čez ramo nosi na gorjačo obešeno belo culo. Spredaj poskakuje bel pes, ki se vzpenja proti kotlu, ki ga pred njim na dolgi kuhalnici čez ramo nosi kuhar z velikim nožem za pasom. Desno od kuharja je na tleh bel lev (oz. levinja, saj nima grive) za katero se je po pregledu z UV-lučjo izkazalo, da v tacah drži miško. Desno od živali je ohranjen le spodnji del osebe v beli halji, ki je edina bosonoga in ima za pasom pripet možnjček in v rokah nosi košaro. Pozoren opazovalec bo v košari videl velikega raka, kar verjetno pojasni, zakaj je oseba brez obutve – v vodi je lovila rake (slika 6). S tem prizorom se pas posvetnih figur konča, saj se začne prizor *Poklona*. Pod njim je bila v travi naslikana le še neka manjša štirinožna žival z dolgim repom in belim trebuhom, morda lisica ali podlasica.

Fikijski pas

Na spodnjem delu stene je naslikan še tretji pas s figurami, ki se od zgornjih dveh razlikuje, saj se odvija v določljivem okolju. Prevladuje visoka trava, med katero vidimo rastline z dolgimi in nazobčanimi listi (morda regrat ali praprot), rastline z rdečimi okroglimi cvetovi in take z rdečimi in belimi cvetovi. V desnem delu poslikave, pod današnjim oknom, se travnik spremeni v gozd, kjer so vitka debela s čopastimi krošnjami na vrhu sicer enako visoka kot travne bilke, ampak po obliki ni dvoma, da gre za drevesa. Pas se na levi začne z lovcom s sulico na rami, ki trobi v lovski rog in poziva na lov velikega psa, ki pred sabo podi še večjega zajca. Sledi mož, ki ima čez ramo naslonjeno palico, s katere visi ptica, ki ima tako dvignjeno glavo, da se zdi, da je še živa. Na tem mestu je poslikava v spodnjem delu poškodovana, tako da figuram manjkajo noge. Sprevod se nadaljuje s plešastim možakom s potemnelim obrazom, ki pije iz čutare in ima pred seboj na povodcu psa, ki se zaganja v veliko ptico z dolgim kljunom – klavzarja. Desno od tega je upodobljen prizor divjega moža v boju z medvedom. V kožuh oblečen in bosonog možakar vihti nad glavo gorjačo, s katero bo udaril na zadnjih tacah in zadnjici slonečega medveda z odprtim gobcem (slika 7). Zadnji lovski prizor predstavlja lovca z razkrečenimi nogami, ki s sulico napada divjo svinjo, pri čemer mu pomaga pes. Divjo svinjo jasno prepoznamo po rilcu, parkljih in značilno uvitem repku. Zadnji del pasu zapolnjujeta dva prizora iz basni. V

¹⁵ Za opozorilo na to basen se zahvaljujem konservatoriki-restavratorki Nevi Pološki.



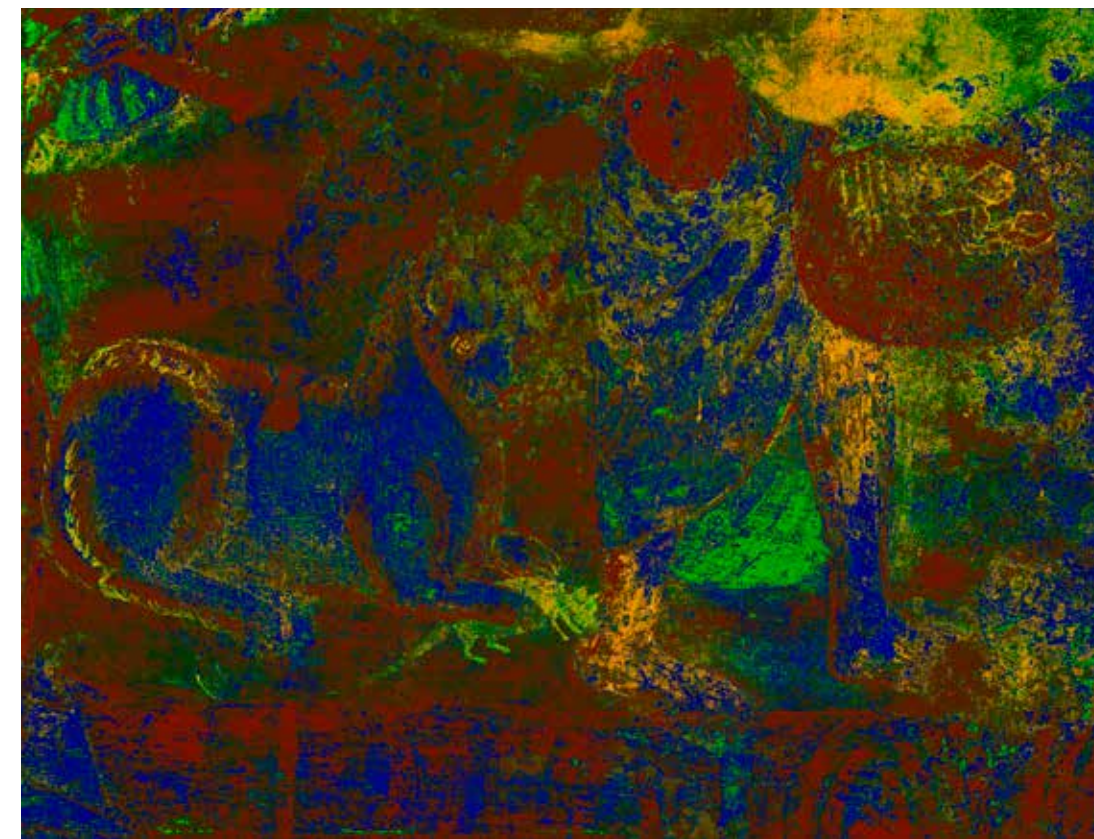
Slika 4: Zgornji pas severne stene: detajl tretjega, najstarejšega kralja s spremstvom. Levo od kralja podoba trobentača in v ozadju veduta gradu, pod kraljem lovsko spremstvo in kuhar (foto: Marta Bensa, 2017).

Fig. 4: The upper sequence on the north wall: close-up of the third, oldest king with entourage. To the left of the king stands a trumpeter, with a castle visible in the background; below the king, a hunting party and a cook are depicted (photo: Marta Bensa, 2017).



Slika 5: Srednji pas severne stene: detajl medveda s sulico, naslikanega v monokromni tehniki (foto: Marta Bensa, 2017).

Fig. 5: Central sequence on the north wall: close-up of the bear with spear, painted in monochrome (photo: Marta Bensa, 2017).



Slika 6: Detajl leva z miško in košare z rakom pod UV-svetlobo (foto in obdelava: Andrej Hirci, 2021).

Fig. 6: Close-up of the lion and mouse and a basket with a crab under UV light (photo and processing: Andrej Hirci, 2021).



Slika 7: Spodnji pas severne stene: divji mož v boju z medvedom (foto: Marta Bensa, 2017).
Fig. 7: The lower sequence on the north wall: a wild man fighting a bear (photo: Marta Bensa, 2017).

prvem, ki se dogaja sredi gozda, vidimo pelikana, ki s svojo krvjo hrani mladiča v gnezdu, za njim je prizor iz basni o lisici in žerjavu (ali štoklji), ki se ponovno dogaja med visoko travo, na njem pa med botricama vidimo nizko mizo s krožnikom, tremi hlebci kruha in z vrčem z dolgim vratom, v katerega ptica vtika svoj vitki kljun.

Poslikave južne stene

Na južni steni ladje so poslikave ohranjene v manjšem obsegu, saj so bile v preteklosti močno poškodovane. V dveh vodoravnih pasovih so kronološko razporejeni prizori *Kristusovega pasijona*. V poslikavo so bila na zanimiv način vključena tudi tri gotska okenca (eno od njih je bilo kasneje v baroku predelano in povečano), saj se poslikava nemoteno nadaljuje v okenske špalete, kakor da zaloma stene ne bi bilo. Na prizorih prevladujejo nevtralna ozadja s ploskovito prostorsko formulacijo, ločujejo jih podobni tribarvni okvirji kot na severni steni. Zgodba se začne na desni strani v zgornjem pasu, kjer lahko pričakujemo prizor *Kristusa primejo*, ki je, razen zgornjega desnega vogala, v katerem je naslikana obzidana arhitektura s stolpi in del Kristusovega nimba, večinoma uničen. Prizor je segal do sredine gotskega okna, tako da se je poslikava nadaljevala v njegovo desno špaletu, medtem ko je leva že rezervirana za naslednji prizor *Kristus pred Pilatom*. V špaleti sta naslikana bradat mož z mečem in vojak v oklepu, preostali prizor je ohranjen le v spodnjem delu. Sledi *Bičanje*, ki je v zgornjem delu uničeno, še najbolj je ohranjen Herod v desnem ostenju naslednjega gotskega okna.¹⁶ V levi špaleti istega okna se poslikava nadaljuje s prizorom *Kronanje s trnjem*, ki je precej bolje ohranjen, tako da vidimo trpečega Kristusa do višine vratu. Zgodba se nadaljuje s prizorom *Kristus nosi križ*, od katerega je ohranjen le fragment na skrajni desni z nekaj gledalci in delčkom križa v spodnjem vogalu. Ta prizor je segal tudi v špaletu tretjega gotskega okna, ki je bilo kasneje večinoma uničeno zaradi vgradnje večjega okna. Delno se je ohranila leva špaleta okna in z njo tudi delček poslikave prizora *Kristusa pribijejo na križ*, ki se nadaljuje proti levi. Nad tem prizorom se v zgornjem levem kotu kaže spodnja plast starejšega ometa, ki je prav tako

¹⁶ HÖFLER 1997, str. 29.



Slika 8: Južna stena, prizor *Noli me tangere* z veduto manjše cerkvice z zvončnico levo zgoraj (foto: Andrej Jazbec, 2023).
Fig. 8: South wall, *Noli me tangere* scene; there is a small church with a bellcote at the top left (photo: Andrej Jazbec, 2023).

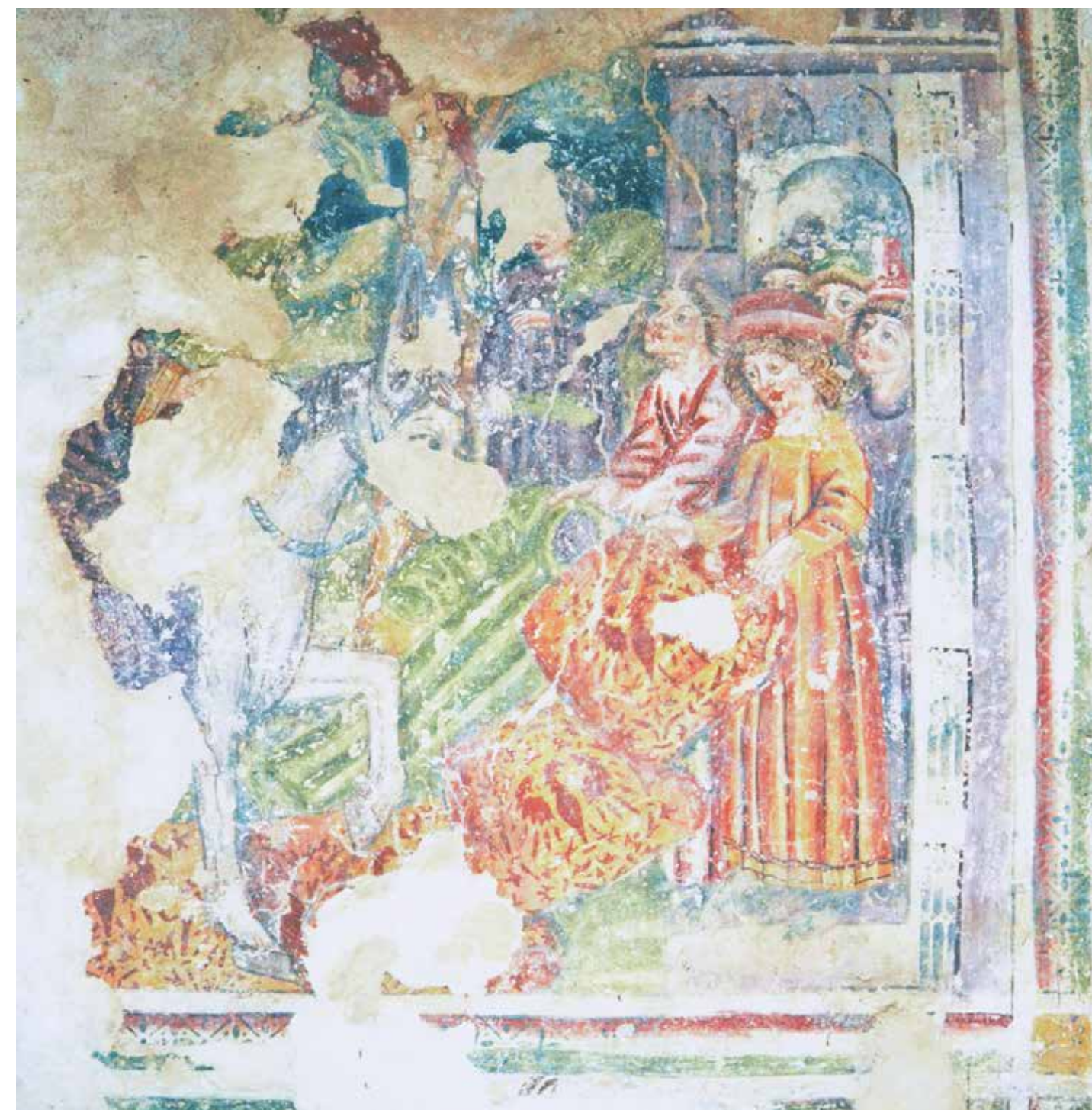
poslikan, vendar je fragment premajhen, da bi lahko njegovo vsebino bolje določili. Zadnji prizor v zgornjem pasu je skoraj v celoti ohranjen *Križanje* z Marijo in Janezom Evangelistom, nato zgodba preide v spodnji pas in se nadaljuje s *Snemanjem s križa* in nadaljuje proti desni s prizorom *Polaganje v grob*, od katerega je ohranjen le fragment z delom sarkofaga in s Kristusovimi nogami. Sledi prizor *Kristus v predpeklju* z zanimivo podobo na tleh klečečega hudiča, ki se poražen ozira proti Kristusu nad njim, desno je skupina duš, ki se očitno veseli svoje rešitve. Prizor ima večjo poškodbo v zgornjem delu, tako da manjka celoten zgornji del Kristusovega telesa. Sledijo trije zelo dobro ohranjeni prizori. Prvi je *Vstajenje*, kjer vidimo speče stražarje in Jezusa, ki z vstajenskim praporom v levi roki in z blagoslavljajočo desnico zmagoslavno stopa iz kamnitega sarkofaga, zadaj stoji angel v beli obleki in z rokami, prekrizanimi na prsih. V naslednjem prizoru *Žene ob grobu* je na obrazih žena videti bolj veselje in pričakovanje kot strah in začudenje. Ob ženah stoji mladenič, ki jim, sodeč po iztegnjeni roki, nekaj razlaga. Gre za angela, ki jim oznanja, da je njihov Gospod vstal (Mr 16, 1.5). Naslednji prizor je *Noli me tangere* (Ne dotikaj se me) – prizor, ko se Jezus prikaže Mariji Magdaleni. V ozadju za Jezusovo glavo je naslikana manjša cerkva z za Kras in Istro značilno zvončnico, podobno, kot jo ima tudi cerkev sv. Helene (slika 8). Zadnji od ohranjenih prizorov je *Vnebohod*, na katerem se vidijo le fragmentarno ohranjene postave Jezusovih učencev, ki gledajo v nebo, ostalo je uničeno. Na skrajno desnem prizoru je ohranjen le fragment naslikanega okvirja, vendar bi na tem mestu lahko pričakovali *Binkošti*.

Poslikave zahodne in vzhodne stene

Na zahodni steni je večina fresk uničenih, kar je posledica pozneje vzidanega portala. Ohranjena sta fragment poslikave v levem kotu in večji del prizora *Vhod v Jeruzalem* v nasprotnem vogalu desno od vrat, kjer vidimo shematsko prikazano veduto mesta z vhodnimi vrati in ljudstvo, ki čaka Jezusa (slika 9). V ospredju gruče ena oseba po tleh pogrinja zeleno oblačilo in druga blago, okrašeno s šabloniranim vzorcem, po katerem ponosno stopa bel osliček. Na vzhodni steni so ohranjeni le manjši fragmenti poslikav v vogalih, saj je bil preostanek uničen z gradnjo večjega prezbiterija s širšim slavolokom. Na tem mestu je bilo po vsej verjetnosti naslikano *Oznanjenje*.

Literatura in viri / References

- BANDMANN 1979: Bandmann, Günter, *Mittelalterliche Architektur als Bedeutungsträger*, Berlin 1979.
- GARDINA 2006: Gardina, Edvilijo, Poklon treh kraljev Krasu, *Kras: revija o Krasu in krasu, o ljudeh in njihovem ustvarjanju*, 76, 2006, str. 29–34.
- HAMMER 2010: Hammer, Ivo, Materialität der Zeichen. Wandmalerei in Florenz, str. 1-16, predavanje z dne 5. 5. 2010, Spletni vir / Online source (dostop / cited on 13. 3. 2024): <https://www.yumpu.com/de/document/read/5848547/vortrag-materialitat-der-zeichen-1-kunstgeschichte>.
- HÖFLER 1997: Höfler, Janez, *Srednjeveške freske v Sloveniji, II. knjiga, Primorska*, Ljubljana 1997.
- HÖFLER 2004: Höfler, Janez, *Srednjeveške freske v Sloveniji, IV. knjiga, Vzhodna Slovenija*, Ljubljana 2004.
- MEGYEŠI 2021: Megyeši, Peter, The drinking servant in depictions of the Adoration of the Magi, *The Burlington magazine*, 163, 2021, str. 344–351.
- ROZMAN 1964: Rozman, Ksenija, Stensko slikarstvo od 15. do srede 17. stoletja na Slovenskem. Problem prostora (doktorska disertacija / doctoral thesis, Univerza v Ljubljani), Ljubljana 1964.
- STELE 1935: Stele, France, *Monumenta artis Slovenicae I, Srednjeveško stensko slikarstvo*, Ljubljana 1935.
- STELE 1969: Stele, France, *Slikarstvo v Sloveniji od 12. do 16. stoletja*, Ljubljana 1969.
- STELE 1972: Stele, France, *Gotsko stensko slikarstvo*, (izredna knjiga zbirke Ars Sloveniae), Ljubljana 1972.
- ZADNIKAR, ŠUBIC 1952: Zadnikar, Marijan, Šubic, Mirko, Odkrivanje stenskih slik v Hrastovlju, *Varstvo spomenikov*, 4, 1952, str. 18–26.



Slika 9: Zahodna stena, prizor *Vhod v Jeruzalem* (foto: Andrej Jazbec, 2023).
Fig. 9: West wall, the *Entry into Jerusalem* scene (photo: Andrej Jazbec, 2023).

FROM KING TO COOK – A DESCRIPTION OF THE WALL PAINTINGS

Minka Osojnik, Ajda Mladenović

Slovenia boasts a rich treasure trove of well-preserved Gothic wall paintings.¹ Their concentration is surprisingly high in the Municipality of Divača, where they are preserved on a relatively small territory in five different churches: in Gradišče pri Divači, Famlje, Naklo, Dolenja vas and Vremški Britof, representing a diverse compendium of the spiritual and artistic expression of the Gothic era. In this essay we will take a close look at the paintings in the church of St Helen in Gradišče, and draw attention to many details that can be seen by the keen observer.

The role of wall paintings in medieval architectural interiors

Paintings have adorned the premises where faithful gather to celebrate mass ever since early Christian times. Colour and pictorial decoration are an important part of architecture, as they contribute to its overall understanding. As the Austrian conservator-restorer Ivo Hammer wrote, it is the painting that lends a space its final appearance: 'Wall paintings are an important part of the overall design of both profane and sacred spaces because they express the artistic, historical, spiritual and cultural contexts of different periods and geographical areas through material substance.'² Wall paintings are closely connected with the architectural structure. They highlight the sublime and transcendent character of the church building, blurring the boundary between real and illusory space and creating an overall pictorial impression. Their iconographic programme, subordinated to a unified idea, contributes to defining architectural space by highlighting its tectonic parts and illustrating its functions through symbolic images. The church building is believed to depict the Kingdom of God, the heavenly Jerusalem or the Garden of Eden, with different elements having precise meanings. Architecture thus represents the earthly world as a reflection of the invisible world and helps the observer lift their spirit from the visible to the invisible.³ In architecture, paintings are decoration that complements or even transforms the appearance of a space, as painting subordinates architecture to its own world and dematerialises it.⁴ Paintings can replace actual architectural elements and play the role of tectonic constructive principles (changing the colour of surfaces, imitating stone and highlighting architectural elements), while painted ribs, bosses, cornices and other elements serve to create a seemingly more complex architecture, making it more precious and helping to clearly structure the space. In Slovenia, one of the best examples of an almost perfectly preserved painted interior is the church of the Holy Trinity in Hrastovlje. The paintings date back to 1490 and are a remarkable example of a colour-coordinated ornamental system. All the interior surfaces are painted (predominantly dark grey, dark red, dark purple, green and yellow) and even the original stone floor was red in colour (Fig. 1).⁵ The general impression of colour is particularly important when dealing with more complex painted spaces, where the whole space prevails over the details and speaks to us in its own stylistically appropriate language.

In Slovenia, Gothic era wall paintings are to be found in simple, mostly flat-ceilinged, single-nave churches with polygonal, rib-vaulted sanctuaries within which a sophisticated iconographic programme of paintings developed. Although not strictly defined, it corresponded to the functions of the individual parts of the building, interpreting them symbolically and increasing in intensity from the entrance to the central focus in the sanctuary. At a time when the vast majority of the population was illiterate and the liturgy was conducted in a language incomprehensible to ordinary people, the paintings were like an illustrated Gospel. Their purpose was to bring the Bible closer to the simple, uneducated faithful. The positioning of the paintings within the church was therefore carefully considered, as it had to be based on the symbolic meanings of the different parts of the building and on the church's importance

¹ These architectural monuments in Slovenia date from the early 13th century with the beginnings of the Gothic era until its end, which lasted long into the 16th century, before finally fading away with new Renaissance initiatives.

² HAMMER 2010, p. 2.

³ BANDMANN 1979, 66s.

⁴ ROZMAN 1964, p. III.

⁵ ZADNIKAR, ŠUBIC 1952, pp. 18–26.

as a spiritual organism. The paintings were conceived to gradually direct the worshipper's attention towards the most sacred area – the sanctuary, which represented the 'celestial section' of the building, while the nave was the 'terrestrial section'.

The first Slovenian conservator, France Stele, laid the foundations for research into medieval wall painting in Slovenia and introduced the terms 'Carniolan sanctuary' and 'Slovenian Gothic succursal church' into Slovenian art history, using them to explain how medieval church interiors were painted, as we shall see below.⁶ The most elaborate systems of paintings are those on the rich Gothic ribbed vaults of sanctuaries, where an extended iconographic programme became commonplace, featuring *Christ in Glory* or *Christ as Judge* surrounded by the symbols of the evangelists, the four Latin Church Fathers, saints and angels with symbols of torture (*Arma Christi*), musical instruments or bands bearing inscriptions.⁷ The sanctuary walls usually carry depictions of the mediators and witnesses of the faith – the apostles and saints, and legendary or evangelical scenes, while the bottom section usually features a painted decorative curtain imitating precious brocade (Fig. 2). In addition to the content and figural elements, the decorative features are also important (the painted ribs reinforce the dynamic tension and give a sense of upward movement while the painted niches optically deepen the wall to give the effect of an ambulatory, as in the great Gothic cathedrals), and the iconological concept and the painted architecture achieve a maximum effect.⁸

The sanctuary is iconographically connected with the sanctuary arch, which represents the solemn doorway to this holiest space and emphasises the boundary between the faithful and the altar area. The outer (nave) side of the arch is usually adorned with the *Annunciation* or the *Offerings of Cain and Abel*, but also scenes such as *St George slaying the dragon*, the *Wise and Foolish Virgins* or the *Last Judgement*, which are not strictly tied to the outer or inner (sanctuary) side of the arch (Fig. 3). The narrow part of the arch itself bears the prophets or Christ's ancestors although there is no mandatory iconographic scheme here either. On the walls of the nave, narrative cycles unfold with stories from the lives of Jesus, Mary and the saints. The north wall is usually reserved for a large composition featuring the *Journey and Adoration of the Magi*, while the programme for the south wall is not strictly defined. It often has paintings of scenes from the Virgin Mary's life or legends connected with the saints, arranged in several horizontal sequences. According to Byzantine tradition, the *Last Judgement* can appear on the west wall, and it can also be moved to the inner or outer side of the sanctuary arch or even to the entrance façade.⁹ Churches were often painted on the outside, but these paintings are rarely preserved, and unfortunately none have been preserved in the Municipality of Divača.

The paintings in the church of St Helen

The paintings in the church of St Helen in Gradišče follow a standard iconographic scheme, typical of a Gothic succursal church. Due to the reconstruction of the sanctuary, only the paintings in the nave have survived, but we can be almost certain that the original altar area also had paintings. During the years when the International Summer School for the Conservation-Restoration of Wall Paintings was held in Gradišče, the paintings were studied in detail. The techniques and the original materials used were identified, a record was made of all the damage that had been done, and some parts of the paintings were cleaned and consolidated during the conservation-restoration process. In the course of the investigations, the paintings also disclosed many details that could not be properly seen before.

⁶ For more on iconographic schemes in succursal churches see STELE 1935; STELE 1969; STELE 1972.

⁷ The Gothic vault stretches over the altar like a canopy, with Christ depicted at the centre, while his words are passed down via the evangelists to the apostles on the walls, which form the church pillars. STELE 1969, 46ss.

⁸ STELE 1969, p. 38s; STELE 1972, p. XXXIV, XXIX. In Slovenia, the oldest preserved example of a completely painted choir area is in the church in Breg ob Kokri (dated ca. 1401–20).

⁹ STELE 1972, p. XXXII, XXXIV. Examples where all the walls of the nave and sanctuary are completely covered in paintings are particularly rare. In addition to Hrastovlje, there are also the churches in Muljava and Bodešče near Bled, and the chapel in Turjak Castle. STELE 1969, p. 20.

Some details that had hitherto been covered by layers of whitewash became visible and an examination using UV light revealed some curiosities that are invisible to the naked eye. Although there were a few descriptions of the paintings in professional literature,¹⁰ a detailed iconographic study of the scenes in the church of St Helen has not yet been carried out. Unfortunately, the scope of such a study exceeds the bounds of this publication. The following lines give a detailed description of the paintings, which the Summer School participants were able to discover during the weeks of work in the church. They provide a good basis and perhaps even a stimulus for further iconographic studies. To help the reader understand the descriptions of the paintings, this book's cover features photographs of the north and south walls of the nave.

The paintings on the north wall

As already mentioned, the wall paintings in the church of St Helen are depicted in the nave. The *Journey and Adoration of the Magi* has been preserved on the north wall and the *Passion of Christ* on the south wall, while only fragments are preserved on the west wall and the sanctuary arch.

The paintings on the north wall are divided into three horizontal sequences. The upper sequence presents the main motif, the *Journey and Adoration of the Magi*, showing them leaving Herod on the left to humbly offering their gifts before the throne with Mary and Jesus on the far right. The sequence below them features accompanying figures with genre elements (secular motifs), while the bottom sequence depicts fables (fictional scenes). The central motif is therefore complemented by a wealth of mundane motifs, humorous hunting scenes, 'little people' dressed in contemporary clothing, anecdotal animal motifs, legends and fables. This is how the art historian Edvilijo Gardina described the north wall in Gradišče: 'Few medieval churches in Slovenia have so many refined members of the court nobility, precious clothes, pure-bred horses moving with all the elegance and harmony of trained Lipizzaners, beautiful furnishings and subnarratives.'¹¹ The painter's narration and imagination reach such a high level that it seems as if the scene was just a good excuse to paint everything else he could think of. As Stele has already written, the paintings in Gradišče are an ultimate example of a chivalric motif being turned into a popular one.¹² The otherwise solemn scene of the *Journey and Adoration of the Magi* has been livened up and enriched with various accompanying secular figures, which are crucial for dating such journeys¹³ and also offer a wealth of hidden meanings and morals. We will only mention two here – the black man drinking from a flask and the lion holding a mouse in its paws.

The accompanying figures, including the black man drinking from a flask, are already standard figures that appear in the Journey in this period. It is a genre element with an additional theological dimension, as the Magi travelled to Bethlehem to fetch the water of eternal grace brought to humanity by Christ's birth, while the accompanying figure who is drinking suggests a thirst for earthly water. The contrast between earthly and celestial water is highlighted in the paintings by the accompanying figures thirstily sipping earthly water, unaware of the adoration of the Magi, and they are often depicted in caricature form or with black skin.¹⁴ It cannot be said with full certainty that the figure in Gradišče represents a black man, as this part of the painting may have changed colour, but given the analogies found in Journeys painted at a similar time, it is very probable. The depiction of a lion holding a mouse in its paws is an enduring lesson from Aesop's Fables, one that is still relevant today. The lion takes pity on a mouse, which it found

¹⁰ HÖFLER 1997, pp. 89–91.

¹¹ GARDINA 2006, p. 32.

¹² STELE 1969, p. 181.

¹³ We differentiate between two types of Journey – the older traditional scheme from the 14th century, where the Magi are shown on the journey and in adoration (two are still riding, while the third is kneeling before the Virgin Mary), and the younger iconographic Journey, which became established in the middle of the 15th century, where all three Magi are on the journey at the same time, and then all of them are in adoration together (such as the one in Gradišče). HÖFLER 2004, pp. 117–119.

¹⁴ MEGYEŠI 2021, pp. 344–351.

crawling on its fur and spares its life. On another occasion, the grateful mouse repays the favour by rescuing the lion from a hunter's net by gnawing through it to set the lion free. The fable speaks of cooperation and kindness.¹⁵

The Journey of the Magi sequence

Let's take a closer look at the scene of the Journey and Adoration. The painter showed skill in painting the figures, which have typically prominent eyes and cheekbones, convincing volume and accurate proportions. Their positioning is also particularly varied, especially in the Journey scene. As is typical of medieval art, the proportions of the depicted figures are also completely unrealistic: the important figures are larger, while the accompanying figures are smaller. Thus, the Magi and their entourage are much larger than the figures in the lower two sequences, while Mary on the throne is like a giant in comparison. The equestrian scene on the north wall is set in a landscape of hills and buildings, while the lower sequence has a grassy landscape with flowers. Both are surrounded by a single frame consisting of a tricolour ribbon with stencilled quatrefoils, the upper edge of which has a border with a cloverleaf ornament. Interestingly, certain parts of the scene extend beyond the painted frame (e.g. the trumpets, the roof of the castle, the decorations on the headdresses, etc.) and thus illusorily invade the viewer's space.

In the upper sequence, the large figures are depicted on two planes – the foreground, which presents the main content of the entire wall painting and features the main protagonists (Herod and the Magi), and the background where the royal entourage is depicted. All the horses are decorated – the ones ridden by the Magi having more decorations – and are painted quite realistically, mostly in profile, some even from behind. On the far left there is a building representing a castle or the city of Jerusalem in the form of a tower with a small extension on the ground level, and a balcony on which there is a female figure. On the walled bridge stands a reddish horse, seen from behind, with Herod riding it. He is wearing a crown and extending his right hand to the first king, who is looking back towards him – they are obviously saying goodbye. The king who is the youngest of the three – shown by his gentle look and the absence of a beard – is dressed in a green robe and has a billowing yellowish cape. Both garments feature intricate stencilled patterns, adding to their richness and elegance. He is riding a white horse, adorned with bells, which appears to be leaping. The young king is holding up his gift – a Gothic ciborium – in his left hand. The second king is also the second oldest, as he already has a beard, but it is not yet grey like that of the oldest king. He is riding a light brown horse, whose elegantly raised front leg indicates movement. He is holding the bridle with one hand, and like the younger king, he is raising his ciborium in the air with his other hand. He is also lavishly dressed: over a green shirt he is wearing a brown tunic with an intricate pattern and very long sleeves that are billowing behind him. The third king, depicted with a grey beard and hair, is riding a white horse. Judging by the fact that both front legs are raised, it is also galloping ahead. The king holds a ciborium in his left hand and the bridle in his right. The cavalcade is interrupted by extensive damage to the paintings caused by a window that was installed later. As a result the scene of the Adoration of the Magi is almost completely destroyed. On the far right of the wall, Mary is seated on a throne adorned with intricate floral decorations, holding Jesus in her arms. She is wearing a long, light-coloured cloak, with a clasp below her neck, a crown on her head, an apple in her left hand, and supporting Jesus with her right hand. Jesus has a white cloth wrapped around his waist, his left hand is stretched out towards Mary, his right hand is turned towards the kings, but it is damaged so we cannot make out its gesture. Behind him, we can make out a fragment of St Joseph holding a small barrel with a tap. Behind the throne a building with a wooden gabled roof and small dormer window reaches up to the top edge of the painting. A round opening or the semi-circular top of an entrance is partially visible in the gable, obscured by the depiction of the Virgin Mary. The house extends to the side to form an open stable with a wooden roof extension, containing a white donkey and a brown ox.

In the background of the upper sequence, two horsemen are depicted between Herod and the youngest king, and

¹⁵ I would like to thank the conservator-restorer Neva Pološki for drawing my attention to this fable.

one of them is blowing a long trumpet (trombone). Two other horsemen are also depicted between the two younger kings. The left one is carrying a banner and is looking back at the youngest king, together with his horse. Meanwhile, the other horseman is blowing his trumpet. To the right of the horse there is a castle with a round tower. Between the second and third kings, four members of the entourage are depicted, as well as an interesting view of two castles standing on two hills (Fig. 4). The person on the right, next to the middle king and wearing a wide white collar, is looking back towards him. He is followed by a horseman dressed in green and wearing a tall headdress. Both the man and his white horse are depicted viewed from the back and their heads are facing in the opposite direction to the movement of the other figures. Their pose creates a kind of gap in the procession, which is filled by the aforementioned hilltop castles. To the right of this person, two more people are on horseback but the positions of the horses are not very clear. One of the persons has a darkened face, is holding a trumpet in one hand (and blowing it) and a spear in the other. To the right of this person and a little lower, another figure is looking up at the sky but it is unclear if they are standing or sitting on an unusually contorted purple horse, which is partly visible behind the king's horse and whose hind legs are turned in such a way that it is walking in the opposite direction to the procession. Understanding this scene is further complicated by damage to the painting around the King's right arm. To the right of the oldest king there is another horseman with a green headdress, and he was certainly not the last one, but from here onwards the sequence is destroyed.

The sequence of genre figures

The figures in the central sequence are walking through a green meadow and are the secular, genre companions of the Journey of the Magi. Some of them are painted in a smaller format and in monochrome. Just outside the walls of Jerusalem, a small man wearing a dark headdress is standing facing left. He is holding something in one hand and reaching up to his nose with the other, as if smelling something. Then there is a court jester, adorned with bells and holding a cudgel below which there is a small monochrome painting of a man who is also holding something like a cudgel. The next in line is a hunter with a spear and his kill over his shoulder (a small white animal). To his right sits a very small, monochrome bear with a spear (Fig. 5). Then comes a man making a long stride. He is wearing a white cape and extremely short trousers – perhaps he is not even wearing any trousers at all. He is looking back and holding an indefinable, monochrome animal on a leash. Next in the procession is a bearded man with a cudgel, which he might use to hit the naked bottom of the man in front of him who is bending forward, without any trousers, holding a large wooden spoon. A white dog runs in front of him, looking back and apparently sticking its tongue out at the man. Ahead of the mischievous dog walks a man in a dark suit, holding his hat with one hand, a large knife at his waist, and a white bundle hanging from a stick slung over his shoulder. A white dog is leaping in front of him, trying to reach the cauldron being carried by a cook on a long wooden spoon slung over his shoulder. The cook also has a large knife at his waist. On the floor, to the right of the cook, there is a white lion (or lioness, as it has no mane). An examination with UV-light found that it is holding a mouse in its paws. To the right of the lion, only the lower part of a person in a white robe has been preserved. They are the only bare-legged person in the procession, who has a small purse attached to their waist and is carrying a basket. A careful observer will see a large crayfish in the basket, which probably explains why the person has no shoes on – they were fishing for crayfish in the water (Fig. 6). This scene brings the sequence of secular figures to an end and the Adoration scene begins. Below this figure a small four-legged animal (perhaps a fox or a weasel) with a long tail and a white belly was depicted in the grass.

The fictional sequence

The lower part of the wall features a third sequence of figures. It differs from the two upper sequences in that it takes place in a definable environment. Tall grass predominates, and we can see plants with long and serrated leaves (perhaps dandelion or fern), plants with red round flowers and also plants with red and white flowers. In the right-hand part of the painting, below the present window, the meadow turns into a forest in which the slender trunks with tufted

canopies are as tall as the blades of grass, but their shape leaves no doubt that they are trees. The sequence starts on the left with a hunter who is carrying a spear on his shoulder and sounding his hunting horn to summon his big dog to join the hunt. The dog is chasing an even bigger hare in front of him. The next figure in the sequence is a man carrying a stick on his shoulder. A bird is hanging from the stick with its head raised so that it appears to be still alive. Here the painting's lower part is damaged, so the figures are missing their legs. The procession continues with a bald man who has a darkened face and is drinking from a flask. He is holding a dog on a leash and the dog is chasing a large bird with a long beak – a northern bald ibis. To the right of the bird we can see a wild man fighting a bear. The fur-clad, bare-footed man is swinging a cudgel above his head with which he will strike an open-mouthed bear resting on its hind paws and behind (Fig. 7). The last hunting scene shows a hunter standing with his legs spread wide apart, attacking a wild boar with a spear, and being assisted by a dog. We can clearly tell it is a wild boar by its snout, hooves and distinctive curled tail. The sequence ends with two scenes from fables. In the first one, set in the middle of the forest, we can see a pelican feeding two chicks in a nest with its blood, followed by a scene from the fable of the fox and the crane (or stork). The latter is again set in tall grass with a low table set between the two figures. On the table rests a plate, three loaves of bread, and a jug with a long neck, into which the bird is sticking its slender beak.

The paintings on the south wall

The paintings on the south wall of the nave are less well preserved, as they were badly damaged in the past. The scenes depicting the *Passion of Christ* appear chronologically in two horizontal sequences. The three Gothic windows (one of which was rebuilt and enlarged in the Baroque period) were also incorporated into the painting in an interesting way. The painting continues seamlessly into the window jambs, as if there was no interruption in the wall. The scenes mainly have neutral backgrounds with a flat spatial composition, and are separated by tricolour borders similar to those on the north wall. The story begins on the right side in the upper sequence, where we can expect to see the scene of the *Arrest of Christ*. However, with the exception of the upper right-hand corner, where the fortified building with towers and part of Christ's halo are painted, it is mostly destroyed. The scene once reached to the middle of the Gothic window, so that the painting continued into its right jamb, while the left jamb is reserved for the next scene, *Christ before Pilate*. In the jamb there is a bearded man with a sword and a soldier in armour. The rest of the scene has only been preserved in the lower part. The *Flagellation* follows, although its upper section is destroyed. Herod is the best preserved figure in the right jamb of the next Gothic window.¹⁶ In the left jamb of the same window, the painting continues with the *Crowning with Thorns* scene, which is much better preserved, so we can see the suffering Christ up to neck height. The story continues with the scene of *Christ Carrying the Cross*. However, only a fragment on the far right with some spectators, and a small piece of the cross in the lower corner have survived. This scene also extended into the jamb of the third Gothic window, which was later largely destroyed to make way for the larger window. The left jamb of the old window has partially been preserved, together with part of the *Christ is Nailed to the Cross* scene, which continues towards the left. Above this scene, in the upper left-hand corner, the lower layer of an older painted plaster can be seen, but the fragment is too small for it to be possible to determine its content. The last scene in the upper sequence is the almost entirely preserved *Crucifixion* with Mary and John the Evangelist, then the story moves to the lower sequence and continues with the *Descent from the Cross* and continues towards the right with the *Entombment of Christ*. Only a fragment of this scene – part of the sarcophagus and Christ's feet – is preserved. This is followed by the scene of *Christ in Limbo*, with an interesting depiction of the devil kneeling on the ground, looking towards Christ above him with an air of defeat. To the right a group of souls is apparently rejoicing at their salvation. The upper portion of the scene is severely damaged so the whole upper part of Christ's body is missing. The following three scenes are very well preserved. The first one is the *Resurrection*, in which we can see the sleeping guards and

¹⁶ HÖFLER 1997, p. 29.

Jesus triumphantly stepping out of the stone sarcophagus with a banner in his left hand and his right hand raised in blessing. An angel in a white robe is standing behind him, his arms crossed on his chest. In the next scene, the *Three Marys at the Tomb*, the look on the women's faces is one of joy and anticipation rather than fear and astonishment. A young man is standing next to the women, and judging by his outstretched hand he is explaining something to them. It is an angel telling them that their Lord is risen (Mr 16:1-5). The next scene is *Noli me tangere* (Don't touch me) – the scene in which Jesus appears to Mary Magdalene. In the background, behind Jesus' head, there is a small church with a bellcote typical of the Karst and Istria, similar to that of the church of St Helen (Fig. 8). The last of the surviving scenes is the *Ascension*, but we can only see fragments of Jesus' disciples looking up at the sky; the rest is destroyed. Only a fragment of the painted border survives in the rightmost scene, but it could be where the *Pentecost* scene was once depicted.

The paintings on the east and west walls

Most of the frescoes on the west wall were destroyed when the portal was installed. A fragment of the painting has been preserved in the left corner and most of the *Entry to Jerusalem* scene in the opposite corner, right of the door, where we can see a schematic view of the city with the city gates and the people waiting for Jesus (Fig. 9). At the front of the crowd, a person is laying down a green piece of clothing on the ground, and another figure is laying down some other fabric, decorated with a stencilled pattern over which the white donkey is proudly stepping. On the east wall, only small fragments of paintings have been preserved in the corners. The rest was destroyed when the larger sanctuary was built with a wider arch. It is most likely that the *Annunciation* was depicted on this wall.

ANALIZE MATERIALOV, MIKROKLIMATSKIH POGOJEV IN UČINKOVITOSTI KONSERVATORSKO-RESTAVRATORSKIH POSEGOV

Katja Kavkler

Uvod

V podružnični cerkvi sv. Helene na Gradišču pri Divači in na njeni zunanjsčini so bile izvedene številne analize, ki so obsegale identifikacijo prvotnih in kasneje dodanih materialov, ugotavljanje obsega razgradnje materialov, spremljanje konservatorsko-restavratorskih posegov (predvsem čiščenja in utrjevanja) in spremljanje mikroklimatskih pogojev v cerkvi.

Prvi vzorec je bil v cerkvi odvzet že leta 2001, ko so na severni steni ladje opazili obsežno razrast alg. Poročilo o teh analizah se žal ni ohranilo. V letu 2003 je bilo odvzetih še 22 vzorcev, ki so bili delno analizirani do leta 2010. V letih 2004 in 2005 so bili merjeni tudi mikroklimatski pogoji v cerkvi.

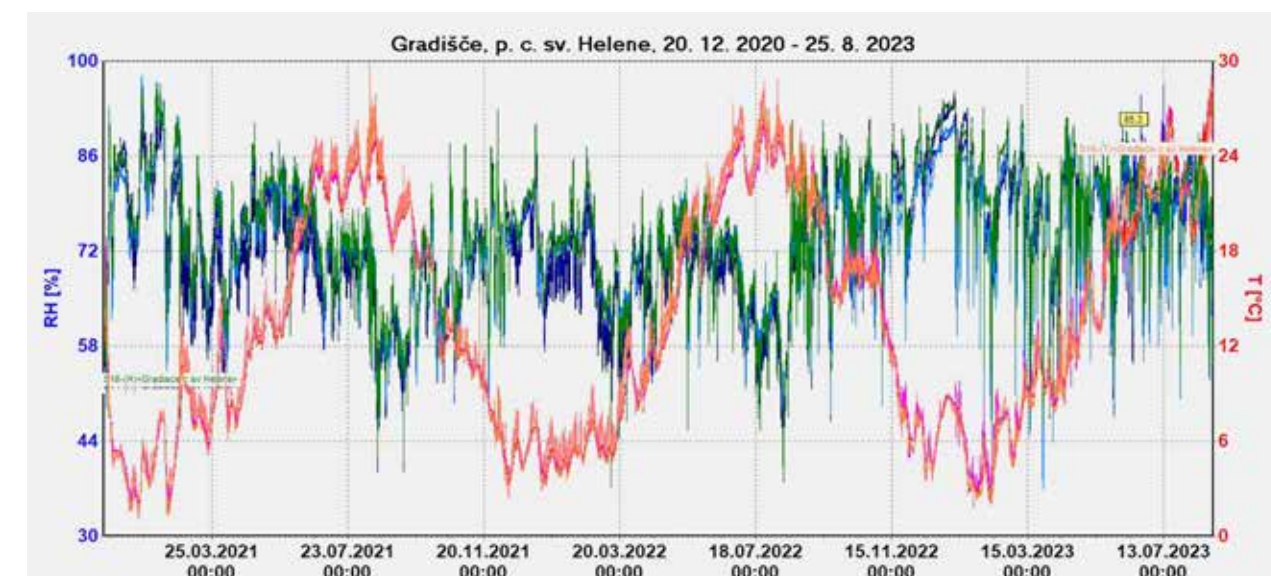
Pravi zagon je raziskovalno delo v cerkvi dobilo ob začetku Poletne šole leta 2021. V času trajanja šole je bilo odvzetih še 24 vzorcev, izvedene so bile analize tudi na izbranih, predhodno odvzetih vzorcih, predvsem zaradi zmanjšanja obsega vzorčenja, delno tudi zaradi primerjav stanja. Poleg analiz na odvzetih vzorcih so bile na poslikavi izvedene tudi neinvazivne analize z ramanskim spektrometrom, s katerimi smo spremljali predvsem učinkovitost postopkov čiščenja in utrjevanja poslikave. Poleg materialnih analiz smo več let spremljali tudi mikroklimatske pogoje v cerkvi.

Rezultati analiz z interpretacijo

Monitoring mikroklimatike

Monitoring mikroklimatskih pogojev smo izvajali s sistemom Telehum, ki meri temperaturo in relativno vlažnost (RH) zraka, od decembra 2020 do avgusta 2023. Merilniki so bili postavljeni na vse štiri strani cerkve: na oltarju (vzhod), v zazidani okenski niši (jug), v posodi za blagoslovljeno vodo (zahod) in na steni nad poslikavo (sever). Meritve smo izvajali vsakih 15 minut (slika 1).

Temperature so se v obdobju spremljanja spreminjale zaradi vplivov letnih časov: pozimi so se temperature približale



Slika 1: Graf mikroklimatskih pogojev v cerkvi v merjenem obdobju. Rdeči in oranžni spektri prikazujejo temperaturo ter modri in zeleni relativno vlažnost (foto: Katja Kavkler, 2023).

Fig. 1: Graph of microclimatic conditions in the church during the measured period. The red and orange spectra show temperature, the blue and green spectra are for relative humidity (photo: Katja Kavkler, 2023).

0 °C, a se niso nikdar spustile pod ledišče, poleti so se približale 30 °C. Južna stena se je segrevala bolj kot ostale, tudi dnevna nihanja so bila tam večja (do 2 °C) kot na ostalih stenah (manj kot 0,5 °C).

Relativna vlažnost zraka (RH) v cerkvi je bila dokaj velika: približno 85 % časa je presegala mejo 65 %. Večino časa je ostala v območju do 90 %, občasno se je približala 100 %, a jih nikdar ni dosegla. V prvih dveh letih smo opazili znižanje RH v cerkvi čez poletje in ponovno zvišanje jeseni. Poletje 2023 je bilo bolj vlažno, zato ni prišlo do izrazitega znižanja RH v cerkvi.

Pogosta so bila izrazita dnevna nihanja RH, kar pripisujemo spreminjanju temperatur v prostoru na dnevni ravni in zračenju (odpiranju vhodnih vrat) cerkve ob suhih dneh. Vaščani skrbijo za cerkev, senčijo okna in v toplih dneh odpirajo vrata, da se notranjost cerkve suši. S tem varujejo poslikave, saj svetloba in visoka RH škodujeta barvnim slojem in ometom.

Visoka RH in njeno nihanje v cerkvi sta skrb vzbujajoča, saj lahko pospešita razgradnjo materialov, tako zaradi rasti mikroorganizmov, predvsem gliv, kot tudi zaradi izsoljevanja, ki lahko povzroči mehanske poškodbe površinskih slojev.

Analize materialov in produktov razgradnje

Materiale, ki sestavljajo poslikavo, smo analizirali neinvazivno, s prenosnim ramanskim spektrometrom, s katerim smo identificirali pigmente in soli, ter invazivno, na vzorcih, odvzetih z različnih področij ostenja. Nekaj vzorcev je bilo odvzetih tudi z malt, ometov in bioloških struktur na ostenjih. Iz odvzetih vzorcev smo pripravili obruse, da smo lahko opazovali prečne preseke vzorcev z optičnim in vrstičnim elektronskim mikroskopom. S prvim smo opazovali razporeditev in debeline slojev, medtem ko smo z drugim identificirali elementno sestavo izbranih področij. Prav tako smo na obrusih izvedli ramansko spektroskopsko analizo, s katero smo identificirali pigmente in soli v prečnem



Slika 2: Fotografija prečnega preseka vzorca zelene obleke moškega z instrumentom s severne stene v vidni svetlobi (desno, 200-kratna povečava, številke označujejo različne sloje). Na levi fotografiji je označena lokacija vzorčenja na temnejši gubi oblačila moškega z instrumentom (foto: Katja Kavkler, 2024).

Fig. 2: Photograph of a cross-section of a sample of the green dress of the man with an instrument from the north wall in visible light (right, 200x magnification, numbers indicate different layers). On the left photograph, the sampling location is marked on the darker fold of the man's garment with the instrument (photo: Katja Kavkler, 2024).

preseku. Infrardečo spektroskopijo smo izvajali na surovih vzorcih, predvsem kjer nas je zanimala prisotnost organskih materialov.

Pri vseh analizah smo želeli pridobiti čim več informacij o uporabljenih materialih, predvsem prvotnih, a tudi tistih, ki so bili uporabljeni v preteklih konservatorsko-restavratorskih posegih. Prav tako nas je zanimala prisotnost soli in morebitnih drugih produktov razgradnje.

Pred začetkom konservatorsko-restavratorskih posegov smo na severni in južni steni izvedli neinvazivno ramansko analizo različnih področij poslikave, s katero smo identificirali pigmente in polnila: rumene in rdeče okre, zeleno zemljo, ogljikovo črno, magnetit in kremen. Ob izvajanju analiz se je izkazalo, da so na številnih mestih poleg namerno vnesenih materialov prisotne tudi vodotopne soli, predvsem sadra (kalcijev sulfat dihidrat, $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$), na nekaterih mestih tudi nitrati (NO_3^-). Prisotni so tudi drugi produkti razgradnje, predvsem oksalati (soli oksalne kisline, ki je lahko posledica razgradnje organskih snovi ali okužbe z mikroorganizmi, najdemo jo tudi v zraku)¹, ki niso škodljivi za poslikavo, saj niso vodotopni (uporabljajo se tudi kot utrjevalci stenskih poslikav).

Podrobnejšo analizo pigmentov, polnil in produktov razgradnje smo izvedli na več kot 40 mikrovzorcih, ki smo jih odvzeli s poslikave. Na odvzetih vzorcih (npr. GDC 5 in 6) opazimo rdeč sloj, domnevno podsljakavo, za katero so bili uporabljeni železo-oksidi pigmenti (slika 2). Podoben sloj opazimo tudi v vzorcu GDC 3, kjer je pod njim sloj črne. Zeleni pigment je zelena zemlja. Čeprav je ponekod zelena barva intenzivnejša (GDC 33) kot na drugih lokacijah in smo domnevali, da bi lahko bil prisoten tudi malahit, analize te domneve niso potrdile. Gre zgolj za večjo koncentracijo zelenega pigmenta v barvnem sloju z dodatkom drugih zemeljskih pigmentov. V poslikavi sta uporabljena dva rdeča pigmenta: rdeči zemeljski pigment (mineral hematit, železov oksid, ki ga kot pigment poznamo pod izrazi rdeči oker ali žgana siena) in cinober (živosrebrev sulfid). Slednji je prisoten predvsem v površinskih slojih (GDC 39), kot poudarek preko osnove iz (cenejšega) zemeljskega pigmenta. Rumeni pigmenti so izključno zemeljski (mineral goethit, železov oksihidroksid, ki ga poznamo pod izrazi rumeni oker ali naravna siena). Modrih pigmentov v poslikavi nismo opazili. Na videz modre površine so ustvarjene z uporabo ogljikovega črnega pigmenta ali belih pigmentov, ki z mojstrskim kombiniranjem komplementarnih odtenkov ustvarijo videz modre površine.

V vzorcih GDC 3 in 4 smo s spektrometrom FTIR opazili prisotnost proteinov. Z imunofluorescenčno mikroskopijo (IFM) smo potrdili, da gre za ovalbumin oz. jajčni beljak. Iz rezultatov ni razvidno, ali gre za prvoten material ali za kasnejši vnos (utrjevalca) med preteklimi konservatorsko-restavratorskimi posegi.

V letih 2021 do 2023 so bili vzorci odvzeti ciljno, z namenom identifikacije svojevrstnih značilnosti posameznih območij in učinkovitosti konservatorsko-restavratorskih posegov. Tako smo na severni steni vzorčili premaza, vidna na nosu moškega s piščaljo (GDC 28) in zadnji levi nogi rjavega konja (GDC 29). V prvem so prisotni karboksilati, produkt razgradnje organskih materialov, ki vsebujejo karboksilne kisline (voski, smole ali olja). Pri drugem se je izkazalo, da gre za vosek. Domnevno je premaz prisoten tudi na klobuku moškega s piščaljo (GDC 32), vendar na tem vzorcu nismo opazili prisotnosti organskih materialov, temveč zgolj sadro, ki se je nabrala na površini vzorca.

Med organskimi materiali izstopa tudi material z izrazito oranžno fluorescenco v UV-svetlobi, ki se pojavlja kot vezivo črnih slojev (GDC 34). Fluorescenca je vidna tako na ostenju kot tudi pod mikroskopom (slika 3). Takšna fluorescenca je značilna za šelak. Z infrardečo spektroskopijo nismo mogli identificirati vrste organskega materiala.

Analize učinkovitosti konservatorsko-restavratorskih posegov

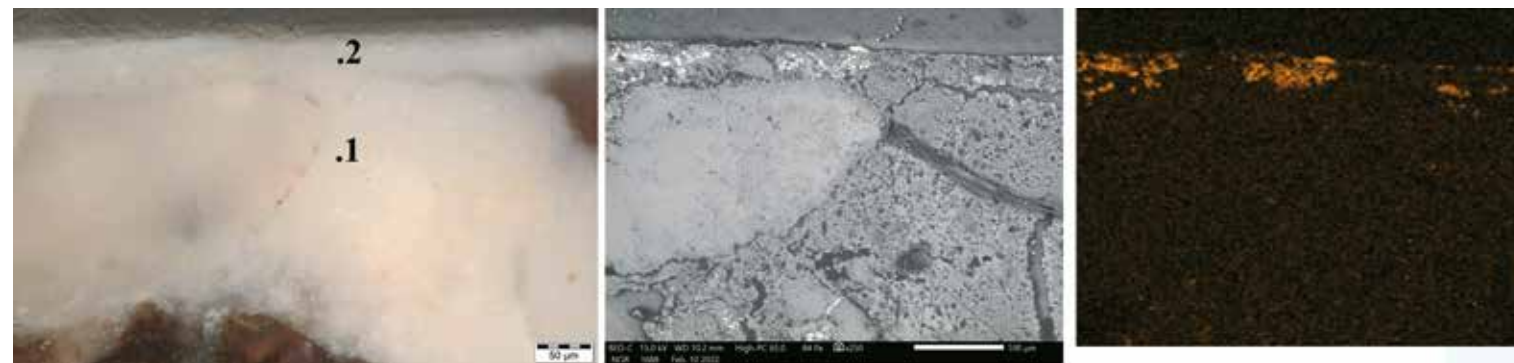
Nekaj vzorcev smo odvzeli s področij testov čiščenja in utrjevanja, da bi preverili učinkovitost posegov ne le na površini, temveč tudi v globini. Na beli borduri prizora *Vstajenja* na južni steni smo primerjalno analizirali tri področja. Prvo (GDC 36) je bilo očiščeno le z destilirano vodo, drugo (GDC 37) je bilo utrjeno z barijevim hidroksidom (BaOH), medtem ko je bilo tretje (GDC 38) po obravnavi z BaOH utrjevano še z amonijevim bikarbonatom v pulpi. Vzorce

¹ RAMPAZZI 2019, str. 195–214.



Slika 3: Fotografiji prečnega preseka vzorca črne barvne ploskve z oranžno fluorescenco z okna na zahodni steni v vidni (sredina, 200-kratna povečava) in UV-svetlobi (desno, 500-kratna povečava), kjer je viden material z oranžno fluorescenco. Na levi fotografiji je označena lokacija vzorčenja (foto: Katja Kavkler, 2021).

Fig. 3: Photographs of a cross-section of a black coloured window with orange fluorescence from the west wall in visible (centre, 200x magnification) and UV light (right, 500x magnification), showing the orange fluorescent material. The left photo shows the sampling location (photo: Katja Kavkler, 2021).



Slika 4: Mikrofotografija z BaOH utrjenega vzorca v vidni svetlobi z optičnim mikroskopom (levo, 200-kratna povečava), ista lokacija z vrstičnim elektronskim mikroskopom (sredina, 250-kratna povečava) in mapiranje elementa barija na analiziranem področju, kjer se vidi njegova prisotnost v površini poslikave (dolžina oznake je 100 μm ; foto: Katja Kavkler, 2022).

Fig. 4: Visible light microphotograph of a BaOH consolidated sample with an optical microscope (left, 200x magnification), the same location with a scanning electron microscope (centre, 250x magnification) and mapping of the barium element in the analysed area, where its presence in the surface of the painting is visible (the length of the mark is 100 μm ; photo: Katja Kavkler, 2022).



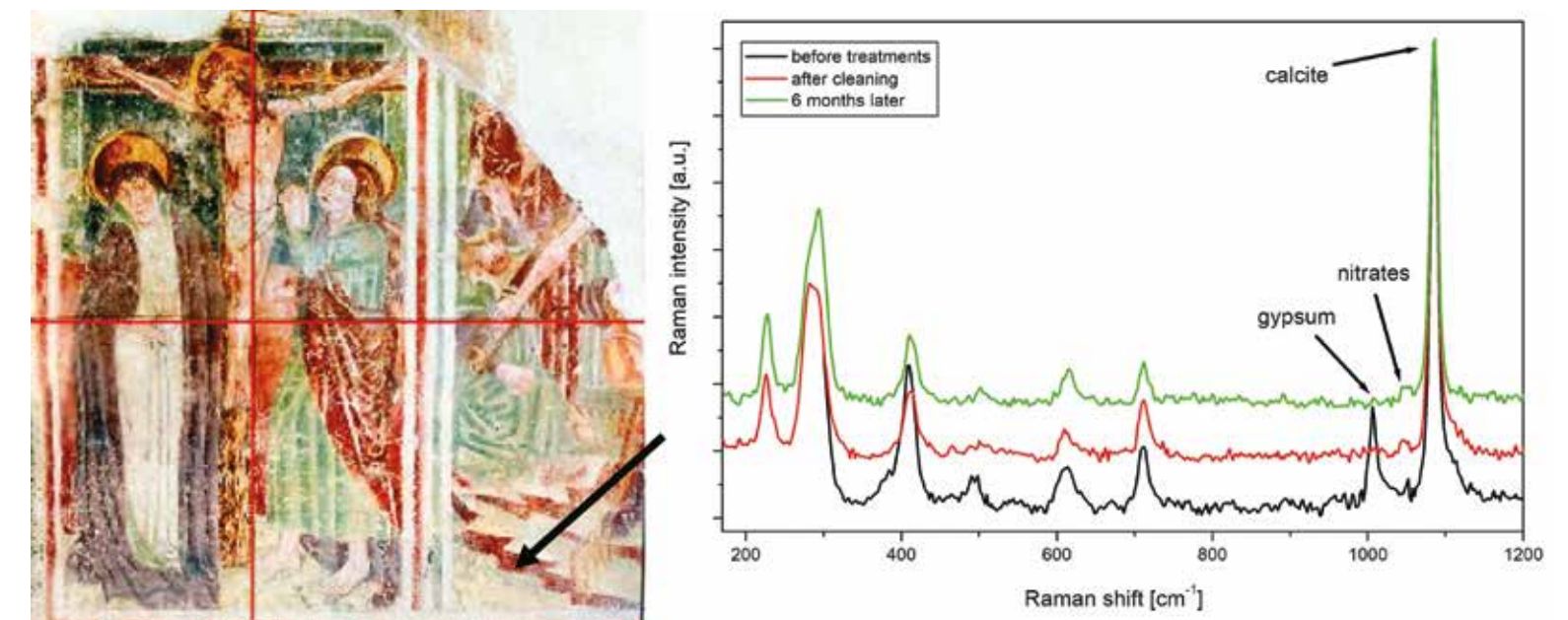
Slika 5: Mikrofotografija vzorca z inkrustacijo na površini v UV-svetlobi (levo, 200-kratna povečava), označene točke vzorčenja na izbranem območju preseka (sredina, 500-kratna povečava) in ramanski spektri, ki ustrezajo posameznim točkam (desno). Vidimo, da je na površini prisotna le sadra, njen delež se z globino zmanjšuje, medtem ko v posameznih analiziranih točkah opazimo tudi prisotnost nitratov (foto: Katja Kavkler, 2022).

Figure 5: Microphotograph of the sample with encrustation on the surface under UV light (left, 200x magnification), the marked sampling points in the selected cross-sectional area (centre, 500x magnification) and the Raman spectra corresponding to each point (right). It can be seen that only gypsum is present on the surface, its amount decreases with depth and the presence of nitrates is also noticed in the individual points analysed (photo: Katja Kavkler, 2022).

smo preiskali z ramanskim in infrardečim spektrometrom ter z vrstičnim elektronskim mikroskopom. V površinsko očiščenem vzorcu nismo opazili prisotnosti sadre, enako velja za utrjevanje z BaOH, medtem ko je po obravnavi s pulpo na površini poslikave sadra prisotna. Na površino je lahko prišla med posegom zaradi kapilarnega vleka ali je bila prisotna že prej in med posegom ni bila očiščena. Ker soli niso enakomerno razporejene po površini in pred posegom ni bil odvzet vzorec na istem mestu, je interpretacija otežena. Opazovali smo tudi prisotnost produktov utrjevanja. Ugotovili smo, da je v globini prisoten barijev karbonat in na površini barijev sulfat. Utrjevalec je prodrl v globino nekaj μm , razen na področju poškodb, kjer je globina nekaj čez 100 μm (slika 4).

Med konservatorsko-restavratorskimi posegi so se pojavila dodatna vprašanja in težave. Po zaključenem postopku čiščenja smo na severni steni v bližini motiva lisice opazili bel poprhr. Analiza poprha (GDC 44) in vzorca slikovnih slojev (GDC 46) je pokazala, da gre za soli (sadro), ki so domnevno med posegom s kapilarnim vlekem prišle na površino. Soli so bile tudi v solnih skorjah na oblacilu moškega na levi strani severne stene (za jezdec, GDC 45). S postopki čiščenja jih ni bilo mogoče odstraniti. Točkovna analiza po preseku dveh vzorcev (GDC 45 in 46) je pokazala, da je sadra prisotna na površini, njen delež glede na kalcit se z globino zmanjšuje in izgine v globini 60 do 150 μm . Razporeditev nitratov je bolj neenakomerna, prisotni so v posameznih analiziranih točkah (slika 5).

V okviru projekta smo neinvazivno z ramanskim spektrometrom spremljali tudi učinke konservatorsko-restavratorskih posegov na površini poslikave. Prve analize smo izvedli že pred začetkom posegov. Drugi sklop analiz je bil izveden junija 2022 po izvedenih testih čiščenja ter tretji februarja 2023 po zaključenem čiščenju in utrjevanju. Del analiz v tretjem sklopu je bil izveden na istih mestih kot v drugem sklopu, kar nam omogoča neposredno primerjavo rezultatov in s tem spremljanje učinkovitosti izvedenih posegov. Rezultati drugega sklopa analiz so pokazali, da je bilo površinsko čiščenje v večini primerov uspešno z vidika odstranjevanja sadre, vendar ne tudi nitratov. V nekaterih točkah je sadra še ostala na površini poslikave, občasno se je njen delež zmanjšal ob dodatnem spiranju z vodo. Primerjali smo dve



Slika 6: Spektri s prenosnim ramanskim spektrometrom pred posegi, po čiščenju in šest mesecev kasneje (desno) ter lokacija izvedene analize na vzhodnem delu južne stene (levo). Opazimo zmanjšanje deleža sadre na površini poslikave po čiščenju, pri čemer so nitrate ostali (foto: Katja Kavkler, 2023).

Fig. 6: Spectra with the portable Raman spectrometer before the treatment, after the cleaning, and six months later (right) and the location of the analysis carried out on the eastern part of the south wall (left). We can see a decrease in the amount of gypsum on the surface of the painting after cleaning, but the nitrates remained (photo: Katja Kavkler, 2023).

čistilni sredstvi: amonijev bikarbonat (ob dveh različnih časih nanosa) in anionske smole. Iz rezultatov sklepamo, da je najučinkovitejše sredstvo za odstranjevanje sadre amonijev bikarbonat ob 30-minutnem nanosu.

Analizirali smo tudi testne površine, kjer so bili na različnih mestih poslikave uporabljeni različni utrjevalci. Tudi pri tem nas je zanimala prisotnost soli, poleg teh tudi prisotnost utrjevalnih sredstev in njihovih produktov na površini poslikave. Po uporabi BaOH smo le redko opazili prisotnost sadre, in še to le v zelo majhnih količinah. Nasprotno smo na vzorčenih mestih opazili pogostejšo prisotnost nitratov. Barijev sulfat je le izjemoma prisoten na obravnavanih površinah, medtem ko barijev karbonat sploh ni. Drugače je bilo na površinah, kjer je bil za utrjevanje uporabljen amonijev oksalat. Tu je kalcijev oksalat, njegov kemični produkt, ki utrdi poslikavo, viden v vseh analiziranih točkah. V večini točk ne opazimo sadre, v nekoliko več točkah pa so prisotni nitrati (slika 6).

Zaključek

Na poslikavi v cerkvi sv. Helene smo izvedli številne invazivne in neinvazivne analize, da bi pridobili čim več informacij o uporabljenih materialih in njihovi razgradnji. Merili smo tudi mikroklimatske pogoje v cerkvi. Kombinacija izvedenih analiz je podala številne pomembne informacije, predvsem o materialih in stanju stenskih poslikav. Z neinvazivnimi in invazivnimi metodami smo spremljali tudi učinkovitost konservatorsko-restavratorskih posegov. Neinvazivne analize so se izkazale kot odlično sredstvo za spremljanje dogajanja na površini poslikave, saj lahko izvajamo analize večkrat v isti točki, pred posameznimi posegi in po njih, kar nam omogoča neposredno primerjavo in spremljanje učinkovitosti posegov. Kot nam je znano, so bile neinvazivne analize v tolikšnem obsegu in za te namene izvedene prvič na slovenskem ozemlju. S tem smo tudi zmanjšali potrebo po odvzemu vzorcev, ki je še vedno prisotna, saj nam omogoča vpogled v globino poslikave in nosilca, medtem ko so neinvazivne analize le površinske. Vse informacije smo sproti posredovali konservatorjem-restavratorjem na terenu, da so lažje sprejemali nadaljnje odločitve.

Literatura in viri / References

RAMPAZZI 2019: Rampazzi, Laura, Calcium oxalate films on works of art: A review, *Journal of Cultural Heritage*, 2019, 40, str. 195–214.

ANALYSES OF MATERIALS, MICROCLIMATIC CONDITIONS AND THE EFFECTIVENESS OF CONSERVATION-RESTORATION INTERVENTIONS

Katja Kavkler

Introduction

A number of analyses were carried out in the succursal church of St. Helen in Gradišče pri Divači and on its exterior, including the identification of the original and later added materials, the extent of the degradation of the materials, the monitoring of the conservation and restoration interventions (mainly cleaning and consolidation), and the monitoring of the microclimatic conditions in the church.

The first sample was taken in the church in 2001, when extensive algal growth was observed on the north wall of the nave. Unfortunately, no report of these analyses has been preserved. A further 22 samples were taken in 2003 which were partially analysed until 2010. In 2004 and 2005, the microclimatic conditions in the church were also measured. The research work in the church gained real momentum at the start of the Summer School in 2021. During the school, 24 more samples were taken and analyses were also carried out on selected previously taken samples, mainly to reduce the sampling, but also partly for the purpose of comparisons. In addition to the analyses on the samples taken, non-invasive Raman spectrometer analyses were also carried out on the wall painting, mainly to monitor the effectiveness of the cleaning and consolidation processes. In addition to the material analyses, the microclimatic conditions in the church were monitored over several years.

Results of analyses with interpretation

Microclimate monitoring

The microclimatic conditions were monitored using a Telehum system, which measures the temperature and relative humidity (RH) of the air, from December 2020 to August 2023. The dataloggers were placed on all four sides of the church: on the altar (east), in the walled window niche (south), in the blessed water basin (west), and on the wall above the wall painting (north). Measurements were carried out every 15 minutes (Fig.1).

Temperatures varied over the monitoring period due to seasonal influences: in winter, temperatures approached 0 °C, but never dropped below freezing, while in summer, they approached 30 °C. The southern wall warmed more than the others and the diurnal variations were greater there (up to 2 °C) than on the other walls (less than 0.5 °C).

The relative humidity in the church was quite high: about 85% of the time, it was above 65%. Most of the time it remained in the 90% range, occasionally approaching 100%, but never reaching it. In the first two years, we observed a decrease in RH in the church over the summer and an increase again in the autumn. However, the summer of 2023 was wetter, so there was no marked decrease in RH in the church.

Significant diurnal RH fluctuations were common, which we attribute to the variation of room temperatures on a daily basis and to the ventilation (opening of the front door) of the church on dry days. The villagers take care of the church, shading the windows and opening the doors on warm days to keep the interior dry. This protects the paintings, as light and high RH damage the paint layers and plaster.

The high RH and its fluctuations in the church are of concern because they can accelerate the decomposition of materials, both through the growth of microorganisms, especially fungi, and through salt efflorescence, which can cause mechanical damage to the surface layers.

Analyses of materials and degradation products

The materials that make up the painting were analysed non-invasively, using a portable Raman spectrometer to identify pigments and salts, and invasively, on samples taken from different areas of the walls. A few samples were also taken from mortar, plaster and biological structures on the walls. From the samples taken, cross-sections were prepared so that stratigraphy of the samples could be observed with an optical and a scanning electron microscope. The former was used to observe the distribution and thicknesses of the layers, while the latter was used to identify the

elemental composition of the selected areas. Raman spectroscopic analysis was also carried out on the cross-sections to identify pigments and salts. Infrared spectroscopy was carried out on the raw samples, particularly where we were interested in the presence of organic materials.

In all the analyses, we wanted to obtain as much information as possible about the materials used, especially the original ones, but also those used in previous conservation-restoration interventions. We were also interested in the presence of salts and other possible degradation products.

Before the conservation-restoration work began, a non-invasive Raman analysis was carried out on the north and south walls to identify the pigments and fillers: yellow and red ochres, green earth, carbon black, magnetite and quartz. The analyses showed that, in addition to the deliberately introduced materials, water-soluble salts were present in many places, mainly gypsum (calcium sulphate dihydrate, $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) and in some places nitrates (NO_3^-). Other degradation products were also present, notably oxalates (salts of oxalic acid, which may result from the decomposition of organic matter or from contamination by microorganisms or be also found in the air)¹, but which are not harmful to the painting as they are not water-soluble (they are also used as consolidants in wall paintings).

A more detailed analysis of pigments, fillers and degradation products was carried out on more than 40 microsamples taken from the painting. On the samples taken (e.g. GDC 5 and 6), a red layer can be noticed, presumably an underpainting for which iron oxide pigments were used (Fig. 2). A similar layer is also observed in sample GDC 3, where there is a layer of black underneath.

Green pigment is green earth. Although in some places the green colour is more intense (GDC 33) than in other locations and we hypothesised that malachite might also be present, the analyses did not confirm this hypothesis. It is simply a higher concentration of green pigment in the paint layer with the addition of other earth pigments. Two red pigments are used in the painting: a red earth pigment (the mineral haematite, an iron oxide known as a pigment under the terms red ochre or burnt sienna) and cinnabar (mercury sulphide), the latter being present mainly in the surface layers (GDC 39), as an accent over a base of (cheaper) earth pigment. The yellow pigments are exclusively earth pigments (the mineral goethite, iron oxyhydroxide, known under the terms yellow ochre or natural sienna). No blue pigments were found in the painting. The apparently blue surfaces are created by the use of carbon black pigments or white pigments which, by masterfully combining complementary shades, create the appearance of a blue surface.

In the samples of GDC 3 and 4, the presence of proteins was observed with an FTIR spectrometer. Immunofluorescence microscopy (IFM) confirmed the presence of ovalbumin or egg white. It is not clear from the results whether this is the original material or a later introduction (fixative) during previous conservation-restoration work.

Between 2021 and 2023, samples were taken for the purpose of identifying the specific characteristics of individual areas and the effectiveness of conservation-restoration interventions. For example, the coatings visible on the nose of the man with the flute (GDC 28) and on the left hind leg of the brown horse (GDC 29) were sampled on the north wall. The former contained carboxylates, a degradation product of organic materials containing carboxylic acids (waxes, resins or oils). The latter turned out to be wax. A coating is also presumed to be present on the hat of the man with the flute (GDC 32), but no organic material was observed on this sample, only gypsum concentrated on the surface of the sample.

Among the organic materials, the material with a distinct orange fluorescence under UV light, which appears as a binder of the black layers (GDC 34), stands out. The fluorescence is visible both on the walls and under the microscope (Fig. 3). Such fluorescence is characteristic of shellac. We were not able to identify the type of this organic material by infrared spectroscopy.

Analyses of the effectiveness of conservation-restoration interventions

Some samples were taken from the cleaning and consolidation test areas to check the effectiveness of the interventions not only at the surface but also at depth. Three areas were comparatively analysed on the white border of the *Resurrection* scene on the south wall. The first (GDC 36) was cleaned with distilled water only, the second (GDC 37) was consolidated with barium hydroxide (BaOH) and the third (GDC 38) was treated with ammonium bicarbonate in pulp after the BaOH treatment. The samples were examined by Raman and infrared spectrometry and by scanning electron microscopy. No gypsum was observed in the surface-cleaned sample, the same was true after the BaOH consolidation, while after the pulp treatment, gypsum was present on the surface of the painting. It may have been brought to the surface during the treatment due to capillary traction or it may have been present before and not cleaned during the treatment. As the salts are not evenly distributed over the surface and no sample was taken in the same place before the intervention, the interpretation is difficult. The presence of consolidation products was also observed. We found that barium carbonate was present at depth and barium sulphate at the surface. The consolidant penetrated to a depth of a few μm , except in the damaged areas, where the depth is just over 100 μm (Fig. 4).

During the conservation-restoration work, further questions and problems arose. After the cleaning process was completed, we noticed white dust on the north wall near the fox motif. Analysis of the dust (GDC 44) and a sample of the image layers (GDC 46) showed that it was salt (gypsum) which had presumably been brought to the surface by capillary traction during the process. Salts were also present in salt crusts on the garment of the man on the left side of the north wall (behind the horse, GDC 45). They could not be removed by cleaning procedures. Point analysis on cross-sections of two samples (GDC 45 and 46) showed that gypsum is present on the surface, its proportion relative to calcite decreases with depth and disappears at a depth of 60 to 150 μm . The distribution of nitrate is more uneven, being present in the individual points analysed (Fig. 5).

The project also monitored the effects of conservation-restoration interventions on the surface of the painting non-invasively using a Raman spectrometer. The first analyses were carried out before the start of the interventions. A second set of analyses was carried out in June 2022 after the cleaning tests had been carried out, and a third set in February 2023 after the cleaning and consolidation had been completed. Part of the analyses in the third set were carried out at the same sites as in the second set, which allows us to directly compare the results and thus monitor the effectiveness of the interventions carried out. The results of the second set of analyses showed that the surface treatment was successful in most cases in terms of removing gypsum, but not nitrates. At some points, gypsum still remained on the surface of the painting and occasionally its proportion was reduced by additional rinsing with water. Two cleaning agents were compared: ammonium bicarbonate (at two different application times) and anionic resins. The results show that ammonium bicarbonate is the most effective gypsum remover with a 30-minute application time.

We also analysed test surfaces where different consolidants were used on different areas of the painting. Here again, we were interested in the presence of salts and, in addition to these, the presence of consolidants and their products on the surface of the painting. After the application of BaOH, we rarely observed the presence of gypsum, and even then, only in very small quantities. On the contrary, the presence of nitrates was more frequent in the sampled sites. Barium sulphate is only exceptionally present on the treated surfaces, while barium carbonate is not present at all. This was not the case on surfaces where ammonium oxalate was used as a consolidant. Here, calcium oxalate, its chemical product which consolidates the painting, is visible in all the points analysed. No gypsum is observed in most points, but nitrates are present in a few points (Fig. 6).

¹ RAMPAZZI 2019, pp. 195-214.

Conclusion

A number of invasive and non-invasive analyses have been carried out on the painting of the church of St Helen to obtain as much information as possible about the materials used and their degradation. We also measured the microclimatic conditions in the church. The combination of analyses carried out provided a number of important pieces of information, especially on the materials and the condition of the wall paintings. We also monitored the effectiveness of conservation-restoration interventions using non-invasive and invasive methods. Non-invasive analyses have proven to be an excellent means of monitoring what is happening on the surface of the wall painting, as we can carry out analyses at the same point several times, before and after each intervention, allowing us to directly compare and monitor the effectiveness of the interventions. To our knowledge, this is the first time that non-invasive analyses have been carried out on this scale and for this purpose on Slovenian territory. This has also reduced the need to take samples, which is still present, as it gives us an insight into the depth of the painting and the support, whereas non-invasive analyses are only superficial. All information was shared with the conservator-restorers in the field on an ongoing basis to facilitate further decision-making.

PAINTING TECHNIQUE

Alberto Felici, Neva Pološki

Introduction

At St Helen's church in Gradišče pri Divači we are met with one of the most beautiful examples of late medieval wall paintings in Slovenia. The depicted cycle is attributed to the John of Kastav painting workshop and is dated around 1490. We feel both privileged and challenged while being immersed into some ancient time as we explore the process of its creation.

To analyse the technical characteristics of these paintings, we first examined them under direct, raking and UV light, and using a portable digital microscope. After this first general assessment we went further, first with non-invasive and then with invasive scientific investigations, to identify the pigments, organic binders and the composition of the plasters. This made it possible to gather much information, necessary for formulating a reasonable hypothesis on the techniques used. We concluded that these paintings were created using a mixed technique that could be defined as *mezzo fresco*.

Examination of the artwork

The masonry is made of local limestone, the main building material of the past in the Slovenian Karst. The stone blocks are visible primarily on the outside walls, which are now mostly bare (not covered with plaster), and they reveal the ashlar stone masonry with uniformly cut, square blocks of stone of relatively small dimensions. As the stones fit together well, the mortar joints are precise and quite thin. The overall thickness of the wall is approximately 80 cm.

Inside, the nave walls carry colourful and vivid paintings. Only a few small *lacunae* reveal the stone support, and although we would rather this damage did not exist, it is useful for investigating the plaster layers,¹ as the remaining *lacunae* in the church have been filled with plasters during previous conservation work. We could discern two seemingly different plasters. The bottom layer, applied directly to the stone, contains rather coarse aggregate grains. It is greyish in colour and approximately 1.5 cm thick. The next layer is thinner, approximately 0.5 cm, and lighter in colour, which suggests it is richer in binder (lime) and contains finer aggregate grains. The surface of the latter is fairly smooth, but not consistently, and the marks of trowel strokes indicate it was laid rather quickly. The wall surface is smooth but wavy as the plaster follows the irregularity of the stone support.

As we detected two plaster layers, we may characterize them as *arriccio* and *intonaco*, but in the left corner of the south wall we found one small fragment of an older Gothic painting. We don't know if this is only a fragment of an earlier painting or whether this earlier decoration was used as a preparatory layer for the present painting.² Instrumental analyses³ were carried out in 2022 to determine the composition of the original plasters, and only silicate was detected as an aggregate.⁴ The question arose whether the sample was taken from a spot with original layers or an old plaster infill because the naked eye assessment of *intonaco* gives the impression of a predominantly carbonate aggregate. Since the information on the composition of the plasters is based on a single sample, it cannot be considered sufficiently representative. More specific analyses would be needed in the future to clarify this point.

¹ We usually speak of several layers of plaster, especially when referring to wall paintings executed in the *a fresco* technique, i.e. on fresh, damp plaster. In this case the total plaster thickness is of great importance for keeping the *fresco* stable, as the carbonation of lime from the plaster mixture contributes to binding the pigments dispersed in water. A greater number of plaster layers enables a longer retention of moisture in the plaster, which is necessary for good carbonation. In *fresco* painting we often refer to the three main plaster layers – *rinzafo*, *arriccio* and *intonaco*, in the order of application on the wall. *Rinzafo* and *arriccio* are courser plasters whose main function (apart from ensuring the moisture needed for the carbonation of the *intonaco*) is to level out uneven wall surfaces. They are usually applied thickly. *Intonaco* is the last, thin, fine plaster layer that is painted on.

² It is possible that older plaster was missing in places and *arriccio* was partially applied to level out the surface of the new *intonaco*.

³ As the method is destructive, only one sample was analysed using optical microscopy of thin sections and Fourier transform infrared spectroscopy (FTIR). KAVKLER 2022, pp. 44-46.

⁴ KAVKLER 2022, pp. 44-46, 122.



Fig. 1: Joint of two *pontate* on the north wall; the overlap indicates the lower *pontata* was applied after the upper one (photo: Neva Pološki, 2024).

When they wanted to paint *a fresco*, painters applied *intonaco* on surfaces they estimated could be painted in one day while the plaster was still damp. The shape and size of the *giornate* depended on many factors. The one that most commonly influenced the decision was the subject of the painting, connected with the composition's level of difficulty and the master's painting skills.⁵ Layers of fresh *intonaco* could be divided into large horizontal bands known as *pontate*⁶ or into smaller *giornate*⁷ that usually divided the *pontate* into smaller sections. Only relatively large *pontate* were observed in St Helen's church, and they are symmetrical and rectangular in shape. There are seven *pontate* in total, three on the north wall and two on the south and west walls each. One can clearly see the difference in plasters from one *pontata* to another. Even the way they were laid differs and can be seen. The overlapping of plasters at the juncture point of two *pontate* informs us of the order of painting. The west wall and triumphal arch⁸ were painted first, followed by the north and south walls. The detected joints indicate that plaster was applied from top to bottom, as was the custom (Fig. 1). On the north wall, which bears the *Adoration of the Magi* scene, *intonaco* was first applied on the right, where we can see one King and the Virgin Mary with Child.⁹ A splendid cavalcade with the other two Kings goes from the left towards the Holy Family, and it is painted on the second *pontata*. At the bottom, where the fable scenes are painted, including a bear fighting an uncivilized man and Aesop's tale of the fox and the stork,¹⁰ the third *pontata* stretches along the whole wall (Fig. 2). The scenes from the *Passion of Christ* on the south wall are painted on two long *pontate*, the upper one followed by the lower one, coinciding with the division into registers. After the plaster was applied, the painters looked for ways to set up the scenes on the large wall surfaces. They would start by dividing the space into large segments and marking the scene frames, and only then would they mark details like halos and outlines of figures. In this manner they could see the effect of the whole cycle in the interior. This

⁵ Other factors could be related to the type of masonry, plaster thickness, aggregate grain size, ambient temperature and humidity.

⁶ *Pontata* (pl. *pontate*) – the term deriving from the Italian *ponto*, meaning bridge, connection, link etc., refers to a wide plastered area finished on the same scaffolding level.

⁷ *Giornata* (pl. *giornate*) – the term deriving from the Italian *giorno*, meaning day, refers to a layer of fresh plaster corresponding to the quantity a painter can paint in one day.

⁸ The paintings on the arch are not preserved. They were destroyed when the arch was widened and the walls of the nave elevated. The time of these interventions cannot be clearly established.

⁹ The depiction of St Joseph was destroyed when a new window was inserted. The time of this intervention is also not clear.

¹⁰ BISTROVIĆ 2011, p. 9.



Fig. 2: Graphic presentation of *pontate* on the N wall (image: Summer School archive, 2021).

helped them to divide their work, while also enabling them to make corrections that were not possible later on when painting on fresh plaster.¹¹ Different techniques were developed in the course of history. We encounter some that were frequently used in the art of wall painting, in St Helen's church. Painters used a snapped line to mark the boundaries of a scene.¹² The twisted imprint of a cord is visible where it was used when the plaster was still fresh. Sometimes they coloured the cord red before snapping it, so we can also notice a thin red line and small drops of splashed colour (Fig. 3). The south wall contains the inner green scene border – on wall paintings from the Kastav workshops,¹³ they are probably customary.¹⁴ Here and there they are marked by direct incisions, most likely made with a ruler. Direct incisions are also noticed on Christ's legs in the *Crucifixion* scene, and they are most often present on halos. Sharp incisions with pieces of plaster accumulated at the edges indicate that they were made directly on the fresh plaster (Fig. 4). In the first case the painters made incisions by hand with a sharp instrument, while the round halos were achieved with a compass. One can still distinguish the axis of rotation around which the compass turned. Direct incisions are also visible on the crowns of the Kings (Fig. 5), and the most elaborate example is found on the crown and halo of the Virgin Mary.

Pliant fresh plaster was also ideal for decorating scenes using the *punzonatura* technique, which implies impressing or stamping various patterns. The technique is typical of the Gothic period, when ornamentation was very complex and it was a way to make the paintings more valuable. For more sophisticated patterns that enrich the halos of the Child Jesus and the Virgin Mary (Fig. 6), the horse straps and one King's belt in this cycle, wooden and metal stamps were usually used. This technique was used in many countries at the time, especially in Italy where painters applied metal foils, such as gold. However, such decorations are rare in Slovenian wall paintings, and we did not find any

¹¹ KRIŽNAR 2006, p. 26.

¹² The technique of applying a straight line on plaster by stretching a length of cord, pulling it back and releasing it so that it snaps against the wall, leaving a mark. WEYER et al. 2015, p. 126.

¹³ In Croatian Istria and the Slovenian region of Primorska there are works carried out by two painting workshops from the town of Kastav near Rijeka (Croatia): Vincent's and John's. They share certain stylistic characteristics and we will mention some that are related to our research. Unfortunately, the technical similarities between the two workshops have not been systematically researched yet.

¹⁴ The same inner scene border (green with white inner edge) was observed in the church of the Holy Trinity in Hrastovlje (Slo) and on the *Crucifixion* fragment in St Helen's church in Podpeč (Slo), where the workshop of John of Kastav was also active, and in St George's church in Lovran (Cro), where it is present only in the paintings done by the Vincent of Kastav workshop. BISTROVIĆ 2017, p. 128.



Fig. 3: Imprint of a cord in plaster (left), red lines and drops as a result of snapping the coloured cord (right) (photo: Andrej Jazbec, 2024).

Fig. 4: Direct incisions of Christ's legs (photo: Andrej Jazbec, 2024).

metal applications here either. An interesting description of the technique is presented in the case of the wall paintings signed by master Vincent of Kastav in 1474, in the church of St Mary at Škrilne near Beram: *'...they used little stamps in their work, made of hollow reeds on which they carved a star-like decoration using a knife. And while the plaster was still pliant and fresh, they stamped with them, as with goldsmiths' hallmarks, a brooch on Our Lady's chest and the horse harnesses on the cavalcade with the Three Holy Kings...'*¹⁵

Preparatory drawing is the last technique the masters used as a preparatory step before painting in St Helen's church. On the fresh *intonaco* they quickly sketched the basic outlines for the scene in red or yellow ochre using a pointed brush (Fig. 7). It is possible to recognize this preparatory drawing all over the surface. We can see it in places where the superimposed layers of paint have fallen off. Since the sketch remains visible during the whole painting process, it served as the main point of reference for the painters while painting complex scenes.

After finishing these preparations, the masters began painting. First they applied watery colours on fresh plaster in broad strokes. This served as a base for subsequent paint layers. That is how they fashioned most of the backgrounds and draperies and marked the shapes of the figures. Layers of sometimes thicker paint were then applied to these preliminary layers, and sometimes glazes, which the painters used for creating volume and finishing scenes. In some places they would add a layer of limewash¹⁶ (maybe even enriched with organic binder) to refresh plasters that could no longer bind pigment well due to an advanced process of carbonation. That way the carbonation of limewash would ensure the stability of added layers of paint. Using raking light, it is possible to discern brush strokes, which give evidence of application and the pasty texture of this layer (Fig. 8). Lime milk¹⁷ was also used for achieving different tints and shades, on the one hand by superimposing colours on the limewash, and on the other hand by mixing lime milk with pigments. For example, for bluish tints lime milk is mixed with carbon black,¹⁸ which painters frequently used as a substitute for inaccessible and precious blue pigments. The frames around the scenes that consist of green,

¹⁵ FUČIĆ 1992, p. 24.

¹⁶ Limewash is white paint for coating architectural surfaces, usually a mixture of slaked lime and water called lime milk. It can be tinted by adding pigments. Binding may also be helped by adding various materials, such as casein or linseed oil. HERITAGE et al. 2011, p. 599.

¹⁷ Lime milk is an over-saturated solution of slaked lime in water, often used as an inorganic binder. It can be more or less thick, depending on the ratio between water and lime.

¹⁸ KAVKLER 2022, p. 12.



Fig. 5: King Melchior's crown accentuated by direct incisions (photo: Neva Pološki, 2024).



Fig. 6: *Punzonatura* and direct incisions decorating the halos of Jesus and the Virgin Mary (photo: Neva Pološki, 2024).



Fig. 7: Preparatory drawing made with yellow ochre, visible as outlines of the robe where the paint layer has fallen off (photo: Andrej Jazbec, 2024).



Fig. 8: Visible brushstrokes which suggest the use of lime milk (sometimes tinted) as an under-coating (photo: Andrej Jazbec, 2024).



Fig. 9: Frames with an ornamental pattern; lime milk as the white base for red and green stripes (photo: Neva Pološki, 2024).



Fig. 10: Detail of lion's paws under visible light (left) and under UV light, which reveals the depiction of a mouse (right) (photo: Summer School archive, 2021).

white and red stripes filled with ornamental patterns, which the painters from Kastav seem to have used most often¹⁹, also have lime milk as the base, serving as white colour (Fig. 9). Finally, the painters used thin brushes to paint details, such as eyes and hair curls, to accentuate the outlines and to add highlights (*lumeggiature*) with lime milk. Paintings were most probably finished *a secco*, using organic binder.

Orange fluorescence is noticed under UV light, mainly in places where black pigment was used for ornamental patterns on frames and some elements of painted architecture, and it might be caused by organic binder, but the interpretation is still questionable. Observations with UV light showed the depiction of a mouse between the paws of a lion in the *Adoration of the Magi* scene that was completely invisible with standard light (Fig. 10).²⁰ It is therefore a detail that was executed *a secco* and has lost most of its paint layer. Residues of binder and pigment remained, favouring the phenomenon of UV light-induced fluorescence. Immunofluorescence microscopy (IFM) detected egg protein²¹ in two samples, which can indicate painting with egg tempera, but this finding is not unequivocal, as consolidation material can also be a source of protein. Research has found that all the pigments used are compatible with the *a fresco* technique – red and yellow ochre, cinnabar, green earth and carbon black.

The best example of layered painting is evident in the flesh tones – in the faces, arms, legs and feet of the painted figures. Raking light clearly shows the thickness of the paint layers, and if they are well preserved we can truly appreciate the complexity of these paintings. The irregular morphology of the surface, caused by the careless mechanical removal of limewash layers applied for centuries to cover paintings, reveals this complex stratigraphy (Fig. 11), but also points to the importance of acquiring knowledge about the technique. Not only in order to understand the painting process, but also to apply the correct conservation methodology.

¹⁹ Ž. Bistrović calls them 'the rainbow motif frames' and states they can be found in Gradišče, as well as in Beram, Hrastovlje, Podpeč and two more locations where the John of Kastav workshop was active, St Mary's church in Božje Polje (Cro) and St Anthony in Barban (Cro), without an ornamental pattern. BISTROVIĆ 2017, p. 126.

²⁰ This is another representation of Aesop's fable that we encounter in this church – the fable of the lion and the mouse.

²¹ Apart from the paint layers, egg protein ovalbumin was also detected in one plaster layer sample. KAVKLER 2022, p. 123.



Fig. 11: Damage on the character's face reveals the complex stratigraphy of the paint layer (photo: Andrej Jazbec, 2024). **Fig. 12:** Decoration of the robe representing a bird, made using a stencil (photo: Neva Pološki, 2024).

The final painting procedure involved creating ornamental patterns using stencils, which gave the technique its name, and which were used for copying identical ornaments.²² It is a typical Gothic element, which emerged in the second half of the 13th century and reached its peak in the second half of the 15th century.²³ Stencils are mainly used for decorating backgrounds and frames, as well as draperies and curtains where they 'imitate the patterns from valuable medieval textiles, such as lampas, damask and brocade'.²⁴ Created in the final painting stages and usually applied on dry plaster, these decorations are sometimes created *a secco*, which corresponds to the observed characteristic fluorescence of ornamental patterns on frames in St Helen's church. All the frames and many draperies in these paintings have been decorated using stencils. The most prominent examples can be seen on the clothing of the Kings and the *Entry into Jerusalem* scene, where the robe laid down before Christ features a 'bird with spread wings and legs with the stylized three-feather tail in between'²⁵ in the central part of the ornament (Fig. 12). It should be mentioned that the two Kastav workshops, John's and Vincent's, have a similar repertoire of frames and ornamental patterns (stencils),²⁶ although some of the elements appear in locations not attributed to this circle of painters.

Sometimes we can see that the artist corrected the painting himself. For example, the *Three Marys at the Tomb* scene on the south wall shows an extended edge of purple drapery. The purple is superimposed on the red background. This feature is called *pentimento*.²⁷

²² Samples were cut out of hard paper, wax cardboard, parchment or metal. The stencil would be placed on the *intonaco* and the cut-out parts painted in. KRIZNAR 2006, p. 35.

²³ BISTROVIĆ 2017, pp. 128-129.

²⁴ BISTROVIĆ 2017, p. 129.

²⁵ BISTROVIĆ 2017, p. 131.

²⁶ Ž. Bistrović brings the descriptions of six ornamental patterns from Gradišče created with stencils that exist at some other locations attributed to the Kastav workshops. BISTROVIĆ 2017, pp. 124, 128-133.

²⁷ *Pentimento* – the term deriving from the Italian *pentirsi*, meaning to repent i.e. repentance.

Conclusion

Identifying painting techniques – one of the first tasks we confronted – is important both for conservators and art historians. It expands our knowledge of traditional materials, their mode of application and artistic processes. In turn, this helps us study the evolution of techniques in the course of history. Familiarity with the painting procedures used in a specific work of art is of crucial importance for understanding deterioration phenomena. This knowledge is indispensable for conservators in implementing the appropriate conservation measures. Meanwhile, it provides art historians material information that can help attribute authorship, bearing in mind the close connection between style and technique. This means that researching the techniques can lead to establishing the artwork's origin, history and place within a period of historical development.

It can be said that the entire painting cycle was carried out on large portions of plaster (*pontate*) using a mixed technique that could be defined as *mezzo fresco*, which involves an initial application of *a fresco* with extensive use of lime milk and *secco* finishes, using materials and technical procedures characteristic of this period and geographical area. It was established that most of the Gothic wall paintings in Slovenia were made using several wall painting techniques, like in this case. Masters often applied plaster to large areas and it would often dry out before works of art were finished.²⁸ If they wanted to use pigments dispersed only in water (as in *a fresco*)²⁹ on a plaster that was already too dry, the painting would not be solid,³⁰ so painters also used other media to bind their colours well.³¹ In St Helen's church, painting on *intonaco* laid on the older plaster layer would contribute to the fast drying of the plaster, if we consider the above hypothesis. That was not unusual. Multilayered plaster is rare in Slovenian medieval paintings³² and masters frequently applied just one new layer on older plasters, using the older layer as *arriccio*. This is also often the case in countries north of the Alps, unlike in the Italian painting where all the plaster layers were usually newly applied³³ and the painters painted on smaller *giornate*. Although our research was not aimed at finding technical ties with the type of painting in surrounding countries, and it was not done comprehensively enough to this end, we can still present some similarities. At St Helen's the influence of the northern type of painting is primarily evident in painting on limewash, which was most often applied to dry plaster and using paint that contains lime milk, while in Italy the *a fresco* technique prevails in the same period. The manner of creating volume is also significant, and here it is achieved by overlapping broad strokes of transparent paint, while in Italy it was more often shaped by thin parallel strokes.³⁴ If we consider that John of Kastav studied in the Alpine cultural circle,³⁵ the technical similarities with the northern type of painting are not surprising. There was also the influence of painters from the Kastav circle and some other authors active in Slovenia and Croatian Istria. However, the technical quality of these paintings and the brilliancy and stability of the paint layer indicate they were largely painted using the *a fresco* technique, which suggests the simultaneous influence of the Italian painting tradition.

References

- BISTROVIĆ 2017: Bistrovic, Željko, *Kastavska slikarska škola – problem geneze i stila*, (doctoral thesis, Sveučilište u Zadru), Zadar 2017: <https://um.nsk.hr/um:nbn:hr:162:268372>, (accessed 29. 12. 2023).
- BISTROVIĆ 2011: Bistrovic, Željko, Šareni *trag istarskih fresaka – Pisana sled istrskih fresk*, Pula 2011.
- FUČIĆ 1992: Fučić, Branko, *Vincent iz Kastva*, Zagreb 1992.
- HERITAGE et al. 2011: Heritage, Alison, Stewart, John (eds.), *Practical building conservation: Mortars, renders and plasters*, London 2011.
- KAVKLER 2022: Kavkler, Katja, *Gradišče pri Divači, Succursal church of St Helen, EŠD 1566, Wall paintings. Analyses Report*, Ljubljana 2022.
- KRIŽNAR 2006: Križnar, Anabelle, *Slog in tehnika srednjeveškega stenskega slikarstva na Slovenskem*, Ljubljana 2006.
- WEYER et al. 2015: Weyer, Angela, Roig Picazo, Pilar, Pop, Daniel, Cassar, JoAnn, Özköse, Aysun, Vallet, Jean-Marc, Srša, Ivan (eds.), *EwaGlos – European Illustrated Glossary of Conservation Terms for Wall Paintings and Architectural Surfaces*, Petersberg 2015.

²⁸ KRIŽNAR 2006, p. 101.

²⁹ WEYER et al. 2015, p. 70.

³⁰ It is important to underline that the boundary between *fresco* and *secco* is frequently not so clear. Even when it is dry, the plaster is still reactive and the combination with an organic binder creates compounds difficult to identify with diagnostic investigations.

³¹ For example, B. Fučić describes the technique master Vincent and his colleagues used to paint the Beram church: 'Provincial masters were not familiar with the ideal technique of fresco painting that flourished in Italy at the time, where the painters painted part after part on very fresh plaster, applied the same day... Using the traditional medieval method of lime painting, they used a double technique: they would put a base, and sometimes even bigger uniform layers on fresh plaster (*a fresco* painting, author's comment), while they would create smaller surfaces of local colours, modelling and inner drawings by applying coats of paint (using lime milk, author's comment) on plaster in which the chemical binding had already started.' FUČIĆ 1992, p. 26.

³² KRIŽNAR 2006, p. 101.

³³ KRIŽNAR 2006, p. 58.

³⁴ KRIŽNAR 2006, p. 59.

³⁵ BISTROVIĆ 2011, p. 9.

OPIS STANJA STENSKIH POSLIKAV

Anka Batič, Blaž Šeme

Uvod

Ko govorimo o stanju poslikav v cerkvi svete Helene na Gradišču pri Divači, opisujemo stanje leta 2021, z začetkom prvega leta Poletne oziroma pred konservatorsko-restavratorskim posegom v cerkvi. Namen prvega leta Poletne šole je bila prav priprava obsežne pisne, fotografske in grafične dokumentacije poslikav, od tehnologije izdelave, prejšnjih restavratorskih posegov do dejavnikov propadanja, ki so ali še bodo vplivali na videz in stanje poslikav v ladji cerkve. Študentje so pod vodstvom mentorjev natančno pregledali stanje poslikav in z mapiranjem izdelali grafično dokumentacijo vseh na slikovni površini zaznanih sprememb. Na podlagi njihovih opazovanj smo konservatorji-restavratorji lahko pripravili načrt potrebnih postopkov za odstranitev oziroma zmanjšanje negativnih vplivov, vizualno motečih poškodb in povrnitev izgubljene stabilnosti poslikav v ladji.

V prispevku je najprej na kratko predstavljena zgodovina obravnavanih stenskih poslikav od njihovega nastanka dalje, s poudarkom na večjih posegih in nekoliko boljše dokumentiranem odkrivanju v 60. letih 20. stoletja, saj ustrezna anamneza pripomore k pravilni in h kakovostni diagnozi stanja poslikav. Le s poglobljenim raziskovanjem zgodovine objekta in njegovih atributov lahko ugotovimo, zakaj je prišlo do določenega stanja, in lažje zastavimo smernice za nadaljnje vzdrževanje in posege.

Vpliv preteklih prenov in drugih sprememb na stanje poslikav v cerkvi

V poznem srednjem veku je bila najverjetneje poslikana celotna notranjščina cerkve sv. Helene. Stenske slike so bile tudi na ladijski strani slavoločne stene, kjer so danes ohranjene le v sledovih. V okviru Poletne šole smo posebno pozornost posvetili poznogotskim poslikavam v ladji, ki so jih opazno poškodovale preнове v prejšnjih stoletjih. V baroku so povečali okensko odprtino na južni ladijski steni, odprli so okno na severni steni in povišali prostor, pri čemer so del poslikav uničili. Manjši gotški okni na južni steni so zazidali. Ob takratni prenovi cerkvene notranjščine so stare poslikave gotovo tudi prebelili (slika 1). V arhivskih virih je zabeleženo, da so stene prebelili tudi leta 1714.¹

Poslikave v ladji so odkrili med beljenjem sredi 50. let prejšnjega stoletja, medtem ko jih je dokončno odkril restavrator France Kokalj z ekipo v letih 1966 in 1967. Ob odkritju so bile poslikave na severni steni v velikem delu ohranjene, večji del je bil uničen zaradi prebitega baročnega okna. Deli ometov s poslikavo so manjkali tudi na zgornjem robu ter v manjšem obsegu na levem (zahodnem) in spodnjem levem robu severne stene (slika 2). Precej slabše so se ohranile poslikane plasti prizora *Pasijona* na južni steni, nekatera polja so bila skoraj popolnoma uničena² (sliki 3 in 4). France Kokalj v poročilu zapiše: »Desno steno smo dokončno odkrili, vendar so nekateri prizori samo še v fragmentih. Odkrili smo tudi stranski gotški okni. Tisto pri slavoločni steni je bilo povečano in je ostala le še leva stran, zadnje, tretje, pa je še dobro ohranjeno. Prizori se nadaljujejo v okenske niše. Zgornji prizori med okni so skoraj popolnoma uničeni, verjetno od povečave cerkve. Grobi omet je bil zaradi preslabega veziva že dotrajan in smo ga tam, kjer ni bilo fresk, odstranili, tam, kjer so še, smo ga delno utrdili, dokončno pa ga bomo prihodnje leto.«³ France Kokalj glede zahodne stene piše, da je slabo ohranjena, samo na severni strani je viden prizor Jezusa na poti v tempelj.⁴ Ob odkritju so ugotovili, da je spodnji, grobi omet v ladji slabo ohranjen in so ga zato utrdili. Natančnejše dokumentacije o sredstvih, uporabljenih za utrjevanje, ni. Glede posegov v letih od 1966 do 1968 v poročilih nismo zasledili podatkov, da bi poslikave retuširali. Glede na svoje izsledke podrobnejšega pregleda stanja



Slika 1: Notranjščina cerkve pred dokončnim odkritjem poznogotskih poslikav (foto: Emil Smole, 1966).
Fig. 1: The church interior before the late Gothic paintings were finally uncovered (photo: Emil Smole, 1966).

¹ PREMRL 2006, str. 472.

² KOKALJ 1966, str. 144.

³ KOKALJ, NOVINC 1967, str. 116.

⁴ KOKALJ 1966.



Slika 2: Fotografska dokumentacija stanja poslikav na severni in zahodni ladijski steni ob odkritju v 60. letih 20. stoletja (foto: Emil Smole, 1968).
Fig. 2: Photographic documentation of the condition of the paintings on the north and west walls of the nave at the time of their discovery in the 1960s (photo: Emil Smole, 1968).



Sliki 3 in 4: Fotografska dokumentacija stanja poslikav na južni ladijski steni ob odkritju v 60. letih 20. stoletja (foto: Emil Smole, 1968).
Figs. 3 and 4: Photographic documentation of the condition of the paintings on the south wall of the nave at the time of their discovery in the 1960s (photo: Emil Smole, 1968).



Slika 5: Stanje ostenja v cerkvi oktobra 2001; posnetek dela severne stene ladje (foto: Beta Benko-Mächtigt, 2001).
Fig. 5: The state of the church walls in October 2001; part of the north wall of the nave (photo: Beta Benko-Mächtigt, 2001).

poslikav predpostavljamo, da so uporabili *aqua sporco*⁵ kot način poenotenja površine. Leta 1976 so strokovnjaki Restavratorskega centra utrdili odstopajoče poslikave.⁶

Zavod za spomeniško varstvo je poslikave spremljal vrsto let, medtem ko je do večjega posega v cerkvi prišlo leta 2001, ko so ob pregledu stanja ostenja in poslikav ugotovili, da v notranjosti cerkve na stenah močno kondenzira vlaga. Težava je bila izrazita predvsem v spodnjem delu sten, ki so bile na zunanji strani ometane s cementno malto. V poročilu piše: »V spodnjem delu ostenja so tudi poškodbe zaradi transporta talne vlage. Stalno prisotnost vlage v stenah in na notranjih površinah dokazujejo obsežna rastišča alg, ki so se razvila predvsem na severnovzhodnem zgornjem vogalu ladje. Manjša rastišča so tudi na severnovzhodnem spodnjem vogalu ladje in lokalno predvsem na severni steni. Poleg alg se na površinah ostenja razvijajo tudi plesni. [...] Zaradi navedenih vzrokov nastaja velika škoda predvsem na dragocenih stenskih poslikavah, zato je treba nadaljnje propadanje preprečiti s sanacijo strehe in sistema odvodnavanja meteorne vode vključno z drenažo, ki ju je treba izvesti takoj.« (slika 5).⁷

Oktober 2001 je izvajalec začel s sanacijskimi deli na strehi, kriti s skrilavcem.⁸ V notranjosti so nad stenskimi poslikavami odbili vlažen in preperel omet.⁹ V naslednjih letih je bilo narejenih veliko del na zunanjsčini cerkve: leta 2005 je bila zaključena sanacija kamnite strehe, v letih 2017 in 2019 je bila pregledana statika cerkve,¹⁰ leta 2018 je bila streha ojačana z jeklenimi vezmi, medtem ko so leta 2019 montirali okna z UV-zaščito. Zunanjsčina cerkve z originalnimi ometi je bila restavrirana leta 2021, strop v notranjosti cerkve je bil obnovljen leta 2022, ravno tako so bila restavrirana in ponovno nameščena vhodna dvokrilna lesena vrata.

Metode preiskav stanja poslikanih površin

V okviru Poletne šole 2021 smo skupaj s študenti pregledali celotno poslikavo in dokumentirali izsledke. Izvedli smo številne neinvazivne preiskave, s katerimi smo okvirno ocenili stanje stenskih poslikav, prisotnost biološke rasti in soli, povezanost malt in barvnih plasti. Območja z odstopanjem ometa smo preverjali s trkanjem po površini (*knocking test*), vpijanje vode s testom s spužvo (*sponge test*) in barvno stabilnost s tamponi vate, namočenimi v destilirano vodo (*swab test*).

Nekatere dele stenske poslikave smo opazovali s prenosnim digitalnim mikroskopom, predvsem, kadar so se pojavila določena vprašanja, na primer o prisotnosti določenih pigmentov (azurit), odstopanju plasti ometa, biološki rasti ... Za opazovanje razpok, lusk, izboklin, solnih skorij, potez s čopičem in suhih (*secco*) zaključkov, polnil,... smo uporabili drugačen kot osvetlitev (stranska osvetlitev) in UV-svetlobo.

Za namen dokumentacije so študentje izdelali vizualni slovar (*visual glossary*), v katerem so s kratkim opisom in fotografijami predstavili posamezne termine v zvezi s tehniko in tehnologijo, z oblikami propadanja in dokazi preteklih restavratorskih posegov na poslikavi. Takšna enotnost v terminologiji in razumevanju posameznih pojavov je bila potrebna, saj je pri ocenjevanju stanja poslikav sodelovalo več ocenjevalcev z različnim znanjem, izkušnjami in jezikom sporazumevanja. Študentje so naredili tudi pregled vseh naravoslovnih raziskav v cerkvi, kar je bilo v veliko pomoč pri identificiranju stanja in izdelavi smernic za konservatorsko-restavratorski poseg.

⁵ *Acqua sporca* je bolj ali manj homogen lazurni barvni premaz. V tem primeru so ga restavratorji najverjetneje uporabili za poenotenje poslikanih površin in prekritje drobnih ostankov beležev.

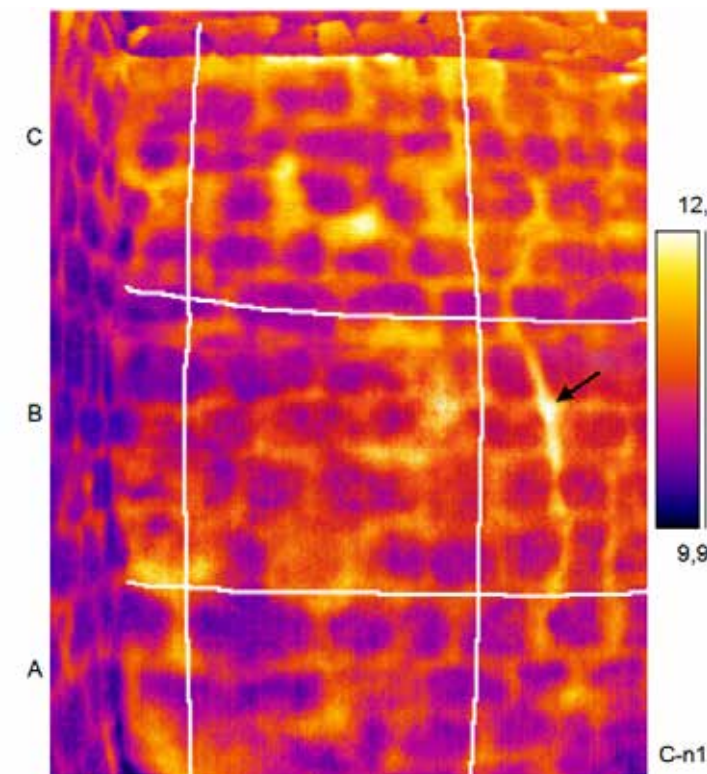
⁶ SMOLE 1979, str. 352.

⁷ BENKO-MÄCHTIG 2001, str. 2.

⁸ Izvedena je bila hidroizolacija, nanjo položena armaturna mreža in vse skupaj zaščiteno s plastjo cementne malte. Obnovljeni so bili vsi žlebovi in odtočne cevi. Urejena je vsa meteorna kanalizacija, vključno s peskovniki in z revizijskim jaškom. Ob severni steni objekta je bila izvedena zračna kineta. Naslednje leto so na cerkveno streho ponovno namestili kamnito kritino. BENS 2021, str. 20.

⁹ BENS 2021, str. 20.

¹⁰ GERLIČ 2017, str. 2; GERLIČ 2020, str. 2.



Slika 6: Termografski posnetek levega roba severnega zidu, kjer je opazna večja razpoka (foto: Bojan Težak, 2020).

Fig. 6: Thermal image of the left edge of the north wall where a large crack is visible (photo: Bojan Težak, 2020).



Slika 7: Fotografija razpoke na levem robu severnega zidu ladje pri stranski osvetlitvi (foto: arhiv Poletne šole 2021, 2021).

Fig. 7: Photo of a crack on the left edge of the north wall of the nave under raking light (photo: Summer School archive, 2021).

Stanje poslikave leta 2021

Stenske poslikave so ob prvem vizualnem pregledu kazale veliko znakov ali pojavov propadanja zaradi povečane vlage, ki je bila prisotna v preteklosti. Glavni vzroki za propadanje so tako bili: kondenzacija, dvig vlage po zidovju (zlasti v spodnjem predelu sten zaradi kapilarnega dviga podzemne vode), prisotnost topnih soli, zamakanje zaradi poškodovane kritine, cikli zmrzovanja in odmrzovanja, gradbeni in obnovitveni posegi tekom stoletij ter drugi človeški dejavniki.

Stanje kamnitega nosilca in ometov

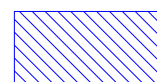
Stene ladje, ki so zidane iz lomljenega in obdelanega kamna lokalnega izvora, so, razen na območju vhoda, brez večjih razpok, ki bi ogrožale stabilnost objekta. Kamniti obok slavoloka je brez večjih deformacij, ki so sicer opazne na zahodni in južni steni ladje, vendar je tudi stanje teh sten stabilno. Vzrok deformacij in posledično nastajanja razpok v stenah je verjetno v zmanjšanju oprijemne trdnosti malte v zidu in v povečani obremenitvi sten zaradi betonske strešne konstrukcije (izvedeno ob obnovi kamnite strehe med letoma 1986 in 1987) ter sorazmerno plitvih temeljev.¹¹ Pregled poslikave s prostim očesom je poleg več razpok na zahodni steni razkril še dve daljši navpični razpoki na severni steni, in sicer na levem robu in na upodobitvi zadnjega kralja, kar je dobro vidno tudi na termografskem posnetku in pri stranski osvetlitvi (sliki 6 in 7). Drugod, tudi na južni steni, so razpoke v ometu manjše.

Na pogled je mogoče oceniti, da je na severni steni ohranjenega približno tri četrtine izvirnega ometa s poslikavo, na južni steni najbrž nekoliko manj kot polovica in na zahodni manj kot 20 %. Manjkajoči predeli so bili v 60. letih prejšnjega stoletja zapolnjeni z novim ometom, saj je bil prvotni grobi omet brez slikovne plasti že dotrajan. Na južni

¹¹ GERLIČ 2020, str. 2.



LEGENDA / LEGEND:

Rahlo odstopanje plasti ometov /
Lack of adhesion (Light)Močno odstopanje plasti ometov /
Lack of adhesion (Severe)

Slika 8: Grafični prikaz območij z rahlo (*light*) in močno (*severe*) zaznamim odstopajočim ometom (*lack of adhesion*) kot rezultat preizkušanja s trkanjem po površini (foto: arhiv Poletne šole 2021, obdelava: Anka Batič, 2024).

Fig. 8: Visual depiction of areas with light and severe lack of adhesion as detected with knocking tests (photo: Summer School archive, 2021, processing: Anka Batič, 2024).

steni so na več mestih vidni tudi sledovi injekcijske malte takratnih posegov. Termografske analize so pomagale pri iskanju mest mehurjivosti oziroma odstopanja plasti ometa in vlage v steni. Pregled s termokamero na severni in južni steni ni zaznal hladnejših sten v spodnjih predelih, kar bi nakazovalo na dviganje kapilarne vlage iz tal.¹² Odstopanje ometov oziroma slabo oprijemljivost posameznih plasti je bilo mogoče bolje zaznati s sistematičnim trkanjem po površini (*knocking test*). Trkanje je razkrilo več kritičnih območij na vseh stenah pri tleh in ob stikih med različnimi plastmi ometa (slika 8). Tam je vezivo malt in stenskih poslikav oslABLJENO.¹³

Z mikroskopsko analizo (SEM-EDS) odvzetih vzorcev v ometu ni bilo opaziti topnih soli. Prisotnost sadre je bila vidna le na površini ometov. Poleg soli sadre so v nekaterih analiziranih vzorcih opazili tudi nitrato in natrijev klorid.¹⁴ Dokaj razširjen pojav jamičastega razpadanja (*pitting*) na površini glajenca na vseh stenah bi sicer lahko bil posledica točkovno razpršenih procesov kristalizacije in hidratacije vodotopnih soli v ometu, ki morda niso več dejavni. V jamicah oziroma erupcijah lahko opazimo zrna agregata (slika 9).

Stanje barvne plasti

Barvna plast na celotni poslikavi je nekoliko obledela, izraziteje *secco* predeli. Določene v *secco* tehniki naslikane podrobnosti danes s prostim očesom niso več razpoznavne, kar je pri pozornem pregledu pod UV-svetlobo razkrilo še posebej zanimivo odkritje naslikane miške na severni ladijski steni. Med preverjanjem stabilnosti (kohezivnosti in adhezivnosti) barvne plasti smo ugotovili, da so nekatere barve, predvsem rdeče in rumene, manj stabilne, saj so ob rahlem drgnjenju površine z vlažno vato (*swab test*) na vati ostajali sledovi barve. Na poslikavah se pojavljajo tudi

¹² KAVKLER 2024, str. 123.

¹³ Na stenskih poslikavah na različnih mestih pride do odstopanja ometa od nosilca, najverjetneje zaradi transporta vodotopnih soli.

¹⁴ KAVKLER 2024, str. 124.



Slika 9: Dobro viden pojav jamičastega razpadanja (*pitting*), luščenje barvne plasti in sledovi grafitov; podrobnost s severne ladijske stene (foto: arhiv Poletne šole 2021).

Fig. 9: Clearly visible pitting, flaking of the paint layer and traces of graffiti; close-up of the north wall of the nave (photo: Summer School archive, 2021).

druge lokalne vizualne spremembe barvne plasti: zasičenost (poudarjenost) barve, ki bi lahko bila posledica delovanja vlage na površini ali uporabljenih vezivnih sredstev pri prejšnjih restavratorskih posegih. Prisotni so predeli, kjer je barvna plast rahlo potemnjena (slika 10). To opazimo na manjših predelih na zgornjem delu severne stene, ki je lahko posledica kemičnih sprememb v organskem vezivu, uporabljenem morda pri pretekli obnovi.¹⁵ Ravno tako so na severni steni vidni lokalni temnejši oziroma črni madeži, ki so najverjetneje posledica gorenja sveč.¹⁶ Pod stransko svetlobo se ponekod vidijo svetlikajoči se predeli barvne plasti, a njihov izvor ni pojasnjen. Nekaj barvne plasti je z leti porumenelo, najverjetneje spet kot posledica več dejavnikov (slika 11). Pod okni na severni in južni steni se pojavljajo vizualno zelo moteče sledi zamakanja, tako na zakitanih predelih kot na poslikavah, v obliki srag in sprememb v barvni plasti zaradi večje količine vode.

Tako na južni kot na severni steni se po celotni površini pojavljajo luščenje barvne plasti in odrgrnine, tako površinske kot globlje. Odrgrnine so posledica mehanskega drgnjenja, v preteklosti hotenega ali nehotenega premočnega naslanjanja ljudi ali predmetov ob steno, nato posledica predelav ostenja in kasneje kot posledica odkrivanja poslikav izpod beleža v 60. letih prejšnjega stoletja. Predvsem na južni steni, na območju pasov med posameznimi prizori *Pasijona*, so prisotni grafiti, vreznine imen in letnic – najstarejši segajo celo na začetek 16. stoletja.¹⁷ Grafiti so zdaj

¹⁵ V nekaterih analiziranih vzorcih je bila ugotovljena prisotnost beljakovin ali kalcijevih oksalatov. Za natančnejše rezultate je bila na Raziskovalnem inštitutu ZVKDS izvedena imunofluorescenčna mikroskopija za ovalbumin na treh vzorcih, ekstrahiranih leta 2003. Analiza je potrdila prisotnost proteinov v dveh vzorcih (GDC 4 in 5), medtem ko jih v tretjem (GDC 10) ni. KAVKLER 2024, str. 23, 25, 33, 124.

¹⁶ V enem je bil vosek zanesljivo identificiran, medtem ko drugi kaže na prisotnost karboksilatov, kar namiguje na prisotnost organskih materialov, ki vsebujejo karboksilne kisline (vosek, smola ali olje). KAVKLER 2024, str. 49. Vzorci z ovalbuminom so bili ekstrahirani iz zelenih površin ter kažejo prisotnost beljakovin v slojih ometa in v slojih barve. Ni jasno, ali je to posledica konsolidacije ali izvirnega materiala. KAVKLER 2024, str. 124.









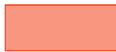
¹⁷ PREMRL 2006, str. 475.



Slika 10: Spremembe barvne plasti, potemtnjenost; podrobnost s severne ladijske stene (foto: Anka Batič, 2023).
Fig. 10: Changes in the paint layer, darkening; close-up of the north wall of the nave (photo: Anka Batič, 2023).



LEGENDA / LEGEND:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|  Beljenje / Whitening |  Razpoke / Cracks |  Barvna zasičenost / Colour saturation |  Rumenenje / Yellowing |  Temnenje / Darkening |
|  Zamakanje / Leaking stains |  Manjša razpokanost / Craquelire |  Madeži / Stains |  Svetlikajoči predeli / Glossy area | |

Slika 11: Grafični prikaz različnih sprememb, izrazitejši sta bela koprena (*whitening*) in porumenelost (*yellowing*) na barvni plasti na severni ladijski steni (foto: arhiv Poletne šole 2021, obdelava: Anka Batič, 2024).

Fig. 11: Visual depiction of the various changes, most notably the whitening and yellowing in the paint layer on the north wall of the nave (photo: Summer School archive, 2021, processing: Anka Batič, 2024).

zanimiv in pomemben dokument časa, čeprav so ob nastanku poškodovali tako barvno plast kot vrhnji del ometa. Razpoke, ki segajo do ometa oziroma ponekod celo do nosilca in so močno vidne s prostim očesom zaradi prekinitev barvne plasti, so prisotne predvsem na severni steni, nekaj tudi na levi strani južne stene in ob zazidanih odprtinah. Ponekod je prisotna tudi razpokanost samo barvne plasti, tipična za plasti, izdelane *secco* tehniki. Le na redkih mestih se pojavi tudi rahlo luščenje.

Med Poletno šolo in med konservatorsko-restavratorskim posegom smo na celotni površini poslikav opravili več naravoslovnih raziskav, ki so pokazale prisotnost več dejavnikov propadanja, ki so škodljivi za obstojnost poslikave. Zaznana je bila prisotnost soli, kot so kalcijev sulfat (sadra), nitrati in natrijev klorid.¹⁸ Lokalno so soli vidne kot skorja na barvni površini, ponekod tudi kot bela koprena, vendar na večjem delu poslikave ni opaziti prisotnosti soli. Na površini poslikav ni opaznejše prisotnosti mikroorganizmov. Analizirani vzorci barvne plasti kažejo na relativno redko prisotnost kalcijevega oksalata, po čemer je mogoče sklepati, da kljub visokim vrednostim RH biološka razgradnja na slikah ni razširjena. Vendar je bilo na površini ogromno pajčevin, prahu in ostale umazanije.

¹⁸ KAVKLER 2024, str. 124.

Zaključek

Stenske poslikave so bile leta 2021 v slabšem stanju zaradi arhitekturnih obnov in velike vlage, ki je bila prisotna v preteklosti. Vezivo malt in stenskih poslikav je ponekod že dotrajalo. Drugi pojavi poslabšanja so bili predhodna biološka rast, majhna količina luščenja barvne plasti, nekaj večjih razpok, izguba vezivnosti barvne plasti in prašenje, poškodbe ometa in barvne plasti v obliki votlih predelov, nanosi umazanije in degradacijskih materialov (soli) na površini. S konservatorsko-restavratorskim posegom, ki je potekal sočasno s Poletno šolo, je bila večina teh težav rešena ali stanje izboljšano.

Na površini so še vedno vidne manjše lasaste razpoke, prisotnih je veliko odrgnin.¹⁹ Lokalno sta še vedno prisotni bela koprena in potemnjena barvna plast, zlasti v zgornjem delu severne stene. Tudi po obsežni raziskavi, opazovanju in interpretiranju rezultatov so madeži na severni steni še vedno uganka, prav tako tudi vzrok za njihovo pojavnost in metodologija njihovega odstranjevanja. Prepričani smo, da vplivajo samo na videz in da ne zmanjšujejo stabilnosti poslikave, zato jih za enkrat nismo odstranjevali.

V cerkvi se še vedno izvajajo meritve temperature in relativne vlažnosti. Čeprav so meritve občasno ekstremne (zelo nizke temperature ali visoka relativna vlažnost), se na poslikavi ne pojavlja kondenzacija in ni vidnih znakov prehajanja vlage skozi steno na površino ter s tem prehajanja vodotopnih soli na površino poslikave, s čimer bi prihajalo do poškodb. Okolje poslikav je relativno stabilno. Vaščani poskrbijo za redno prezračevanje cerkve, na oknih je nameščena UV-zaščita. Sklenemo lahko, da je za dobro stanje poslikave v dani situaciji poskrbljeno v najboljši možni meri.

Literatura in viri / References

- BENKO-MÄCHTIG 2001: Benko-Mächtig, Beta, *P.c. Svete Helene Gradišče pri Divači, Poročilo o ogledu ostenja in stenskih poslikav*, Restavratorski center Republike Slovenije, Ljubljana, 2001.
- BENSA 2021: Bensa, Marta, State of conservation, *Summer School 2022, Final report*, Ljubljana, 2021, str. 20–22.
- GERLIČ 2017: Gerlič, Gorazd, *Poročilo o ogledu objekta Cerkev sv. Helene – Gradišče pri Divači – EŠD 1566*, Maribor, 6. 6. 2017, Maribor 2017.
- GERLIČ 2020: Gerlič, Gorazd, *Poročilo o ogledu objekta Cerkev sv. Helene – Gradišče pri Divači – EŠD 1566*, Maribor, 12. 2. 2020.
- KAVKLER 2024: Kavkler, Katja, *Gradišče pri Divači, Succursal church of St. Helen, EŠD 1566, Wall Paintings, Analyses report*, Ljubljana, February 2024.
- KOKALJ 1966: Kokalj, Franc, Gradišče pri Divači, *Varstvo spomenikov*, XI, 1966.
- KOKALJ 1966: Kokalj, Franc, *Poročilo o odkrivanju fresk v Gradišču pri Divači*, 22. 8. 1966, dokumentacija ZVKDS OE Nova Gorica.
- KOKALJ, NOVINC, 1967: Kokalj, Franc, Novinc, Franc, Gradišče pri Divači, *Varstvo spomenikov*, XII, 1967.
- SMOLE 1979: Smole, Emil, Gradišče pri Divači, *Varstvo spomenikov*, XXII, 1979.
- PREMRL 2006: Premrl, Božidar, Cerkev sv. Helene na Gradišču pri Divači in njena stavbna zgodovina, *ANALE: anali za istrske in mediteranske študije. Annali di Studi istriani e mediterranei. Annals for the Istrian and Mediterranean studies. Series historia et sociologia*, 16, št. 2, 2006, str. 465–476.
- TEŽAK 2003: Težak, Bojan, *Termografsko poročilo, 031105, Termografske meritve odstopljenosti fresk, p.c. sv. Helene, Gradišče pri Divači, EŠD 1566*, Ljubljana 2003.

¹⁹ Zmanjšati vidnost motečih odrgnin je postal izziv estetske predstavitve poslikave, tema, ki smo jo obravnavali na Poletni šoli 2023, pri čemer so udeleženci na južni steni naredili primere barvne reintegracije.

THE STATE OF THE WALL PAINTINGS

Anka Batič, Blaž Šeme

Introduction

When we talk about the state of the paintings in the church of Saint Helen in Gradišče pri Divači, we are describing the situation in 2021 when the first year of the Summer School began and before the conservation-restoration works in the church were carried out. The purpose of the Summer School's first year was precisely to prepare extensive written, photographic and graphic documentation of the paintings, covering the techniques that had been used to produce the paintings, previous restoration interventions and decay factors that have affected or will continue to affect the appearance and condition of the paintings in the nave of the church. Guided by their mentors, the students carefully examined the condition of the paintings and produced graphic documentation of all the changes detected in the paint layers by means of mapping. Based on their observations, the conservator-restorers were able to draw up a plan for the necessary procedures to remove or reduce the negative impacts, visually disturbing damage and restore the lost stability of the paintings in the nave.

This paper begins by briefly presenting the history of the wall paintings from their creation onwards, with an emphasis on major interventions and the somewhat better documented discovery in the 1960s. A proper anamnesis helps diagnose the condition of the paintings correctly and qualitatively. Only by studying the history of the building and its attributes in depth can we find out why a certain condition has arisen, and it is then easier for us to set guidelines for future maintenance and interventions.

The impact of past renovations and other changes on the condition of the wall paintings in the church

In the late Middle Ages, the entire interior of St. Helen's was probably covered in wall paintings. There were also paintings on the nave side of the triumphal arch, where only traces have survived. During the Summer School, special attention was paid to the late Gothic paintings in the nave, which have been visibly damaged by renovations in previous centuries. In the Baroque period, the window on the south wall of the nave was enlarged, a window was made on the north wall and the church was raised, destroying some of the paintings in the process. The two small Gothic windows on the south wall were bricked up. When the church interior was refurbished, the old paintings were covered with whitewash (Fig. 1). Archival sources record that the walls were also whitewashed in 1714.¹

The paintings in the nave were discovered during whitewashing in the mid-1950s, and finally by the restorer France Kokalj and his team in 1966 and 1967. When they were discovered, the paintings on the north wall were largely preserved. Most of the paintings that were destroyed had been damaged by a Baroque window. Parts of the painted plaster were also missing on the upper edge and to a lesser extent on the left (west) and lower left edges of the north wall (Fig. 2). The paint layers of the *Passion* scene on the south wall were much less well preserved, with some areas almost completely destroyed² (Figs. 3 and 4). In his report, France Kokalj wrote: *'We have finally uncovered the right wall, but all that is left of some of the scenes are fragments. We also discovered two Gothic side windows. The one near the triumphal arch has been enlarged and only the left side remains, while the last one, the third, is still well preserved. The scenes continue into the window niches. The upper scenes between the windows are almost completely destroyed, probably due to the church being raised. The rough plaster was already deteriorated due to the poor adhesion, so we removed it where there were no frescoes, partially strengthened it where there were still frescoes, and we will finish the job next year.'*³ France Kokalj wrote that the west wall was poorly preserved, with only the scene of Jesus on his way to the temple visible on the north side.⁴ When the paintings were discovered, they found that the

¹ PREMRL 2006, p. 472.

² KOKALJ 1966, p. 144.

³ KOKALJ, NOVINC 1967, p. 116.

⁴ KOKALJ 1966.

lower, rough plaster in the nave was poorly preserved, so they consolidated it. There is no detailed documentation on the means used for consolidation. In the reports on the interventions from 1966 to 1968, there is no evidence that suggests the paintings were retouched. Based on our findings from a closer inspection of the condition of the paintings, we assume that *aqua sporca*⁵ was used to homogenise the surface. In 1976 the Restoration Centre experts consolidated the detached paintings.⁶

The paintings were monitored over the years by the Institute for Monument Protection, but a major intervention took place in 2001, when an inspection of the walls and paintings revealed that the church interior was suffering from severe condensation. The problem was particularly pronounced in the lower sections of the walls, which were covered on the outside with cement mortar. The report reads: *‘There is also damage in the lower part of the wall due to ground moisture. The constant presence of moisture in the walls and on the interior surfaces is evidenced by the extensive algae growths that have developed, particularly in the north-eastern upper corner of the nave. Smaller growths are also found in the north-eastern lower corner of the nave and locally mainly on the north wall. In addition to algae, moulds are also developing on the wall surfaces. [...] For the above reasons, the precious wall paintings in particular are suffering considerable damage, and further decay must be prevented by immediately fixing the roof and the storm water drainage system.’*⁷ (Fig. 5)

In October 2001, the contractor began repair work on the slate roof.⁸ Inside, damp and decayed plaster above the wall paintings was removed.⁹ In the following years, significant work was carried out on the church’s exterior: in 2005 the restoration of the stone roof was completed, in 2017 and 2019 a structural analysis of the church was carried out,¹⁰ in 2018 the roof was reinforced with steel ties, and in 2019 windows with UV protection were installed. The church’s exterior with the original plaster was restored in 2021, the ceiling was restored in 2022, and the wooden double-leaf door was restored and reinstalled.

Methods for investigating the condition of painted surfaces

As part of the 2021 Summer School, we examined all the wall paintings together with the students and documented the findings. Numerous non-invasive investigations were carried out to assess the condition of the wall paintings, the presence of biological growth and salts, and the cohesion of the mortar and paint layers. We checked the surfaces where the plaster was detaching by knocking the surface (knocking test), testing water absorption with a sponge (sponge test) and checking the stability of the paint using cotton swabs soaked in distilled water (swab test).

Some parts of the wall paintings were observed with a portable digital microscope, especially when questions arose about the presence of certain pigments (azurite), the detachment of plaster, biological growth, etc. We used a different angle of illumination (raking light) and UV light to observe cracks, flakes, bumps, salt crusts, brush strokes and *secco* finishes, fillers, etc.

For documentation purposes, the students created a visual glossary in which they briefly described and photographed individual terms related to technique and technology, forms of decay and evidence of past restoration work on the paintings. Consistency in terminology and the understanding of individual phenomena was necessary, as assessing the condition of the paintings involved multiple evaluators with varying amounts of knowledge, experience and language

⁵ *Acqua sporca* is a more or less homogeneous watercolour glaze. In this case, it was probably used by the restorers to unify the painted surfaces and to cover small remnants of whitewash.

⁶ SMOLE 1979, p. 352.

⁷ BENKO-MÄCHTIG 2001, p. 2.

⁸ Waterproofing was installed, a reinforcing mesh laid on top and the whole protected with a layer of cement mortar. All gutters and drainage pipes were renewed. All storm water drainage including grit chambers and an inspection chamber is in place. An air duct was installed along the north wall of the building. The following year, stone roofing was reinstalled on the church roof. BENSA 2021, p. 20.

⁹ BENSA 2021, p. 20.

¹⁰ GERLIČ 2017, p. 2; GERLIČ 2020, p. 2.

of communication. The students also reviewed all the scientific investigations that had been carried out in the church, which was very helpful in identifying the situation and drawing up guidelines for conservation-restoration.

The state of the paintings in 2021

On first visual inspection, the wall paintings showed many signs of decay due to the increased level of humidity in the past. The main causes of the decay include condensation, moisture rising through the masonry (especially in the lower part of the walls due to the capillary rise of groundwater), the presence of soluble salts, leaks caused by a damaged roof, the freeze-thaw cycle, construction and renovation interventions over the centuries, and other human factors.

The state of the stone walls and plasters

The walls of the nave, which are built of locally quarried stone that has been broken and dressed, are free of major cracks that would compromise the stability of the building except in the entrance area. The stone vault of the triumphal arch is without major deformations. Some deformations are visible on the west and south walls of the nave, but their condition is also stable. The deformation and consequent cracking of the walls is probably due to the reduced adhesion of the mortar in the masonry and the increased load on the walls due to the concrete roof construction (carried out during the reconstruction of the stone roof in 1986 and 1987) and the relatively shallow foundations.¹¹ Examination of the paintings with the naked eye revealed several cracks on the west wall and two long vertical cracks on the north wall – on its left edge and on the depiction of the last king. The latter is also clearly visible with a thermal imager and under raking light (Figs. 6 and 7). Elsewhere, including on the south wall, the cracks in the plaster are smaller.

It can roughly be estimated that about three quarters of the original painted plaster is preserved on the north wall, probably slightly less than half on the south wall and less than 20% on the west wall. The missing areas were filled in with new plaster in the 1960s, as the original rough plaster without the paint layer had already deteriorated. On the south wall, traces of injection grout from those interventions are visible in several places. Thermal analyses helped find areas of bulging where the plaster was delaminating, and moisture in the wall. Thermal imaging of the north and south walls did not reveal cooler walls in the lower areas, which would indicate that capillary moisture was rising from the ground.¹² The detachment of plaster or poor adhesion of the individual layers could be better detected by systematically knocking the surface. Knocking tests revealed several critical areas on all the walls at floor level and at the junctions between the different plaster layers (Fig. 8), where the cohesion of the plaster layers and the paint layer has deteriorated.¹³ Microscopic analysis (SEM-EDS) of the samples taken did not reveal any soluble salts in the plaster. The presence of gypsum was only visible on the surface of the plaster. In addition to gypsum salts, nitrates and sodium chloride were also observed in some of the samples analysed.¹⁴ The fairly widespread pitting on the surface of the plaster on all the walls could be the result of dispersed processes of crystallisation and the hydration of water-soluble salts in the plaster, which may no longer be active. Aggregate grains can be seen in the pits or eruptions (Fig. 9).

The state of the paint layer

The paint layer on all the paintings is slightly faded, especially the *secco*. Certain details painted in the *secco* technique can no longer be seen with the naked eye. A close examination under UV light revealed the interesting discovery of a mouse painted on the north wall of the nave. When checking the stability (cohesion and adhesion) of the paint layer, we found that some colours, especially red and yellow were less stable, as traces of paint remained on damp cotton

¹¹ GERLIČ 2020, p. 2.

¹² KAVKLER 2024, p. 123.

¹³ The plaster under the paintings is coming away from the support in various places, probably due to the transport of water-soluble salts.

¹⁴ KAVKLER 2024, p. 124.

wool when the surface was lightly rubbed with it (swab test). The paintings also showed other localised visual changes in the paint layer, such as saturation of the paint, which could be the result of moisture acting on the surface or the use of binders in previous restoration work. Small areas where the paint layer is slightly darkened (Fig. 10) can be seen on the upper part of the north wall. This may be the result of chemical changes in the organic binder that may have been used in previous restoration work.¹⁵ There are also localised dark or black stains on the north wall, probably due to burning candles.¹⁶ In some places, shiny areas of the paint layer are visible under raking light, but their origin is not clear. Some of the paint layer has yellowed over the years, again probably due to several factors (Fig. 11). Below the windows on the north and south walls there are visually very disruptive traces of water seepage, both in the plastered areas and on the paintings. The streaks and changes in the paint layer are due to an increased amount of water.

On both the north and south walls the entire surface has instances of paint detachment and both superficial and deep abrasions. The abrasions are the result of mechanical rubbing in the past due to people or objects leaning too hard against the wall. They are also due to alterations to the masonry and the later uncovering of the paintings from under the whitewash in the 1960s. On the south wall, graffiti – engraved names and years – can be seen in the spaces between the different *Passion* scenes. The oldest date back to the beginning of the 16th century.¹⁷ The graffiti are now an interesting and important document of the time, even though the incisions damaged both the paint layer and the top part of the plaster. The cracks which run as deep as the plaster or even the support in some places and are clearly visible due to the interruption of the paint layer, are present mainly on the north wall, with a few on the left side of the south wall and near the bricked-up openings. In some places the paint layer itself is also cracked, something typical of *secco* layers. Some slight flaking occurs in only a few places.

During the Summer School and in the course of conservation-restoration work, chemical surveys were carried out on the entire surface of the paintings, which revealed the presence of several decay factors that are detrimental to the durability of the paintings. The presence of salts such as calcium sulphate (gypsum), nitrates and sodium chloride was detected.¹⁸ The salts are visible in some places as a crust on the paint surface, and in some places as a white veil, but the presence of salts is not visible on most of the painted surfaces. There is no significant presence of micro-organisms on the surface of the paintings. The analysed paint layer samples show a relatively low presence of calcium oxalate, suggesting that biodegradation is not widespread on the paintings despite the high RH values. However, there was no lack of cobwebs, dust and other dirt on the surface.

Conclusion

In 2021 the wall paintings were in a deteriorated state due to architectural renovations and high moisture levels in the past. The adhesion of the mortar and wall paintings had deteriorated in some places. Other deterioration phenomena included past biological growth, some flaking of the paint layer, a few large cracks, loss of adhesion of the paint layer and dusting, damage to the plaster and paint layers in the form of hollow areas, deposits of dirt and decay materials (salts) on the surface. The conservation-restoration work carried out in parallel with the Summer School has either solved most of these problems or improved the situation.

¹⁵ Some of the samples analysed showed the presence of proteins or calcium oxalates. For more detailed results, immunofluorescence microscopy for ovalbumin was carried out at the IPCHS Research Institute on three samples extracted in 2003. The analysis confirmed the presence of proteins in two samples (GDC 4 and 5), but not in the third (GDC 10). KAVKLER 2024, pp. 23, 25, 33, 124.

¹⁶ Wax was reliably identified in one of them while the other showed the presence of carboxylates, suggesting the presence of organic materials containing carboxylic acids (wax, resin or oil). KAVKLER 2024, p. 49. The samples containing ovalbumin were extracted from the green surfaces and show the presence of proteins in the plaster and paint layers. It is not clear whether this is due to consolidation or to the original material. KAVKLER 2024, p. 124.

¹⁷ PREMRL 2006, p. 475.

¹⁸ KAVKLER 2024, p. 124.

Small hairline cracks are still visible on the surface and many abrasions are present.¹⁹ Locally, white veils and a darkened paint layer are still present, especially in the upper part of the north wall. Even after extensive research, observation and interpretation of the results, the stains on the north wall remain a mystery, as does the reason for their occurrence and the method that should be used to remove them. We are convinced that they only affect the appearance and do not reduce the painting's stability so we have not removed them.

Temperature and relative humidity measurements continue to be taken in the church. Although the levels measured are sometimes extreme (very low temperatures or high relative humidity), there is no condensation on the wall paintings and there are no visible signs of moisture passing through the wall to the surface, thus allowing water-soluble salts to migrate to the surface of the painting and cause damage. The walls around the paintings are relatively stable. The church is regularly ventilated by the villagers, and UV protection is installed on the windows. We may conclude that the painting has been taken care of as best as possible in the given situation.

¹⁹ Reducing the visibility of distractive abrasions became a challenge for the aesthetic presentation of the wall paintings, a topic that was addressed at the 2023 Summer School during which participants produced examples of colour reintegration on the south wall.

REZULTATI POLETNE ŠOLE RESULTS OF THE SUMMER SCHOOL



“ Ko je bila restavratorska šola, je bilo zelo lepo, zelo živahno! Mi smo z veseljem pomagali!
When the restoration school was held here, it was very nice, very lively! We loved helping!”
Bojan Spasojevič

L'INTERVENTO DI RESTAURO. TEST COMPARATIVI PRELIMINARI

Alberto Felici, Marta Bensa

Introduzione

Per la realizzazione del progetto di restauro del ciclo di affreschi della navata della chiesa di Sant'Elena a Gradišče pri Divači, è stata organizzata una campagna diagnostica con l'obiettivo di individuare i materiali costitutivi e le cause responsabili dello stato di conservazione e delle diverse forme di degrado. Queste indagini preliminari si sono focalizzate sullo studio della tecnica pittorica e sulla natura dei prodotti di alterazione imputabili all'interazione dei precedenti interventi di restauro con gli inquinanti atmosferici presenti nella chiesa. In estrema sintesi, si può affermare che:

- con le indagini termografiche è stato possibile evidenziare le parti più soggette a fenomeni di distacco e condensa e di pregressi dilavamenti;
- le osservazioni con la luce ultravioletta (UV) hanno evidenziato quelle disomogeneità cromatiche indotte dal fenomeno della fluorescenza che possono far sospettare sia la presenza di materiali estranei sulla superficie del dipinto applicati nei precedenti interventi di restauro sia l'utilizzo di leganti organici nella realizzazione pittorica.

Con tali presupposti è stata effettuata la prima campagna di campionamento durante la Summer School 2021, a cui ne sono seguite altre nel corso dell'intervento.

I risultati di queste indagini hanno evidenziato che questi dipinti sono stati principalmente eseguiti con la tecnica del buon fresco con alcune parti condotte "a mezzo fresco" e a secco. Queste informazioni confermano quanto osservato visivamente, sia per le caratteristiche materiche della superficie pittorica sia per la presenza delle giornate. I pigmenti utilizzati nel ciclo pittorico sono l'ematite (prob. caput mortuum), la terra verde, la goethite, il nero carbone e il vermiglione. Le indagini microscopiche sui campioni dell'intonaco hanno evidenziato la calcite come legante dell'affresco e un aggregato silicatico. Le indagini RAMAN e SEM/EDS hanno rilevato la presenza del solfato di calcio in pressoché tutti i campioni, indicato come prodotto di deterioramento. La microscopia UVF ha evidenziato uno strato trasparente presente nella maggior parte dei prelievi che ha rivelato presenza di ossalati, calcite e solfato di calcio, oltre alla presenza di un filmogeno sintetico, probabilmente Calaton,¹ applicato nel precedente intervento di restauro come consolidante o protettivo.

Una volta raccolte queste informazioni sullo stato di conservazione, sulla tecnica esecutiva e sulla storia conservativa dei dipinti, è stato necessario avviare un confronto fra tutti i tecnici coinvolti nel progetto per individuare le modalità con cui realizzare l'intervento di restauro. Non si trattava di operare scelte esclusivamente tecniche, ma di comprendere quali fossero le necessità del ciclo pittorico nel suo insieme che avrebbero consentito di armonizzare gli aspetti legati alla conservazione dei materiali costitutivi e alla valorizzazione degli elementi stilistici, storici e artistici. Una volta stabilizzata la materia pittorica con interventi di messa in sicurezza del colore e degli intonaci di supporto, è stata valutata la necessità di rimuovere alcuni materiali dalla superficie, per favorire una migliore leggibilità dei dipinti e consentire un più efficace trattamento consolidante. Questo intervento ha reso meno complicate anche le successive operazioni di integrazione e ritocco pittorico.

L'intervento: test preliminari

Prima di eseguire le prove di pulitura, sono stati condotti test di assorbimento dell'acqua e test sul grado di coesione della pellicola pittorica, in modo da valutare il comportamento del substrato pittorico e determinare la procedura d'intervento più efficace e rispettosa per l'opera d'arte.

La capacità di assorbimento dell'acqua della superficie pittorica è un dato fondamentale per la valutazione della porosità, che può fornire indirettamente un'indicazione sul grado di coesione della pellicola pittorica (Foto 1). I dati di queste misurazioni ci hanno permesso di ottenere delle informazioni molto significative per indirizzare le prime operazioni di pulitura e successivamente le operazioni di consolidamento. Si tratta di misurazioni puramente

¹ Il Calaton C è un nylon modificato solubile in acqua e alcool, che è stato usato in maniera diffusa negli anni '70 in Slovenia.



Foto 1: Parete nord, prove di assorbimento dell'acqua (foto: Katarina Bartolj, 2021).
Fig. 1: North wall, water-absorption tests (photo: Katarina Bartolj, 2021).

indicative, perché dipendono molto dalle condizioni della struttura della parete, dalla temperatura e dall'umidità relativa, ma possono fornire informazioni relative e comparative. I risultati hanno mostrato che i dipinti della parete sud hanno una capacità di assorbimento maggiore di acqua. La parete occidentale ha mostrato i valori più bassi di assorbimento di acqua e in alcuni punti l'assorbimento era addirittura quasi del tutto assente. Un dettaglio interessante è relativo al fatto che questo test ha dimostrato che le aree in alto assorbono una maggiore quantità di acqua. Le cause di queste differenze possono essere molteplici, ma rappresentano di per sé un'importante indicazione di massima.² In concomitanza al test di assorbimento, abbiamo effettuato delle prove di coesione tramite tamponcini di cotone inumiditi di acqua, per verificare l'eventuale presenza di fenomeni di pulverulenza a carico delle diverse stesure pittoriche (Foto 2). Nella maggior parte della campionatura abbiamo riscontrato una relativa stabilità della superficie, sia in funzione della solubilità in acqua sia in relazione al leggero sfregamento del tampone. Tuttavia si è potuto osservare che alcune campiture rosse e gialle della parete sud si presentavano meno coese e stabili.³

² Un diverso assorbimento superficiale dell'acqua da parte della superficie pittorica di un dipinto murale può essere il sintomo di diversi fattori legati a una diversa tecnica esecutiva, a un differente stato di conservazione o anche ai diversi trattamenti eseguiti nei precedenti interventi di restauro. In questa fase delle operazioni, questi test hanno principalmente un valore comparativo fra le diverse aree del dipinto e hanno l'obiettivo di fornire un orientamento generale iniziale in merito all'utilizzo delle diverse procedure.

³ Al momento non è stata identificata una causa specifica che possa giustificare questa osservazione. Si può ipotizzare che questi pigmenti siano più sensibili all'azione chelante dell'acqua verso alcuni reagenti che forse sono stati utilizzati nei precedenti interventi di restauro e, in particolare, durante le operazioni di descalbo.



Foto 2: Parete sud, prove di coesione tramite tamponcini di cotone inumiditi di acqua (foto: Alberto Felici, 2021).
Fig. 2: South wall, cohesion tests using cotton swabs moistened with water (photo: Alberto Felici, 2021).

Prove di pulitura

Con queste informazioni è stato composto un quadro generale dello stato di conservazione della superficie pittorica che ci ha consentito di eseguire le prime prove di pulitura comparate e di mettere a punto una metodologia che permettesse di risolvere tre problemi: eliminare, per quanto possibile, la solfatazione che si era formata prevalentemente subito al di sotto dello strato pittorico; rimuovere dalla superficie lo sporco accumulatosi nel tempo e i residui del fissativo applicato nei precedenti interventi di restauro; e infine facilitare l'asportazione dei resti della scialbatura che un tempo copriva tutta la superficie pittorica.

Abbiamo selezionato alcune aree dove effettuare i test preliminari tenendo in considerazione i risultati delle prove di coesione della pellicola pittorica e di assorbimento di acqua. Le prime prove sono state eseguite su un'area particolarmente stabile e ben conservata e successivamente le abbiamo estese anche ad aree più compromesse, per avere un ventaglio più ampio di informazioni. Abbiamo usato reagenti diversi per valutare il grado di pulitura, sia visivamente sia mediante approfondimenti diagnostici per comprendere le modalità della decontaminazione dei sali inquinanti. Le varie prove sono state eseguite con carbonato di ammonio, bicarbonato di ammonio e resine a scambio ionico, usando metodi di applicazione e supportanti diversi: a pennello su carta giapponese, con impacco a base di Arbocel 1000 e sepiolite con vari tempi di contatto. Tutte le aree selezionate sono state preventivamente pulite con acqua distillata, dopodiché le varie soluzioni di reagenti sono state applicate con vari metodi, quindi la superficie è stata rilavata con spugne naturali per rimuovere le sostanze estranee rigonfiate e solubilizzate. Si è osservato che dopo questa operazione il colore risultava più vibrante e luminoso. È apparso evidente che il reagente aveva la capacità di rimuovere con una certa facilità le sostanze estranee presenti sulla superficie pittorica. Era inoltre particolarmente importante individuare il corretto tempo di contatto degli impacchi affinché questa rimozione non necessitasse di un'eccessiva azione meccanica con il cotone o la spugna. Gli effetti della pulitura sono stati più evidenti sulla parete sud, nell'area

N1,⁴ perché qui i depositi erano più consistenti. Occorre notare che la pulitura con acqua demineralizzata ha avuto un effetto particolarmente efficace sulla parete nord e sulla parete ovest. Tuttavia in alcune aree la rimozione di questi depositi superficiali ha messo in evidenza un velo biancastro sulla pellicola pittorica che le indagini chimiche hanno ipotizzato essere composto da un mix costituito da residui di scialbi pregressi non perfettamente rimossi nei precedenti interventi di restauro, da un consolidante filmogeno di natura sintetica (Calaton) applicato negli anni Settanta e da un velo di sali inquinanti principalmente composti da solfato di calcio. La consistenza di questi imbiancamenti differiva per spessore e consistenza cosicché il colore sottostante appariva variamente offuscato.

Per rimuovere il velo biancastro, solubilizzare il solfato di calcio individuato dalle indagini e ridurre i residui dei materiali applicati nei precedenti interventi, abbiamo deciso di utilizzare sali di ammonio, carbonato e bicarbonato in diverse concentrazioni, fino a ottenere una soluzione acquosa al 20%. Le prime prove sono state eseguite con tempi di contatto relativamente brevi, intorno ai 10 minuti, con una soluzione applicata a pennello su un foglio di carta giapponese. Una volta rimossa la carta giapponese, sulla superficie pittorica è apparso un compatto velo biancastro che è stato rimosso attraverso una leggera azione meccanica con pennellini di setola dura e corta e con spugne wishab e gomme di caucciù. Dove questa azione meccanica non era efficace abbiamo ottenuto buoni risultati tramite l'uso di una soluzione al 5% di triammonio citrato in acqua e in acqua calda. La caratteristica fragilità di questo strato di imbiancamento è associabile all'effetto combinato dei sali di ammonio, che esercitano un'azione di rigonfiamento su una grande quantità di sostanze organiche naturali, e un'azione di solubilizzazione dei solfati.⁵ Nelle aree S, W e N1 abbiamo voluto migliorare il sistema di pulitura prolungando il tempo di applicazione del bicarbonato d'ammonio a 30 minuti, supportato con un impacco di Arbocel BC 200 su carta giapponese. Concludendo, in tutte le aree trattate abbiamo ottenuto risultati migliori con l'applicazione della soluzione di bicarbonato d'ammonio applicato a impacco, perché in questo modo le sostanze da rimuovere risultavano rigonfiate più omogeneamente ed era sufficiente una minore azione meccanica una volta rimosso l'impacco. Successivamente, utilizzando i medesimi tempi di contatto e le stesse procedure di applicazione, sono state effettuate anche prove con ammonio carbonato. I risultati sono stati altrettanto soddisfacenti e in alcune aree, forse grazie ad un pH più elevato di questo reagente, la rimozione del velo di imbiancamento è stata più semplice.

I test di pulitura hanno previsto anche l'utilizzo di resine a scambio anionico, che favoriscono la decontaminazione superficiale dai solfati e, grazie alla loro leggera alcalinità, facilitano la rimozione delle sostanze indesiderate presenti sul film pittorico. Per rendere più efficace il trattamento e allo stesso tempo limitare la presenza di residui di granelli delle resine, queste ultime sono state applicate tramite due fogli di carta giapponese, con un tempo di contatto variabile da 10 a 30 minuti, durante i quali sono state inumidite con acqua per facilitare l'estrazione degli ioni solfato. I risultati di queste prove sono paragonabili a quelli delle prove eseguite con i sali di ammonio.

Prove di consolidamento

Al termine dei test di pulitura è emersa la necessità di eseguire il consolidamento della pellicola pittorica a causa della presenza di solfato di calcio e della leggera decoesione di alcune campiture pittoriche, in particolare le stesure gialle e rosse della parete sud. Fin da subito ci siamo orientati verso l'utilizzo di prodotti inorganici che garantiscono una grande affinità fisico-chimica con i materiali costitutivi dei dipinti. Si sono quindi eseguite prove di consolidamento comparato fra sospensioni idroalcoliche di idrossido di calcio⁶ e una soluzione di idrossido di bario.⁷ Ambedue questi sistemi sono

⁴ Parete nord, centro della raffigurazione dei Magi.

⁵ È estremamente difficile stabilire con esattezza la natura di questo fenomeno perché sulla superficie pittorica di questi dipinti è stata individuata una grande mescolanza di materiali inorganici e organici sintetici e naturali.

⁶ È stato utilizzato il prodotto commerciale Nanorestore, sospensione colloidale al 5% in alcol isopropilico di nanoparticelle di idrossido di calcio di dimensioni comprese fra 20 e 50 nanometri.

⁷ Soluzione di idrossido di bario in acqua al 10%.



Foto 3a: Parete sud, scena della *Resurrezione*, GDC 35, campione F (foto: Katja Kavkler, 2021).
Fig. 3a: South wall, *Resurrection* scene, GDC 35, sample F (photo: Katja Kavkler, 2021).

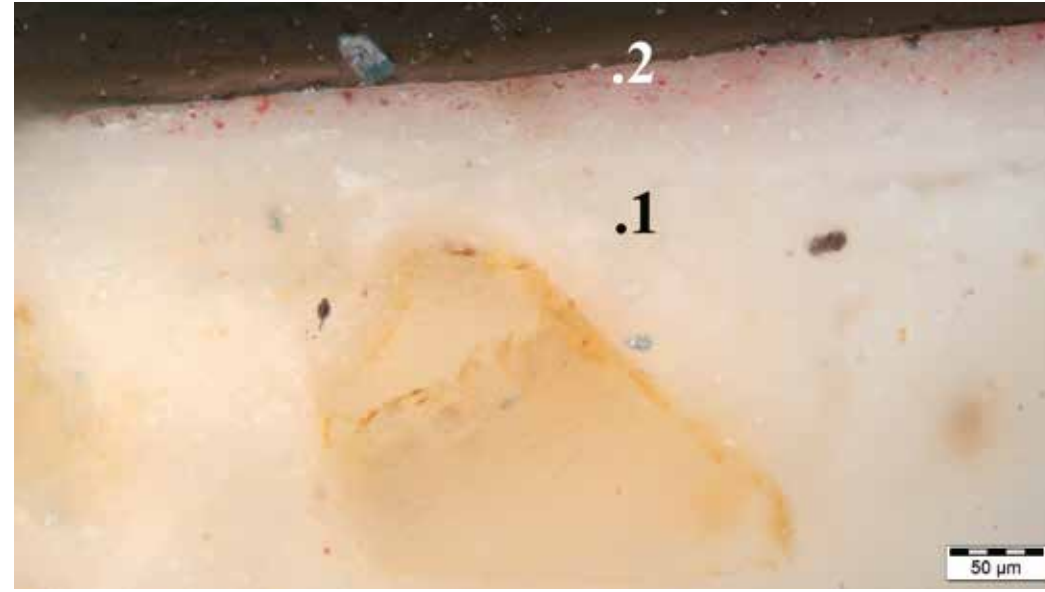


Foto 3b: Parete sud, GDC 35, campione F, applicazione di resine anioniche, 30 minuti di contatto, sezione lucida osservata al microscopio ottico a luce visibile (foto: Katja Kavkler, 2021).
Fig. 3b: South wall, GDC 35, sample F, application of anion resins, 30-minute contact, glossy section observed under a visible-light optical microscope (photo: Katja Kavkler, 2021).



Foto 4a: Parete sud, cornice bianca, scena delle *Tre Marie al sepolcro*, GDC 36, campioni G, H, I (foto: Katja Kavkler, 2021).
Fig. 4a: South wall, white frame, scene of the *The Three Marys at the Tomb*, GDC 36, samples G, H, I (photo: Katja Kavkler, 2021).

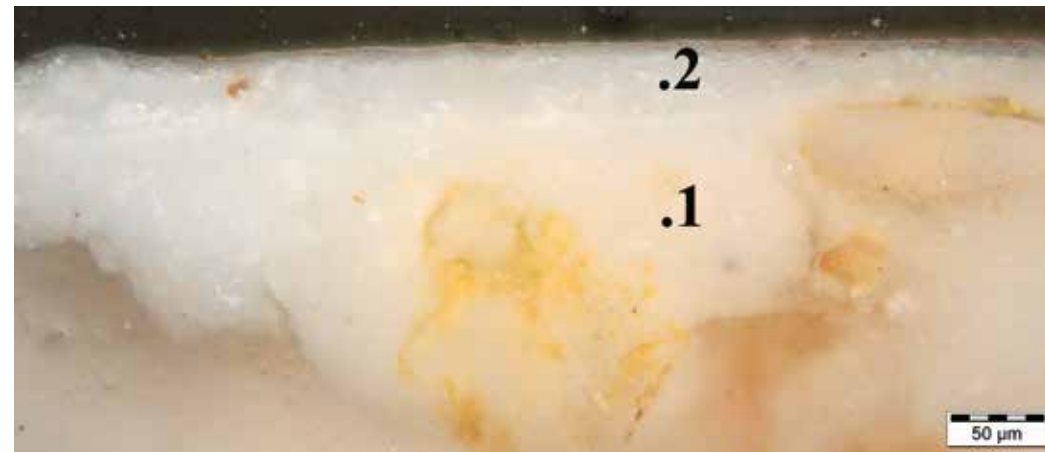


Foto 4b: Parete sud, cornice bianca, scena delle *Tre Marie al sepolcro*, GDC 36, campione G: sezione lucida osservata al microscopio ottico a luce visibile (foto: Katja Kavkler, 2021).
Fig. 4b: South wall, white frame, scene of the *The Three Marys at the Tomb*, GDC 36, sample G: glossy section observed under visible-light optical microscope (photo: Katja Kavkler, 2021).

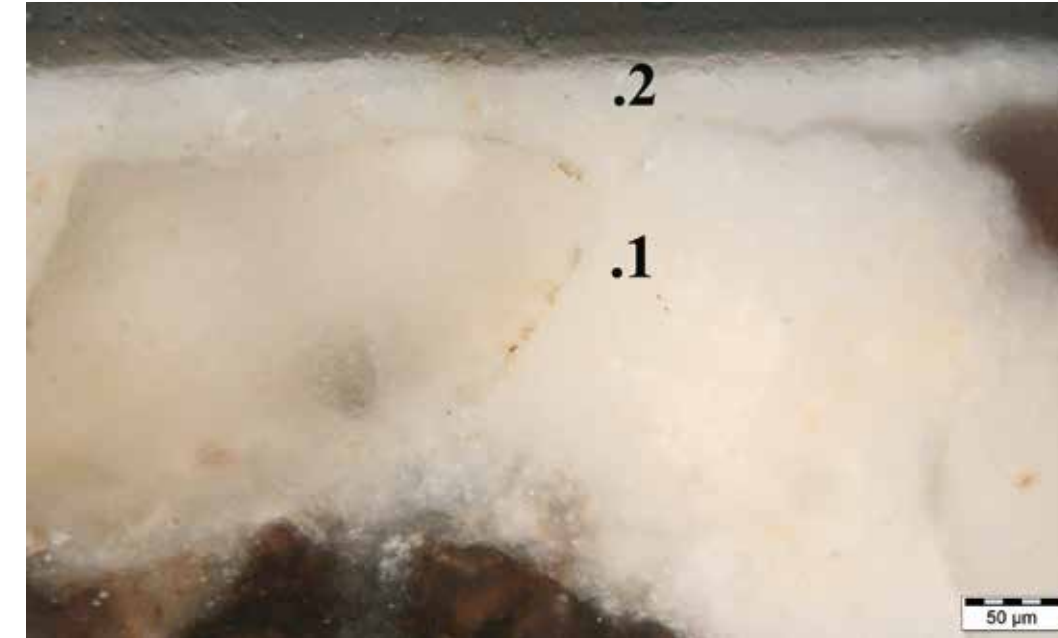


Foto 4c: Parete sud, cornice bianca, scena delle *Tre Marie al sepolcro*, GDC 37, campione H: sezione lucida osservata al microscopio ottico a luce visibile (foto: Katja Kavkler, 2021).
Fig. 4c: South wall, white frame, scene of the *The Three Marys at the Tomb*, GDC 37, sample H: glossy section observed under visible-light optical microscope (photo: Katja Kavkler, 2021).

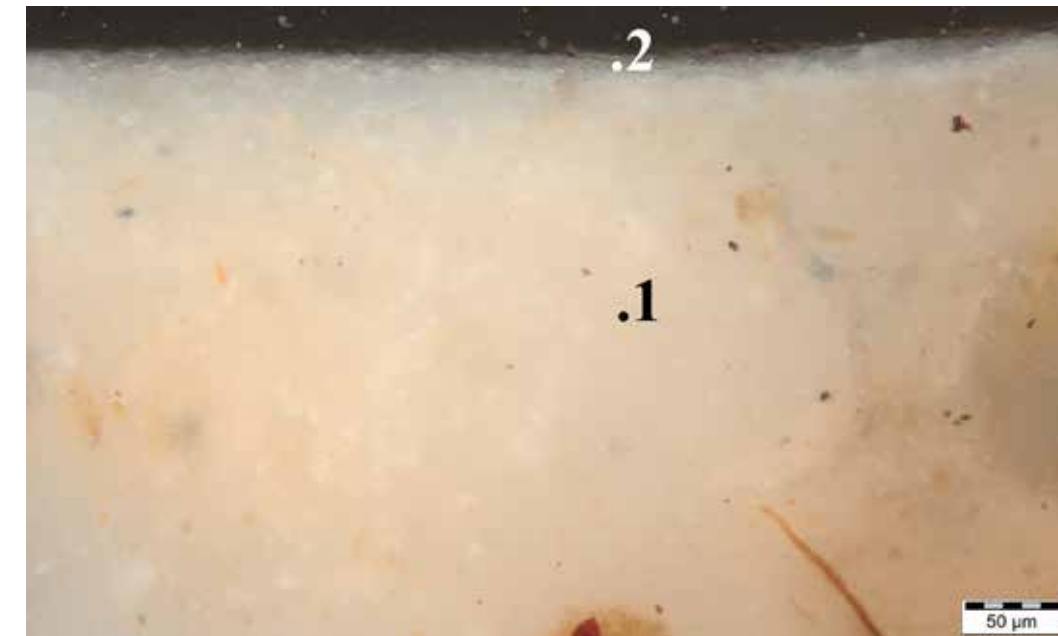


Foto 4d: Parete sud, cornice bianca, scena delle *Tre Marie al sepolcro*, GDC 38, campione I: sezione lucida osservata al microscopio ottico a luce visibile (foto: Katja Kavkler, 2021).
Fig. 4d: South wall, white frame, scene of the *The Three Marys at the Tomb*, GDC 38, sample I: glossy section observed under visible-light optical microscope (photo: Katja Kavkler, 2021).



Foto 5a: Parete sud, drappo rosso, scena delle *Tre Marie al sepolcro*, GDC 39, campione J (foto: Katja Kavkler, 2021).

Fig. 5a: South wall, red drape, scene of the *The Three Marys at the Tomb*, GDC 39, sample J (photo: Katja Kavkler, 2021).

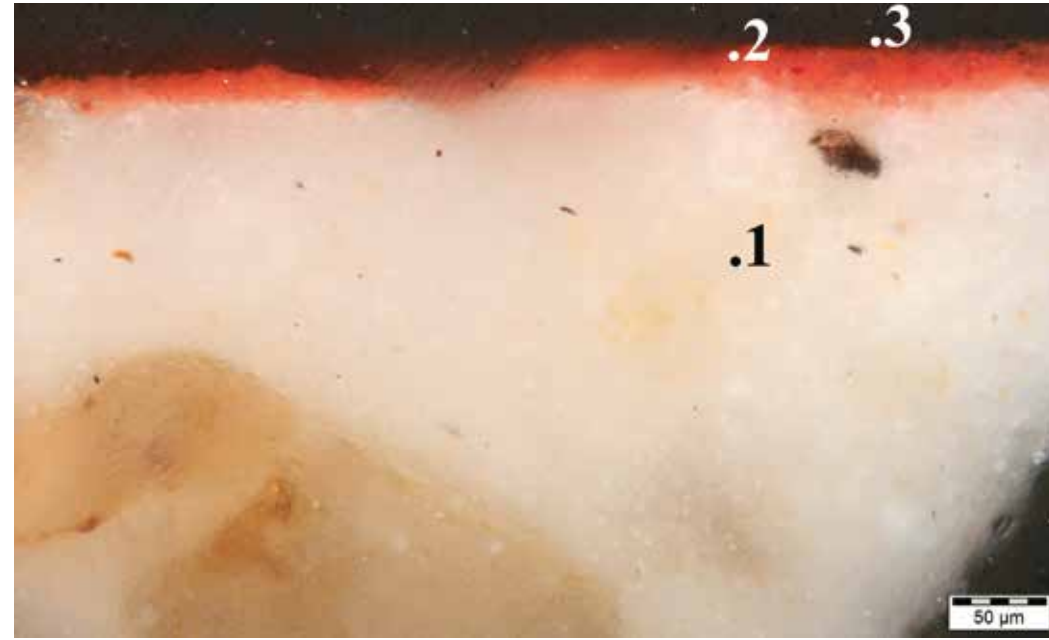


Foto 5b: Parete sud, drappo rosso, scena delle *Tre Marie al sepolcro*, GDC 39, campione J: sezione lucida osservata al microscopio ottico a luce visibile (foto: Katja Kavkler, 2021).

Fig. 5b: South wall, red drape, scene of the *The Three Marys at the Tomb*, GDC 39, sample J: glossy section observed under visible-light optical microscope (photo: Katja Kavkler, 2021).

stati utilizzati in numerosi interventi e rappresentano una scelta operativa di grande efficacia. Gli effetti consolidanti sono fra loro paragonabili: l'applicazione delle "nanocalci" consente di ottenere un effetto consolidante più blando e superficiale, ma il prodotto finale, il carbonato di calcio, è esattamente identico al legante del dipinto. Il trattamento con l'idrossido di bario ha una maggiore penetrazione nella porosità della pellicola pittorica e dell'intonachino, ma l'elevata alcalinità e l'applicazione a impacco possono favorire la modifica chimico-fisica di alcuni pigmenti e di alcuni leganti organici. Tuttavia il trattamento con l'idrossido di bario applicato dopo la pulitura con reagenti ammoniacali, come il carbonato e il bicarbonato di ammonio, consente di stabilizzare il solfato di calcio mediante la sua trasformazione in solfato di bario, un sale molto meno solubile e quindi potenzialmente meno dannoso.

Al termine delle prove comparative, in base ai risultati verificati anche mediante indagini diagnostiche, si è ritenuto più adeguato l'utilizzo del trattamento con l'idrossido di bario, perché non si è osservata nessuna alterazione della pellicola pittorica, i colori hanno acquistato una maggiore saturazione e una più intensa luminosità e il rischio di processi di deterioramento dovuti alla presenza del solfato di calcio sulla superficie pittorica si è drasticamente ridotto. A titolo esemplificativo si descrivono i tasselli di pulitura e di consolidamento più significativi corredati dai relativi approfondimenti diagnostici:⁸

- GDC 35, parete sud, scena della *Resurrezione* (Foto 3a). Pulitura: applicazione di resine anioniche, 30 minuti di contatto. Le sezioni lucide osservate al microscopio ottico a luce visibile nel campione F (Foto 3b) e UV mostrano una superficie pulita, senza la presenza dello strato trasparente visibile in altri campioni a luce UV prima della pulitura. La spettroscopia Raman rileva la presenza di ematite come pigmento e la calcite come legante.
- GDC 36, parete sud, cornice bianca, scena delle *Tre Marie al sepolcro* (Foto 4a). Pulitura con acqua distillata tramite spugna naturale su carta giapponese. Le sezioni lucide osservate al microscopio ottico a luce visibile nel campione G (Foto 4b) e UV mostrano una superficie pulita con una minima presenza di uno strato trasparente superficiale. La spettroscopia Raman rileva la calcite e forse una minima presenza di gesso. La spettroscopia FTIR rileva la presenza di gesso, ossalati e proteine (compatibile con lo strato sottile trasparente sulla superficie). Le analisi SEM/EDS mostrano la quasi totalità di calcio corrispondente al legante e di silicio e alluminio con una piccola percentuale di magnesio corrispondente all'aggregato.

⁸ ODIĆ, MLADENVIĆ 2021, pp. 59-71.

- GDC 37 - campione H, parete sud, cornice bianca, scena delle *Tre Marie al sepolcro*. Consolidamento con idrossido di bario, 4 ore di applicazione, previa pulitura con acqua distillata tramite spugna naturale su carta giapponese. Le sezioni lucide osservate al microscopio ottico a luce visibile (Foto 4c) e UV mostrano una superficie pulita. La spettroscopia Raman rileva la calcite. Le analisi SEM/EDS mostrano la quasi totalità di calcio corrispondente al legante e di silicio e alluminio corrispondente all'aggregato, oltre alla presenza di bario come consolidante che si è posizionato verosimilmente dove prima c'era la presenza dei solfati.
- GDC 38 - campione I, parete sud, cornice bianca, scena delle *Tre Marie al sepolcro*. Pulitura con bicarbonato d'ammonio applicato a pennello e consolidamento con idrossido di bario, 4 ore di applicazione. Le sezioni lucide osservate al microscopio ottico a luce visibile (Foto 4d) e UV mostrano una superficie pulita. La spettroscopia Raman rileva la calcite. Le analisi SEM/EDS mostrano la quasi totalità di calcio corrispondente al legante e di silicio e alluminio corrispondente all'aggregato, oltre alla presenza di bario come consolidante che si è posizionato verosimilmente dove prima c'era la presenza del solfato.
- GDC 39, parete sud, drappo rosso, scena delle *Tre Marie al sepolcro* (Foto 5a). Pulitura con bicarbonato d'ammonio con impacco, 30 minuti di applicazione. Le sezioni lucide osservate al microscopio ottico a luce visibile nel campione J (Foto 5b) e UV mostrano una superficie pulita. La spettroscopia Raman rileva l'ematite e il vermiglione come pigmento e la calcite come legante. Le analisi SEM/EDS mostrano la quasi totalità di calcio corrispondente al legante e di silicio, alluminio e magnesio corrispondente all'aggregato.

Conclusioni

I test di pulitura e di consolidamento sono stati condotti per identificare una metodologia di intervento che consentisse di valorizzare la materia di cui questi dipinti sono composti, che era in parte alterata dalla presenza di residui di depositi di sporco e di fissativi alterati applicati nei precedenti interventi di restauro e in parte era mortificata da una generalizzata opacità della pellicola pittorica. Non si trattava di acquisire soltanto una maggiore leggibilità e una migliore visibilità, ma era importante anche stabilizzare e neutralizzare il potenziale rischio legato alla presenza di sali mediamente solubili sulla superficie pittorica. Non un rischio immediato, in quanto non sono stati individuati specifici danni riconducibili a questi sali, ma un rischio che in futuro avrebbe potuto compromettere la conservazione dell'intero ciclo pittorico. I risultati di questi test sono stati utilizzati dai restauratori del Centro di restauro di Lubiana che hanno portato a termine l'intero intervento.⁹ È importante sottolineare che le scelte operative sono dipese anche da specifiche esigenze didattiche, perché era necessario consentire agli studenti di seguire un percorso di valutazione e di apprendimento adeguato alle loro conoscenze di base.

Letteratura e fonti / References

ODIĆ, MLADENVIĆ 2021: Odić, Marko, Mladenović, Ajda, *Report: Summer school Gradišče pri Divači (Slovenia), Church of St. Helen, Conservation-restoration of wall paintings*, Annex n. 9, Programs of the Summer school 2021.

⁹ Vedi capitolo *Cleaning and consolidating the wall paintings* (Anka Batič, Andrej Jazbec) nella presente pubblicazione.

THE RESTORATION INTERVENTION: PRELIMINARY COMPARATIVE TESTS

Alberto Felici, Marta Bensa

Introduction

In order to realise the project of conserving-restoring the cycle of frescos in the nave of the Church of St Helen in Gradišče pri Divači, a diagnostic campaign was organised with the aim of identifying the constituent materials and the causes responsible for the state of conservation as well as the different forms of degradation. These preliminary investigations focused on the analysis of the painting technique and the nature of the products of alteration attributable to the interaction of previous conservation-restoration interventions with atmospheric pollutants present in the church. To summarise very briefly, it can be stated that:

- by means of the thermographic analyses, it was possible to highlight the parts most prone to peeling and condensation phenomena as well as areas subject to water damage in the past;
- examination with ultraviolet light (UV) revealed chromatic inhomogeneities induced by the phenomenon of fluorescence, which can be indicative of both the presence of foreign materials on the surface of the painting applied during previous conservation-restoration interventions and the use of organic binders in the creation of the painting.

Based on these premises, the first sampling campaign was carried out during the 2021 Summer School, followed by others over the course of the intervention.

The results of these analyses showed that these paintings were mainly executed with the *buon fresco* technique with some parts carried out using *mezzo-fresco* and *secco* techniques. This confirmed what had been observed visually, both with respect to the material characteristics of the paint surface and the presence of *giornate*. The pigments used in the cycle of paintings are haematite (probably *caput mortuum*), green earth, goethite, carbon black and vermillion. Microscopic analyses of the plaster samples revealed calcite as the binder of the fresco and a silicate aggregate. Raman and SEM/EDS analyses detected the presence of calcium sulphate in almost all samples, which was specified as a product of deterioration. UVF microscopy revealed the presence of a transparent surface layer in most of the samples, which was found to contain oxalates, calcite and calcium sulphate, as well as a synthetic filmogen, probably Calaton,¹ applied in the preceding conservation-restoration intervention as a consolidating or protective agent.

Once information on the state of conservation, the painting technique and the conservation-restoration history of the paintings had been gathered, it was necessary to begin a discussion among all the specialists involved in the project to determine how to carry out the conservation-restoration intervention. This was not a question of making purely technical choices, but of understanding what the needs of the cycle of paintings as a whole were in order to harmonise aspects relating to the preservation of constituent materials and the enhancement of stylistic, historical and artistic elements. Once the material of the paintings had been stabilised by interventions designed to secure the colour and supporting plaster, it was evaluated whether it was necessary to remove any materials from the surface in order to facilitate an improved legibility of the paintings and enable a more effective consolidating treatment. This intervention also made the subsequent operations of integrating and retouching the paintings less complicated.

The intervention: preliminary tests

Before the performance of cleaning trials, water-absorption tests and testing of the degree of cohesion of the paint film were conducted in order to assess the behaviour of the painting substrate and establish the most effective and appropriate intervention procedure for the work of art.

The water-absorbing capacity of the surface of the painting is a fundamental datum for the evaluation of porosity, which can indirectly provide an indication of the degree of cohesion of the paint film (Fig. 1). The data of these measurements allowed us to obtain very significant information for the selection of the systems of the first cleaning

¹ Calaton C is a modified nylon soluble in water and alcohol, which was used extensively in Slovenia in the 1970s.

operations as well as the subsequent consolidation operations. These measurements are purely indicative, as they are highly dependent on the condition of the wall structure, on temperature and on relative humidity, but they can furnish relative and comparative information. The results showed that the paintings on the south wall have a greater water-absorbing capacity. The western wall exhibited the lowest water-absorption values and in some places absorption was even virtually entirely non-existent. An interesting detail pertains to the fact that this test demonstrated that the areas higher up absorb a larger quantity of water. The causes of these differences can be manifold, but the differences themselves represent an important general indication.² In conjunction with the absorption test, we carried out cohesion tests using cotton swabs moistened with water in order to check for the possible presence of chalking phenomena in the different painted surfaces (Fig. 2). In the majority of the tests, we observed a relative stability of the surface, both as a function of water solubility and in relation to a light rubbing with a swab. It was possible to observe, however, that some red and yellow background colours on the south wall were less cohesive and stable.³

Cleaning trials

This information was used to compile a general picture of the state of conservation of the painting surface, which enabled us to carry out the first comparative cleaning trials and to develop a methodology in order to solve three problems: eliminating, as far as possible, the sulphation that had formed mainly immediately underneath the painted layer; removing the dirt that had accumulated over time and the residues of the fixative applied in the previous conservation-restoration interventions from the surface; and finally, facilitating the removal of the remains of the whitewash that once covered the entire surface of the painting.

We selected a few areas for preliminary testing, taking into consideration the results of the paint-layer-cohesion and water-absorption tests. The first tests were carried out on a particularly stable and well-preserved area before testing was extended to more compromised areas in order to obtain a wider range of information. We used different reagents to evaluate the degree of cleanliness, both visually and through in-depth diagnostic analyses in order to understand how to decontaminate the polluting salts. The various trials were carried out with ammonium carbonate, ammonium bicarbonate and ion-exchange resins, using different application and supporting methods: by brush on Japanese paper, with Arbocel 1000- and sepiolite-based compresses with various contact times. All selected areas were first cleaned with distilled water, after which the various reagent solutions were applied by various methods before the surface was rinsed with natural sponges in order to remove swollen and solubilised foreign substances. It was observed that the colour was more vibrant and luminous after this operation. It appeared evident that the reagent had the ability to remove foreign substances present on the painted surface with a certain ease. It was also particularly important to identify the correct contact time for the compresses so that this removal would not require an excessive mechanical action with the cotton swab or the sponge. The effects of the cleaning were most evident on the south wall, in the area N1,⁴ as the deposits were more substantial here. It should be noted that cleaning with demineralised water was particularly effective on the north and west walls. However, in some areas, the removal of these superficial deposits revealed a thin, whitish layer on the paint film, which chemical analyses hypothesised to be a mixture composed of residues of earlier whitewash that had not been entirely removed in the preceding restoration interventions, of a

² A different surface absorption of water by the painted surface of a wall painting can be a symptom of various factors linked to a different technique of execution, to a different state of conservation or even to different treatments performed in previous conservation-restoration interventions. At this stage of the operations, these tests mainly have a comparative value with respect to the different areas of the painting and are intended to provide an initial general guidance with regard to the employment of the different procedures.

³ A specific cause that can justify this observation has not been identified to date. It can be hypothesised that these pigments are more sensitive to the chelating action of water with respect to certain reagents that may have been used in previous conservation-restoration interventions and, in particular, during the operations for the removal of whitewash.

⁴ North wall, centre of the depiction of the Magi.

synthetic filmogenic consolidating agent (Calaton) applied in the 1970s, and of a thin layer of polluting salts mainly composed of calcium sulphate. The texture of these whitened areas differed in thickness and consistency so that the underlying colour was obfuscated in varying degrees.

In order to remove the thin, whitish layer, to solubilise the calcium sulphate detected by the analyses and to reduce the residues of materials applied in preceding interventions, we decided to use ammonium salts, carbonate and bicarbonate in different concentrations until a 20% aqueous solution was obtained. The first trials were carried out with relatively short contact times, around 10 minutes, with a solution applied by brush on a sheet of Japanese paper. When the Japanese paper was removed, a compact, thin whitish layer appeared on the surface of the painting, which was removed by means of a light mechanical action with short, hard-bristle brushes and with Wishab sponges and rubber erasers. Where this mechanical action was not effective, we achieved good results using a 5% solution of triammonium citrate in water and in hot water. The characteristic fragility of this layer of whitening is associable with the combined effect of the ammonium salts, which exert a swelling action on a large number of natural organic substances as well as a sulphate-solubilising action.⁵ In the areas S, W and N1, we wanted to improve the cleaning system by extending the application time of the ammonium bicarbonate to 30 minutes, supported with a compress of Arbocel BC 200 on Japanese paper. In conclusion, we achieved better results in all treated areas with the application of the ammonium bicarbonate solution applied as a compress, because the substances to be removed were thereby swollen more homogeneously, and less mechanical action was required following the removal of the compress. Trials were then also conducted with ammonium carbonate using the same contact times and application procedures. The results were just as satisfactory and, perhaps due to the higher pH of this reagent, the removal of the thin layer of whitening was easier in some areas.

The cleaning trials also included the use of anion-exchange resins, which promote the surface decontamination from the sulphates and, thanks to their slight alkalinity, facilitate the removal of undesirable substances present on the paint film. To make the treatment more effective and at the same time limit the presence of residual resins grains, the resins were applied using two sheets of Japanese paper, with a contact time varying from 10 to 30 minutes, during which they were moistened with water to facilitate the extraction of the sulphate ions. The results of these trials are comparable to the results of the tests performed with ammonium salts.

Consolidation trials

At the end of the cleaning trials, it emerged that it was necessary to consolidate the paint layer due to the presence of calcium sulphate and of the slight decohesion of some background colours of the painting, in particular the yellow and red coats on the south wall. From the outset, we looked at using inorganic products which ensure a high physical-chemical affinity with the constituent materials of the paintings. Comparative consolidation trials were then carried out between hydroalcoholic calcium hydroxide suspensions⁶ and a barium hydroxide solution.⁷ Both of these systems have been used in numerous interventions and constitute highly effective operational options. The consolidating effects of the two systems are comparable: the application of 'nanolime' makes it possible to obtain a milder and more superficial consolidating effect, but the final product, calcium carbonate, is exactly identical to the binder of the painting. Treatment with barium hydroxide provides a greater penetration into the porosity of the paint layer and the plaster, but the high alkalinity and the application by compress can favour the chemical-physical modification

⁵ It is extremely difficult to establish the exact nature of this phenomenon because a large mixture of synthetic and natural inorganic and organic materials has been identified on the painted surface of these paintings.

⁶ The commercial product Nanorestore was used, a 5% colloidal suspension in isopropyl alcohol of calcium hydroxide nanoparticles between 20 and 50 nanometres in size.

⁷ 10% solution of barium hydroxide in water.

of certain pigments and certain organic binders. However, the treatment with barium hydroxide applied after the cleaning with ammonium reagents, such as ammonium carbonate and bicarbonate, allows the calcium sulphate to be stabilised by transforming it into barium sulphate, a much less soluble and thus potentially less harmful salt.

After the comparative trials, based on the results also verified by means of diagnostic analyses, use of the barium hydroxide treatment was deemed more appropriate, since no alteration of the paint layer was observed, the colours acquired a greater saturation and more intense brightness, and the risk of deterioration processes due to the presence of calcium sulphate on the paint surface was drastically reduced.

For the purposes of illustration, the most significant cleaning and consolidation steps are described along with the associated in-depth diagnostics:⁸

- GDC 35, south wall, *Resurrection* scene (Fig. 3a). Cleaning: application of anionic resins, 30 minutes contact time. The glossy sections observed under a visible-light optical microscope in sample F (Fig. 3b) and UV light show a clean surface, without the presence of the transparent layer visible in other samples under UV light prior to cleaning. Raman spectroscopy reveals the presence of haematite as pigment and calcite as binder.
- GDC 36, south wall, white frame, scene of the *The Three Marys at the Tomb* (Fig. 4a). Cleaning with distilled water using a natural sponge on Japanese paper. The glossy sections observed under a visible-light optical microscope in sample G (Fig. 4b) and UV light show a clean surface with a minimal presence of a transparent surface layer. Raman spectroscopy reveals calcite and perhaps a minimal presence of gypsum. FTIR spectroscopy reveals the presence of gypsum, oxalates and proteins (compatible with the thin transparent layer on the surface). SEM/EDS analyses show almost all calcium corresponding to the binder and all silicon and aluminium with a small percentage of magnesium corresponding to the aggregate.
- GDC 37 – sample H, south wall, white frame, scene of the *The Three Marys at the Tomb*. Consolidation with barium hydroxide, 4-hour application, before cleaning with distilled water using a natural sponge on Japanese paper. The glossy sections observed under a visible-light optical microscope (Fig. 4c) and UV light show a clean surface. Raman spectroscopy reveals calcite. SEM/EDS analyses show almost all calcium corresponding to the binder and all silicon and aluminium corresponding to the aggregate, in addition to the presence of barium as a consolidating agent, which is likely to have positioned itself where the sulphates were present previously.
- GDC 38 – sample I, south wall, white frame, scene of the *The Three Marys at the Tomb*. Cleaning with ammonium bicarbonate applied by brush and consolidation with barium hydroxide, 4-hour application. The glossy sections observed under a visible-light optical microscope (Fig. 4d) and UV light show a clean surface. Raman spectroscopy reveals calcite. SEM/EDS analyses show almost all calcium corresponding to the binder and all silicon and aluminium corresponding to the aggregate, in addition to the presence of barium as a consolidating agent, which is likely to have positioned itself where the sulphate was present previously.
- GDC 39, south wall, red drape, scene of the *The Three Marys at the Tomb* (Fig. 5a). Cleaning with ammonium bicarbonate with compress, 30-minute application. The glossy sections observed under a visible-light optical microscope in sample J (Fig. 5b) and UV light show a clean surface. Raman spectroscopy reveals haematite and vermilion as pigment and calcite as binder. SEM/EDS analyses show almost all calcium corresponding to the binder and all silicon, aluminium and magnesium corresponding to the aggregate.

⁸ ODIĆ, MLADENVIĆ 2021, pp. 59-71.

Conclusions

The cleaning and consolidation tests were conducted in order to identify an intervention methodology that would enhance the material of which these paintings are made, which was partly altered by the presence of residues of dirt deposits and altered fixatives applied in previous conservation-restoration interventions, and partly corrupted by a general opacity of the paint film. The aim was not only to acquire a greater legibility and better visibility, but to stabilise and neutralise the potential risk associated with the presence of medium-soluble salts on the painted surface. This was not an immediate risk, inasmuch as no specific damage attributable to these salts was identified, but a risk that could have compromised the conservation of the entire cycle of paintings in the future. The results of these tests were used by the restorers of the Ljubljana Restoration Centre who executed the intervention.⁹ It is important to emphasise that the operational choices also depended on specific didactic requirements, since it was necessary for students to be able to follow an evaluation and learning path appropriate to their level of knowledge.

ČIŠČENJE IN UTRJEVANJE STENSKIH POSLIKAV

Anka Batič, Andrej Jazbec

Cilj čiščenja je približati se »prvotnemu« videzu umetnine in odstranitev »tujih«, škodljivih snovi, ki so se sčasoma nabrale na površini in v nosilcu poslikave. Vendar je treba ohraniti patino, ki je produkt staranja materialov umetnine.¹ Odstranjevanje nečistoč, umazanije in tujkov ter utrditev materiala stenske poslikave sta nujna, pojmovana marsikdaj tudi kot »rutinski« operaciji. Vendar imata nezanemarljiv vpliv na stanje umetnine in njen končni videz. Posega sta nereverzibilna, ko sta enkrat opravljena, vrnitev v prejšnje stanje ni mogoča, medtem ko sta opredelitev nečistoč in postopek čiščenja v veliki meri prepuščena subjektivni odločitvi konservatorja-restavratorja.² Zato sta pri tem potrebna pazljivost in tehtanje, do kakšne mere poslikavo očistiti in kaj pri tem uporabiti, da ji ne škodujemo, ter katere snovi na njeni površini pojmovati kot »tuje« in katere kot patino, del zgodovinske razsežnosti umetnine.

Z dilemami se srečujemo tudi pri utrjevanju stenskih poslikav. Razumeti moramo vzroke propada in jih zmanjšati ali odpraviti. Kako utrjena, odporna bi morala biti poslikava po posegu, da se bo lahko ohranila v prihodnosti? Katero sredstvo uporabiti, kakšne učinke to nudi in katera tveganja predstavlja? Bolj kot reverzibilnost, ki se je pogosto izkazala kot le delno mogoča, je še posebej pri stenskem slikarstvu pomembna združljivost uporabljenega sredstva in s tem tudi možnost ponovljivosti postopkov. Združljivost, sorodnost uporabljenega sredstva z materijo umetnine, pomeni, da mora imeti »enake fizikalne, kemične in mehanske lastnosti, da ne spremeni kompleksnega ravnovesja« stenske poslikave. Biti mora tudi »estetško združljivo«, da ne spremeni prvotne pojavnosti umetnine v smislu videza in materije.³ Uporaba neprimerne utrjevalnega sredstva lahko na umetnini, še posebej na stenski poslikavi, povzroči nepopravljivo škodo.

Izvajanje postopka odstranjevanja nečistoč in sekundarnih premazov ter utrjevanja je pri poslikavah v cerkvi sv. Helene na Gradišču pri Divači pogojevalo ugotovitve raziskav, dokumentiranja stanja in prejšnjih posegov v Poletni šoli leta 2021 ter preizkuse različnih metodologij čiščenja Poletne šole 2022. Ključne so bile raziskave Oddelka za naravoslovne raziskave Restavratorskega centra pod vodstvom dr. Katje Kavkler, ki so bile izvedene pred, med in po postopku čiščenja in utrjevanja. Oktobra 2022 je bila v cerkvi sv. Helene organizirana *Mednarodna delavnica utrjevanja z anorganskimi utrjevalci*,⁴ na kateri smo konservatorji-restavratorji pod strokovnim vodstvom Alberta Felicija testirali sprejemljive utrjevalce, določili najprimernejše metodologije utrjevanja in načrtali delo za naprej.

Poskusi čiščenja in utrjevanja

Pred konservatorsko-restavratorskimi deli smo določili snovi, ki jih je s površine treba odstraniti, kot so prah z ostalo površinsko umazanijo in ostanki beležev po celotni površini⁵ ter lokalni črni madeži na severni steni.⁶ Obravnavati je bilo treba tudi področja rumenenja⁷ in beljenja površine ter odstraniti morebitni premaz prejšnjega restavratorskega posega.⁸ Najverjetneje so restavratorji v preteklem posegu za poenotenje poslikanih površin in prekritje drobnih ostankov beležev vse skupaj tonirali z bolj ali manj homogenim lazurnim barvnim premazom (*acqua sporca*).

Predhodno smo s študenti izvedli testiranje vezivnosti (*swab test*)⁹ vseh barvnih odtenkov poslikave in po pregledu rezultatov presodili, da je barvna plast dovolj stabilna za čiščenje. Le na določenih mestih, kjer je bila barvna

¹ BOTTICELLI 2010, str. 69.

² BOTTICELLI, BOTTICELLI 2012, str. 97.

³ BOTTICELLI 2010, str. 121.

⁴ *The International workshop on conservation-restoration of wall paintings, Gradišče fall school 2022*, v organizaciji DRS in ZVKDS, potekala je v dveh terminih: 31. avgust–2. september 2022. in 3.–7. oktober 2022.

⁵ Po celotni površini so bili prisotni drobni ostanki beležev, s katerimi so bile poslikave prekrte vse do 60. let prejšnjega stoletja, ko jih je odkrila restavratorska ekipa pod vodstvom Franca Kokalja.

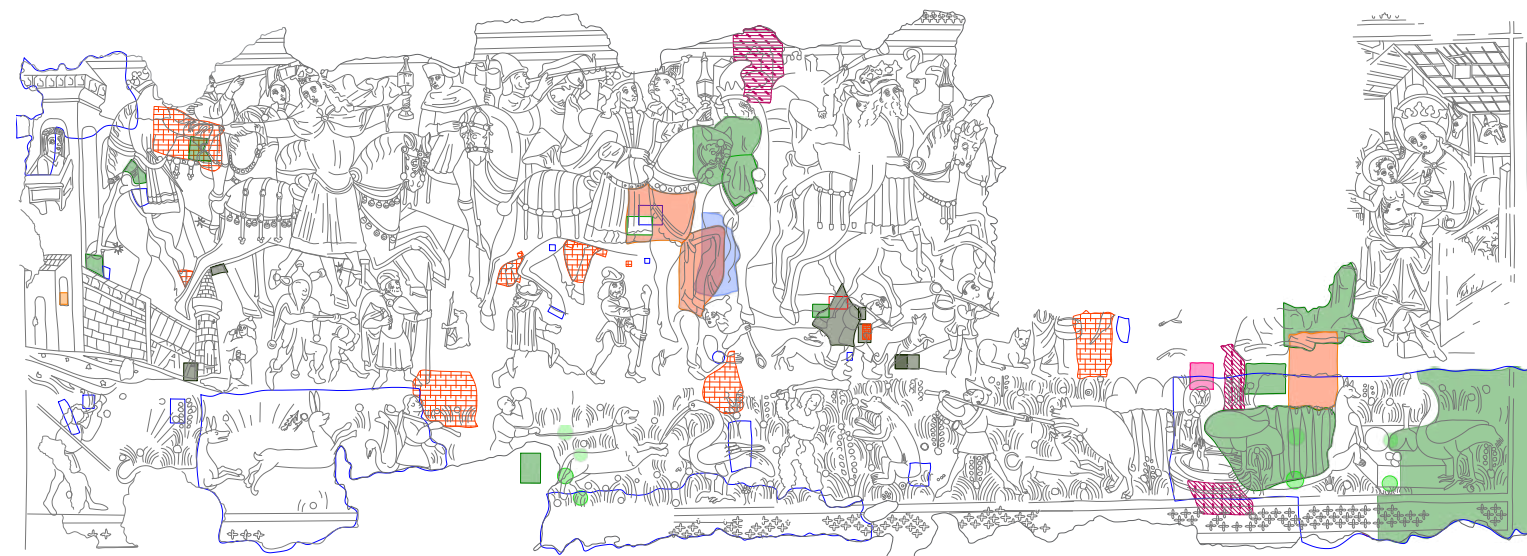
⁶ Najverjetneje posledica prižganih sveč tik ob poslikavi na severni steni, analize so potrdile ostanke voska. KAVKLER 2024, str. 30.

⁷ Predvsem na severni steni ladje, kjer so prisotni rjavi madeži neznanega izvora.

⁸ Pri določenih odvzetih vzorcih so v laboratoriju detektirali površinsko plast, ki je ni bilo mogoče točno opredeliti.

⁹ *Swab test* ali test s tamponom je način preverjanja vezivnosti barvne plasti, ko se z navlaženo vatenko narahlo podrgne po barvni površini. Če je vata čista, je vezivnost odlična. Več, kot je na vatenki barve, občutljivejša je barvna površina oziroma vezivnost barve slabša.

⁹ cf. chapter *Cleaning and consolidating the wall paintings* by Anka Batič and Andrej Jazbec in this publication.


LEGENDA / LEGEND:

| | | | |
|--------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Destilirana voda / Deionized water | Amonijev karbonat, japonski papir / Ammonium carbonate, japanese paper | Amonijev bikarbonat, japonski papir / Ammonium bicarbonate - japanese paper | Amonijev bikarbonat, pulpa s sepiolitom / Ammonium bicarbonate, poultice with sepiolit |
| Barijev hidroksid, pulpa / Barrium hydroxide, poultice | Amonijev karbonat, pulpa / Ammonium carbonate, poultice | Amonijev bikarbonat, pulpa / Ammonium bicarbonate, poultice | Triamonijev citrat / Triammonium citrate |
| Nanokalk | Nanorestore Puro | Anionske smole / Anionic resin | Amonijev bikarbonat, pasta / Ammonium bicarbonate, paste |

Slika 1: Mapiranje testiranja metodologij čiščenja (Vir: Summer School report 2022).

Fig. 1: Mapping cleaning methodology trials (Source: Summer School report 2022).

površina rahlo nestabilna, smo opravili predhodno utrjevanje. V sklopu Poletne šole in kasneje pri konservatorsko-restavratorskem delu smo testirali različne materiale za postopke čiščenja, različne načine njihovega nanašanja in čas stika s površino. Teste smo opravili na več lokacijah po celotni površini poslikav (slika 1).¹⁰ Odstranjevanje prahu, pajčevin in ostalih površinskih nečistoč ter prvo čiščenje poslikav z destilirano vodo smo opravili po zaključku Poletne šole 2021. Postopek čiščenja smo izvedli z morskimi spužvami, namočenimi v destilirani vodi, s katerimi smo preko japonskega papirja tapkali po površini in jih sproti ožemali (slika 2). Vseskozi smo spremljali stanje barvne površine, da s postopkom ne bi odstranjevali barvne plasti ali povzročili drugih sprememb. Umazana voda je bila rumeno-rjavkaste barve, medtem ko je bila celotna poslikava po čiščenju bolj kromatična, prizori lažje berljivi, zlasti na južni steni (slika 3). Ko se je površina posušila, se v severnozahodnem vogalu severne stene pojavilo beljenje (slika 4). Da bi ugotovili vzrok za ta pojav, smo na področju beljenja odvzeli vzorce in z naravoslovnimi raziskavami identificirali soli, predvsem sadro.¹¹

V času Poletne šole in med konservatorsko-restavratorskim posegom smo na celotni površini poslikav opravili več naravoslovnih raziskav, ki so pokazale prisotnost več degradacijskih materialov, ki so škodljivi za obstojnost poslikave. V največji količini so prisotne soli, kot so kalcijev sulfat (sadra), nitrati in natrijev klorid.¹² V času Poletne šole 2021 smo se odločili za postopek odstranjevanja sadre in drugih soli z uporabo amonijevega bikarbonata. Sprva smo naredili nekaj manjših poizkusov odstranjevanja soli z različnimi načini nanašanja sredstva in različnimi časi stika (od 15 do 45 minut). Težava je nastala predvsem v spodnjem delu severne stene, kjer se je takoj po obdelavi z amonijevim

¹⁰ Kot aktivne komponente smo uporabili: amonijev karbonat, amonijev bikarbonat, etilendiamintetraocetno kislino (EDTA), dietilendiamintetraocetno kislino (DTPA), triamonijev citrat, anionske smole ... Kot nosilce aktivnih komponent (polnila) smo uporabili: Tehnocel, Arbocel, Sepiolit idr. Za gelirna sredstva smo uporabili agar gel, KSG 350 Z idr. Več v BARTOLJ et al. 2022.

¹¹ KAVKLER 2024, str. 77. Sadra je bel do prozoren mineral. Kemijski naziv je kalcijev sulfat dihidrat s kemijsko formulo $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$.

¹² KAVKLER 2024, str. 123; FREEDLAND 1999, str. 80.


Slika 2: Med postopkom čiščenja z destilirano vodo in gobicami (foto: Nataša L. Jazbec, 2021).

Fig. 2: Painting being cleaned with distilled water and sponges (photo: Nataša L. Jazbec, 2021).

Slika 3: Razlika med očiščeno in neočiščeno površino na južni steni (foto: Anka Batič, 2021).

Fig. 3: The difference between a cleaned and an uncleaned surface on the south wall (photo: Anka Batič, 2021).

bikarbonatom pojavilo beljenje na površini (slika 5), najverjetneje zaradi večje količine soli, prisotnih na barvni plasti in takoj pod njo. Beljenje smo zmanjšali z večkratnim izpiranjem in uporabo triamonijevega citrata. Po številnih testiranjih, izvedenih med Poletno šolo 2022, posvetovanjih in naravoslovnih raziskavah smo se kasneje odločili za rahlo drugačen pristop k nadaljnjemu odstranjevanju soli in morebitnih premazov. Strinjali smo se, da bi za odstranjevanje soli uporabili metodo Ferroni-Dini, torej amonijev bikarbonat v kombinaciji z barijevim hidroksidom. S to kombinacijo bi kalcijev sulfat (sadro) pretvorili v barijev karbonat in s tem izboljšali vezivnost barvne plasti ter jo hkrati zaščitili.¹³ Ker se je po postopku z amonijevim bikarbonatom pojavilo beljenje, smo iskali način, kako bi zreducirali ta pojav, ker je za poslikavo lahko škodljiv. Za najboljši način, kjer se beljenje pojavlja v manjši meri, smo določili uporabo kombinacije amonijevega karbonata in anionskih smol, ki jo opisujemo v nadaljevanju. Prvi del postopka je obsegal nanos celulozne obloge, napojene z 20-odstotno raztopino amonijevega bikarbonata¹⁴ preko dveh japonskih papirjev in s kontaktnim časom petnajstih minut. V drugem delu postopka je odstranitvi oblog sledil nanos v destilirani vodi razredčenih anionskih smol preko dveh slojev čistega japonskega papirja (slika 6). Po petnajstih minutah smo odstranili prvo plast japonskega papirja ter preko druge plasti japonskega papirja spirali površino z morskimi spužvami in destilirano vodo. Površino smo nato še več dni spirali z destilirano vodo, da smo popolnoma odstranili ostanke anionskih smol in zmanjšali pojav beljenja.¹⁵ Po pregledu očiščene površine s prostim očesom, stransko svetlobo in z UV-lučjo ni bilo zaznati sprememb na barvni plasti, medtem ko so bile poslikave po osušitvi podobnega videza kot po čiščenju z destilirano vodo. Ponekod so se pojavila manjša področja beljenja, ki smo jih dokaj uspešno odstranili z nanosom 1,5-odstotnega triamonijevega citrata v agar gelu,¹⁶ ki smo ga pustili delovati na površini deset minut.

Ostanke beležev smo odstranjevali po postopku čiščenja z amonijevim bikarbonatom in anionskimi smolami, ko je bila površina še dobro namočena. Odstranjevali smo jih mehansko, s skalpeli, z lesenimi palčkami in s steklenimi vlakni v snopu. Ostanke voskov (črnega madeža) na poslikavi na severnem zidu nam z zgoraj opisanim postopkom ni uspelo odstraniti, zato smo poskusili s toplimi. Uporabili smo mešanico benzil alkohola in belega špirita, ki smo jo gelirali v gelu KSG 350 Z.¹⁷ Postopek je bil po večkratni ponovitvi dokaj uspešen.

Pri utrjevanju poslikav smo se že v izhodišču odločili za uporabo anorganskih utrjevalnih sredstev, ki v največji meri ustrezajo načelu združljivosti. Utrditi je bilo treba tako omete kot barvne sloje. Naj ponovimo, da sta bili glavni poškodbi ometa odstopanje od podlage in prhkost, tj. odsotnost veziva v ometu. Prvi pojav se je pogosteje pojavljal pri slikovnem ometu (*intonaco*), drugi predvsem pri spodnjem ometu (*arriccio*). Oslabljene dele ometa smo za povrnitev trdnosti, utrditev stika med plastema ometa, kjer je bilo odstopanje blago, in predelov z razdrobljenim ometom najprej utrjevali z nanoapnom¹⁸ Calosil. Za boljšo penetracijo smo najprej uporabili pripravek nižje koncentracije, Calosil E5, v nadaljevanju še višje, Calosil E25. Postopek smo ponavljali, dokler omet ni bil zasičen z utrjevalnim sredstvom. Na območjih z izrazitejšim odstopanjem ometov, kjer je bilo mogoče zaznati premikanje ob dotiku, smo kot injektivno

¹³ Metoda Ferroni-Dini je bila razvita v Firencah v 60. letih 20. stol. za nevtralizacijo sulfatnih soli v ometu in utrjevanje stenskih poslikav s kombinacijo uporabe amonijevega karbonata in barijevega hidroksida. Postopek poteka v dveh fazah. V prvi fazi se z oblogami amonijevega karbonata (ki sta ga v našem primeru nadomestila amonijev bikarbonat in anionska smola) žveplo pretvori v amonijev sulfat, v drugi fazi barijev hidroksid sulfatne kristale spremeni v barijev karbonat, ki je združljiv s kalcijevim karbonatom. Manjkajoče kristale kalcijevega karbonata tako nadomestijo kristali sorodnega barijevega karbonata, ki izboljšajo strukturo materiala. Proces se mora dogajati pod površino poslikave, sicer se na njej ustvari bela koprena. MATTEINI 1999, str. 49–83; MATTEINI 2008, str. 13–27.

¹⁴ Raztopino 20-odstotnega amonijevega bikarbonata smo zmešali z mešanico celulozne pulpe Technocel 200 in Technocel 1000 ter z inertnim polnilom Sepiolit, da je nastala homogena zmes.

¹⁵ Večja količina anionskih smol se je nabirala predvsem v razpokah poslikave. Površino smo med spiranjem pregledovali z UV-lučjo, da smo odstranili vse njihove ostanke.

¹⁶ Rigidni gel, pridobljen iz rdečih morskih alg, ki odlično zadržuje vodne molekule.

¹⁷ KSG 350 Z je silikonski gel, pripravljen za takojšnjo uporabo. Z uporabo gela so uporabljena topila delovala samo na površini, s čimer smo preprečili poškodbe ali spremembe na poslikavi. Ostanke gela smo odstranili s silikonskim topilom ciklometikon D5.

¹⁸ Disperzija delcev nanoapna v etanolu.



Slika 4: Pojav beljenja po čiščenju z vodo. Zgoraj desno povečava prizadetega dela (foto: Anka Batič, 2021).
Fig. 4: White veil after cleaning with water. Above right, close-up of the affected area (photo: Anka Batič, 2021).



Slika 5: Pojav beljenja na severni steni po čiščenju z amonijevim bikarbonatom (foto: Anka Batič, 2022).
Fig. 5: Whitening on the north wall after cleaning with ammonium bicarbonate (photo: Anka Batič, 2022).



Slika 6: Nanos anionskih smol (foto: Nataša L. Jazbec, 2022).
Fig. 6: Application of anionic resins (photo: Nataša L. Jazbec, 2022).

sredstvo uporabili injekcijsko maso na bazi apna Calxnova.¹⁹

Barvna plast je bila na splošno dokaj stabilna, vendar v višjih predelih vseeno zelo občutljiva na brisanje, mestoma je bilo prisotno tudi luščenje. Poskuse utrjevanja barvne plasti smo opravili z nanoapni in barijevim hidroksidom (slika 7). Uporabili smo nanoapna Nanorestore Puro,²⁰ Calosil E25²¹ (razredčen na 5-odstotno raztopino) in tako imenovani Nanokalk, pripravljen na Naravoslovnem oddelku Restavratorskega centra v Ljubljani.²² Pred aplikacijo nanoapnen smo površino najprej namočili z enim ali dvema nanosoma mešanice destilirane vode in etanola (v razmerju 1 : 1) preko japonskega papirja. Sledilo je šest do sedem premazov, odvisno od vpijanja površine. V delovanju vseh treh nanoapnenih pripravkov ni bilo opaziti večjih razlik. Postopek utrjevanja z nanoapni je rahlo izboljšal vezivnost, kar nam je omogočilo izvedbo postopka čiščenja z amonijevim bikarbonatom in anionskimi smolami. Beljenju površine, ki se pogosto pojavlja po nanosu nanoutrjevalcev, smo se izognili na dva načina: s premazovanjem destilirane vode preko japonskega papirja in z njenim nanosom v celulozni oblogi.²³

V sklopu izvajanja poskusov z barijevim hidroksidom smo se odločili za testiranje 3-, 6- in 10-odstotne koncentracije vodne raztopine, ki smo jo v celulozni oblogi nanесли na steno za 4 ure. Štirinajst dni²⁴ po opravljenem postopku smo opravili preizkus utrjenosti barvne plasti z brisom z vlažnim vatnim tamponom. Da bi se še dodatno prepričali o

¹⁹ Calxnova je injekcijska masa za utrjevanje votlin, lusk in razpok v stenskih poslikavah in kamnitih predmetih. HACKER, POLOŠKI 2016, str. 85–101.

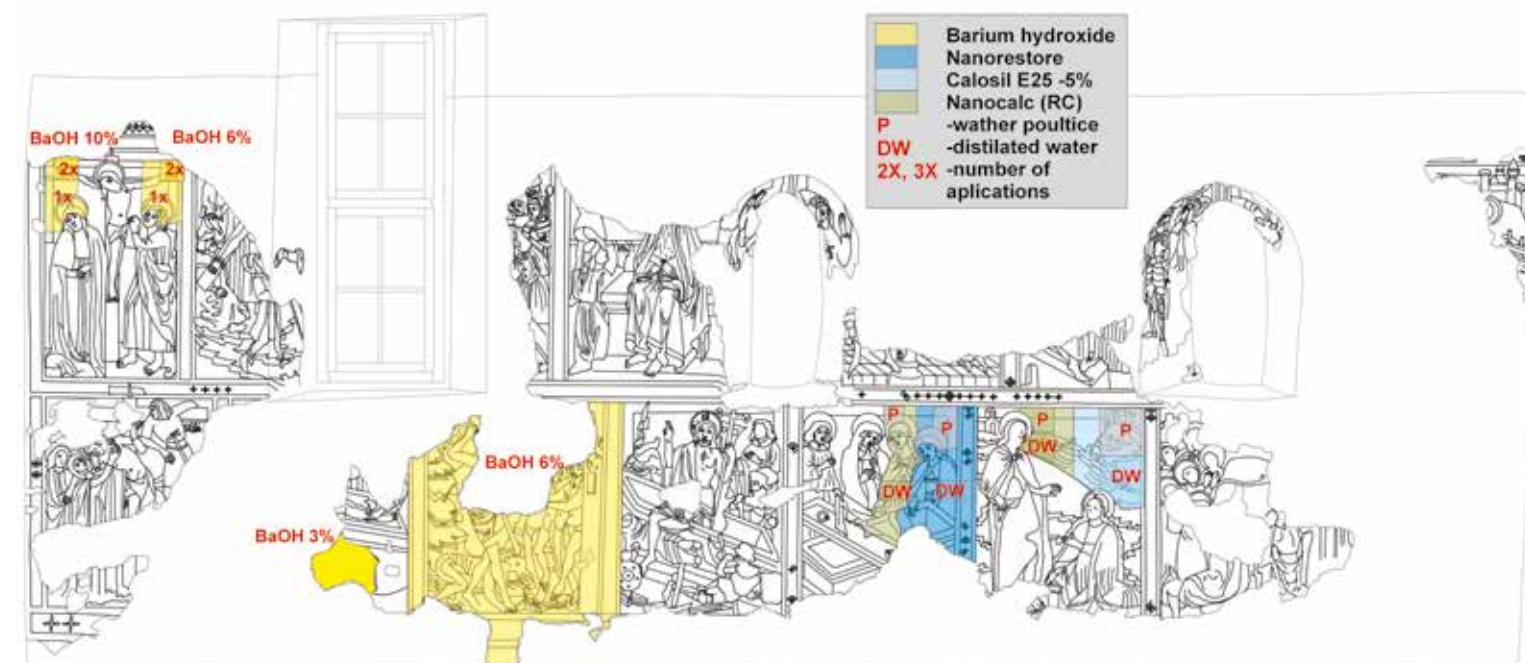
²⁰ DI GREGORIO 2010.

²¹ MOREAU, SLIZKOVÁ, DRDÁČKÝ 2010, str. 1113–1121.

²² Pripravljen po navodilih Luigi Deia iz Università degli Studi di Firenze, posredovanih na delavnici *Tehnika utrjevanja stenskih poslikav z nanodelci kalcijevega hidroksida* leta 2007. Medij je izopropanol, ki vsebuje približno 1 % kalcijevega hidroksida.

²³ V prvem primeru sta količina dela in vnos vode manjša. Glede na izkušnje večji vnos vode zmanjša učinkovitost delovanja utrjevalca. Alberto Felici, ustna informacija.

²⁴ Čas, potreben, da barijev hidroksid zreagira.



Slika 7: Mesta poskusov utrjevanja barvne plasti z mineralnimi utrjevalci: Nanorestore (CTS), Calosil E25 (IBZ-Salzchemie), Nanokalk (RC) in barijev hidroksid (CTS).

Fig. 7: Areas where attempts have been made to consolidate the paint layer with mineral consolidants: Nanorestore (CTS), Calosil E25 (IBZ-Salzchemie), Nanokalk (RC) and barium hydroxide (CTS).

učinkovitosti delovanja izbranih postopkov, smo izvedli tudi naravoslovne raziskave, ki so pokazale, da sta na površini prisotna barijev sulfat in barijev karbonat, kar je jasen kazalnik učinkovitosti utrjevanja.²⁵ Kazalnik uspešne utrditve in zasičenja površine je njena zmanjšana vpojnost ter najopaznejši učinek – večja nasičenost barv. Rezultati so bili najboljši na površini, obravnavani z 10-odstotno raztopino, vendar tudi pri tem konsolidacija ni bila popolna, še posebej v višjih predelih, kjer je bilo stanje barvne plasti najslabše. Problematičen je ostal npr. rdeče-rjav pigment na križu na prizoru *Križanje*. Preko poskusnih polj na *Križanju*, obdelanih s 6- in z 10-odstotnim barijevim hidroksidom, sta bili narejeni dve novi, večji polji, ki sta vključevali predhodni. V obeh novih testnih poljih smo uporabili enako koncentracijo barijevega hidroksida kot v predhodnih (slika 8). Medtem, ko na polju z dvojno aplikacijo 6-odstotne raztopine ni bilo opaziti večjih sprememb v smislu utrditve, so bili odlični rezultati doseženi z na polju ponovljeno 10-odstotno oblogo. Barvna plast je postala stabilna, neobčutljiva na moker tampon in mehansko abrazijo. Po izvedenih poskusih smo utrjevanje z barijevim hidroksidom na celotni severni steni opravili v dveh korakih. Najprej smo opravili aplikacijo 6-odstotne raztopine, ki ji je sledila višja, 10-odstotna aplikacija (slika 9).

Rezultati in izbrane metode čiščenja in utrjevanja

Postopek odstranjevanja soli in ostalih nečistoč smo skoraj v celoti izvedli na južni steni, na severni le deloma. Naravoslovne analize so pokazale, da smo s takim načinom odstranjevanja nečistoč, pri čemer smo najprej uporabili amonijev bikarbonat v celulozni pulpi in takoj zatem nanos anionskih smol (brez vmesnega izpiranja stene), bolj ali manj uspešno zmanjšali količino sadre na površini poslikave.²⁶ Barvno površino na južni steni smo osvežili (glej

²⁵ Barij se je sicer zadržal na površini ali tik pod njo, v globini približno 50 µm, v poškodbah in razpokah tudi globlje. KAVKLER 2024, str. 125.

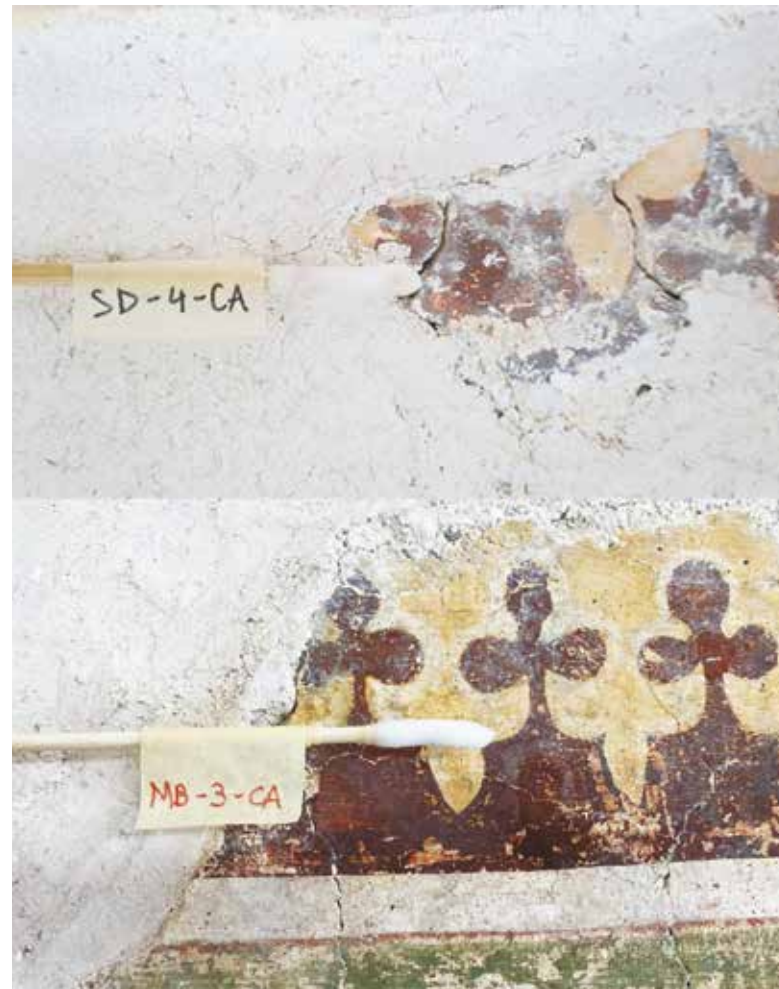
²⁶ KAVKLER 2024, str. 125.



Slika 8: Poskusno utrjevanje z barijevim hidroksidom na prizoru *Križanje*. Zgornja slika: levo enojna in dvojna aplikacija 10-odstotne koncentracije, desno enojna in dvojna aplikacija 6-odstotne aplikacije. Spodnja slika: na mestu 10-odstotne koncentracije je opazna povečana nasičenost barv (foto: Andrej Jazbec, 2023).
Fig. 8: Trial consolidation with barium hydroxide in the *Crucifixion* scene. Image above: at left a single and double application of 10% concentration, at right a single and double application of 6% concentration. Image below: the area with 10% concentration shows an increase in colour saturation (photo: Andrej Jazbec, 2023).



Slika 9: Nanašanje obloge z barijevim hidroksidom (foto: Andrej Jazbec, 2023).
Fig. 9: Applying a barium hydroxide poultice (photo: Andrej Jazbec, 2023).



Slika 10: Swab test rdeče barve na neobravnavani površini (zgoraj) in na mestu, obravnavanem s 6- in 10-odstotnim barijevim hidroksidom (spodaj). Na spodnji sliki je barva povsem stabilna. Barve so močnejše, kontrastne, izginile so bele koprne (foto: Andrej Jazbec, 2023).

Fig. 10: Swab test for red paint on the untreated surface (top) and the surface treated with 6% and 10% barium hydroxide (bottom). In the bottom image the colour is completely stable. The colours are stronger, contrasting and the white veils have disappeared (photo: Andrej Jazbec, 2023).

slika 3), le na nekaterih manjših lokacijah na spodnji *pontati*²⁷ se je pojavilo rahlo beljenje. Poleg tega smo površino pripravili na kasnejše utrjevanje z barijevim hidroksidom. Na predelu zgornje *pontate* severne stene ladje ni bilo vidne razlike med obravnavano in neobravnavano površino. Na spodnji *pontati* se je po osušitvi še vedno pojavljalo beljenje.²⁸ Rjavih madežev na zgornjem delu severne stene nam ni uspelo odstraniti, v prihodnosti bo treba uporabiti druge metode ali jih pustiti neodstranjene.

Swab tests so po poskusnem utrjevanju z nanoapni pokazali izboljšanje stanja, vendar je bila barvna plast še vedno občutljiva na mehansko drgnjenje. Izboljšanje je bilo opazno predvsem na ometih, ki so opazno pridobili trdnost. Nanoapna so bila v posegu uporabljena za predutrjevanje pred čiščenjem.

Dvojna, 6- in nato 10-odstotna aplikacija barijevega hidroksida je odlično utrdila barvno plast poslikave (slika 10). Barve poslikave so bolj žive, barvno nasičene, poslikava je postala barvno bolj homogena, ni več večjih tonskih odstopanj, ki so bila posledica različnega stanja njene ohranjenosti. Občutno zmanjšana je bila tudi poroznost poslikave. Edina nezaželena posledica omenjenega utrjevanja so za enkrat še nepojasneni beli madeži, ki so se pojavili na Kristusovi beli obleki na prizoru *Kronanje*, na Marijini obleki na *Križanju* in na več zelenih oblekah ter na stegnu hudiča v prizoru *Kristusa pred peklom*. S ponavljajočim se izpiranjem so tudi ti madeži izgubili intenzivnost (slika 11).

²⁷ *Pontata* je izraz za predel freske, ki je naslikan v enem dnevu oziroma do primerne zasušitve nanesenega ometa. Od izraza *giornata* se razlikuje v tem, da ni opredeljen s kompozicijo poslikave, temveč z višino odra in zato poteka v vodoravnem pasu po steni.

²⁸ Zmanjšali smo ga z uporabo triamonijevega citrata v rigidnem gelu ali s kombinacijo vate in mehanskega odstranjevanja.



Slika 11: Bele koprne na hudičevem stegnu, ki so se mestoma pojavile po utrjevanju z barijevim hidroksidom (foto: Andrej Jazbec, 2023).
Fig. 11: White veils on the devil's thigh which appeared in places after consolidation with barium hydroxide (photo: Andrej Jazbec, 2023).

Sklep

Pred začetkom Poletne šole 2023 smo skupaj s sodelujočimi konservatorji-restavratorji pregledali v predhodnih dveh letih pridobljene rezultate odstranjevanja sekundarnih nanosov in poskusov utrjevanja, ki smo jih izvedli na južni steni. Odprli smo razpravo o tem, ali je dejansko potrebno odstranjevanje soli na severni steni, če ni nobene vizualne razlike in se po postopku še vedno pojavlja lokalno beljenje. Naravoslovne raziskave so sicer pokazale spodbudne rezultate odstranitve degradacijskih materialov in zaščite površine po uporabi barijevega hidroksida. Sklenili smo, da tudi na severni steni nadaljujemo z utečeno metodologijo, saj hočemo s površine poslikave v čim večji meri odstraniti material, ki bi lahko postopoma in s slabšimi pogoji v cerkvi poškodoval barvne sloje in druge plasti poslikave.

Po čiščenju se je pojavila še ena dilema. Na površini poslikave je bil v preteklosti najverjetneje uporabljen lazurni barvni premaz (t. i. *acqua sporca*), ki je zakril ostanke beležev in poenotil zakitane dele s preostalo poslikavo. Po čiščenju, v katerem smo tudi lazurni premaz odstranili, so ti predeli postali svetlejši, vidnejši in zato vizualno moteči. Izrazitejša so postale poškodbe barvne plasti in vreznine napisov. To je postal izziv estetske predstavitve poslikave, teme, ki smo jo obravnavali na Poletni šoli 2023, pri čemer so udeleženci na južni steni naredili primere barvne reintegracije.

Po opravljenih poskusih utrjevanja smo se posvetovali tudi glede metode utrjevanja barvne plasti poslikav. Mnenja so bila deljena, saj je ena stran zagovarjala najmanjši možni poseg utrjevanja z nanoapni. Četudi barvna plast po tem postopku ni povsem utrjena, je dovolj stabilna, da sama po sebi ne propada, če se objekt redno vzdržuje. Po mnenju te skupine bi se bilo bolje izogniti utrjevanju s »tujimi« materialami, ki sedaj niso prisotni v poslikavi. Druga stran je zagovarjala utrjevanje z barijevim hidroksidom za zagotovitev čim boljšega možnega stanja poslikave, z argumentom, da, ker je vzdrževanje vselej problematično in negotovo, imamo sedaj priložnost spraviti poslikavo v dobro stanje, da bi bila bolj pripravljena na morebitne prihodnje stresne situacije. Predvidena je uporaba cerkve kot muzeja, kar pomeni povečanje obiska z možnimi nepredvidljivimi situacijami, poslikava pa je ob tleh in dosegljiva. Računati je



Slika 12: Prizor *Križanje* pred posegi (levo) ter po čiščenju in utrjevanju z barijevim hidroksidom (desno). Na tem prizoru so bile barvne spremembe po utrjevanju z barijevim hidroksidom najopaznejše (foto: Andrej Jazbec, 2023).

Fig. 12: The *Crucifixion* scene before treatment (left) and after cleaning and consolidation with barium hydroxide (right). In this scene the colour changes after consolidation with barium hydroxide were most noticeable (photo: Andrej Jazbec, 2023).

treba na obiske ne vedno najboljše ozaveščenih obiskovalcev in morebitno prerivanje. Predvidena je bila tudi izvedba retuše. Če originalna barvna plast ne bi bila utrjena, bi prišlo do mešanja originalne barvne plasti z retušo, slednja tudi ne bi bila odstranljiva, ker bi se vpila v preveč odprto, porozno podlago (slika12).

Na opisanem primeru je razvidno, kako kompleksne znajo biti izbire postopkov in materialov v konservatorstvu-restavratorstvu. Že pri tako osnovnih delih, kot sta čiščenje in utrjevanje, je treba upoštevati številne okoliščine, poznati materije umetnine, njene lastnosti in izraznosti ter zrelost in odgovornost pri presoji in odločanju. Od naših sedanjih odločitev je odvisna usoda umetnine v prihodnosti!

Literatura in viri / References

- BARTOLJ et al. 2022: Bartolj, Katarina, Berdon, Maša, Pozdorovkina, Irina, Tacar, Urh, Škrlec, Antun, Primožič, Matea, Barthoulot, Alésia, Klopfenstein, Gabriel Sebastian, Amann, Lorenz, Bassoli, Lara, Walther, Angela, *Summer School 2022, Final report*, 2022.
- BOTTICELLI 2010: Botticelli, Guido, *Metodologia di restauro delle pitture murali*, Firenze 2010.
- BOTTICELLI 2012: Botticelli, Guido, Botticelli, Silvia, *Lezioni di restauro: Le pitture murali*, Firenze 2012.
- DI GREGORIO 2010: Di Gregorio, Sara, *Nanorestore® for the consolidation of wall paintings*, OpenEdition Journals, Kanada, 2010. Spletni vir / Online source (dostop / cited on January 2024): <https://journals.openedition.org/ceroart/1716>.
- FREEDLAND 1999: Freedland, Joshua, *Soluble salts in porous materials: Evaluating Effectiveness of their removal*, University of Pennsylvania, Philadelphia 1999.
- HACKER, POLOŠKI 2016: Hacker, Bastian, Pološki, Neva, *The research into the Composition and Properties of Medieval plaster in the church of St. Mary at the Pond with Comparative analyses of commercial injection materials*, Portal 7, Zagreb 2016, str. 85–101.
- KAVKLER 2024: Kavkler, Katja, *Gradišče pri Divači, Succursal church of St. Helen, EŠD 1566, Wall Paintings, Analyses report*, Ljubljana, februar 2024.
- MATTEINI 1999: Matteini, Mauro, Consolidanti e protettivi di natura minerale in uso del manufatti di interesse artistico ed archeologico costriti di materiali porosi, *Incontro restauro*, 3, 1999, str. 4983.
- MATTEINI 2008: Matteini, Mauro, Inorganic treatments for consolidation and protection of stone artefacts and mural paintings, *Conservation science in cultural heritage*, 8, 2008, str. 13–27.
- MOREAU, SLIZKOVÁ, DRDÁCKÝ 2010: Moreau, Claire, Slizková, Zuzana, Drdácý, Miloš, Strengthening of pure lime mortars with nanoparticles of calcium hydroxide, *2nd Conference on Historic Mortars*, Publications SARL, 2010.

CLEANING AND CONSOLIDATING THE WALL PAINTINGS

Anka Batič, Andrej Jazbec

The aim of cleaning is to bring the artwork closer to its 'original' appearance and to remove 'foreign', harmful substances that have accumulated over time on the surface and in the painting's support. However, the patina that is due to the ageing of the artwork's materials must be preserved.¹ Removing impurities, dirt and grime, and consolidating the wall painting material are essential and often 'routine' operations. However, they have a significant effect on the state of the artwork and its final appearance. These interventions are irreversible – once they have been carried out there is no return to the previous state. Determining what is an impurity and the cleaning process itself are largely left to the subjective decision of the conservator-restorer.² This is why care and careful consideration are necessary to decide to what extent the painting should be cleaned, what to use to avoid damaging it, and which substances on its surface should be regarded as 'foreign' and which as patina – part of the artwork's historical dimension.

Dilemmas are also encountered when it comes to consolidating wall paintings. We need to understand the causes of the decay and reduce or eliminate them. How hardened and resilient should the painting be after the intervention to be able to survive in the future? Which agent should be used, what effects does it offer and what risks does it pose? More than reversibility, which has often proved to be only partially possible, it is the compatibility of the agent used and thus the possibility of repeating processes that is of prime importance, when dealing with wall paintings. Compatibility – the similarity of the material used with that of the artwork – means that it must have 'the same physical, chemical and mechanical properties so as not to alter the complex equilibrium'³ of the wall painting. It must also be 'aesthetically compatible' so as not to alter the original appearance of the artwork in terms of the way it looks and its material. Using an inappropriate strengthening material can cause irreparable damage to an artwork, especially wall paintings.

The procedure of removing impurities and secondary coatings and consolidating the paintings in the church of St Helen in Gradišče pri Divači was based on the findings of studies, the documentation of the state of the paintings and interventions carried out by the 2021 Summer School, as well as on the trials of different cleaning methodologies by the 2022 Summer School. The key research was carried out by the Restoration Centre's Natural Science Research Department, led by dr. Katja Kavkler, before, during and after the cleaning and consolidation process. In October 2022, an *International workshop on conservation-restoration of wall paintings*⁴ was organised at the church of St Helen, where conservator-restorers under the expert guidance of Alberto Felici tested acceptable consolidants, identified the most appropriate consolidation methodologies and outlined future work.

Cleaning and consolidation trials

Prior to beginning of the conservation-restoration work, we identified the substances to be removed from the surface, such as dust combined with other surface dirt, and traces of whitewash that covered all the surface,⁵ as well as local black stains on the north wall.⁶ Areas of yellowing⁷ and whitening on the surface also had to be treated and any coating from previous restoration work had to be removed.⁸ It is likely that during previous restoration work, the restorers toned the whole surface with a more or less homogeneous watercolour glaze (*acqua sporca*) in order to unify the painted surfaces and to cover the traces of whitewash.

¹ BOTTICELLI 2010, p. 69.

² BOTTICELLI, BOTTICELLI 2012, p. 97.

³ BOTTICELLI 2010, p. 121.

⁴ *The International workshop on conservation-restoration of wall paintings, Gradišče fall school 2022*, organised by the Slovenian Society for Conservation-Restoration and the IPCHS, took place in two parts: 31 August – 2 September 2022 and 3-7 October 2022.

⁵ The entire surface had traces of the whitewash that covered the paintings until the 1960s, when they were discovered by a restoration team led by Franc Kokalj.

⁶ Most likely due to candles that were lit next to the painting on the north wall; analyses have confirmed wax residues. KAVKLER 2024, p. 30.

⁷ Particularly on the north wall of the nave, where brown stains of unknown origin are present.

⁸ In some of the samples taken, the laboratory detected a surface layer that could not be precisely defined.

Together with the students we performed a swab test⁹ to verify the adhesion of all the different shades of paint in advance. After reviewing the results we determined that the paint layer was stable enough to be cleaned. We only carried out preliminary consolidation in certain areas where the painted surface was slightly unstable. During the Summer School and later in our conservation-restoration work, we tested different cleaning materials, different ways of applying them and their contact time with the surface. We carried out tests at several locations over the entire area of the paintings (Fig. 1).¹⁰ Dust, cobwebs and other surface dirt was removed and the paintings were first cleaned with distilled water after the 2021 Summer School. We cleaned using sea sponges soaked in distilled water, dabbing them on the surface of the paintings through Japanese paper and wringing them out as we went along (Fig. 2). We kept an eye on the state of the painted surface at all times to ensure that the process did not remove the paint layer or cause other changes. The dirty water was yellow-brown in colour, and overall the painting had more colour after cleaning and the scenes were easier to make out, especially on the south wall (Fig. 3). As the surface dried, white veil appeared in the left corner of the north wall (Fig. 4). To find the cause of this phenomenon, samples were taken from this area and chemical analyses were carried out to identify the salts, mainly gypsum.¹¹

During the Summer School and in the course of conservation-restoration work, several chemical analyses were carried out on the entire surface of the paintings, which revealed the presence of several degrading materials that are detrimental to the durability of the paintings. Salts such as calcium sulphate (gypsum), nitrates and sodium chloride are the most abundant.¹² During the 2021 Summer School, we decided to use ammonium bicarbonate to remove gypsum and other salts. Initially, some small-scale salt removal trials were carried out with different application methods and contact times (from 15 to 45 minutes). There was a problem mainly in the lower part of the north wall, where whitening of the surface appeared immediately after the ammonium bicarbonate treatment (Fig. 5), probably due to the large amount of salts present on and immediately below the paint layer. Whitening was reduced by repeated rinsing and the use of triammonium citrate.

After many tests carried out during the 2022 Summer School, consultations and chemical analyses, we subsequently decided to take a slightly different approach to removing salts and any coatings. We agreed to use the Ferroni-Dini method to remove the salts, i.e. ammonium bicarbonate in combination with barium hydroxide. This combination would convert calcium sulphate (gypsum) into barium carbonate, thus improving the adhesion of the paint layer while also protecting it.¹³ As whitening occurred after treatment with ammonium bicarbonate, we looked for a way to reduce this phenomenon, which can harm the painting. In places where whitening occurs to a lesser extent, we found the best way was to use a combination of ammonium carbonate and anionic resins, as we describe below. The first part

⁹ The swab test is a way of checking how well the paint adheres to the surface by rubbing a moistened cotton swab lightly over the painted surface. If the swab is clean, the adhesion is excellent. The more paint there is on the swab, the more sensitive the painted surface, in other words the paint adheres less.

¹⁰ We used the following active components: ammonium carbonate, ammonium bicarbonate, ethylenediaminetetraacetic acid (EDTA), diethylenediaminetetraacetic acid (DTPA), triammonium citrate, anionic resins, ... The following were used as fillers: Tehnocel, Arboce, Sepiolit, etc. We used the following as gelling agents: agar gel, KSG 350 Z, etc. More in: BARTOLJ et al. 2022.

¹¹ KAVKLER 2024, p. 77. Gypsum is a white to transparent mineral. Its chemical name is calcium sulphate dihydrate with the chemical formula $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$.

¹² KAVKLER 2024, p. 124; FREEDLAND 1999, p. 80.

¹³ The Ferroni-Dini method was developed in Florence in the 1960s to neutralise sulphate salts in plaster and to consolidate wall paintings by using a combination of ammonium carbonate and barium hydroxide. The process takes place in two stages. In the first stage, sulphur is converted to ammonium sulphate by ammonium carbonate poultices (replaced in our case by ammonium bicarbonate and anionic resin). In the second stage, barium hydroxide converts the sulphate crystals to barium carbonate, which is compatible with calcium carbonate. The missing calcium carbonate crystals are thereby replaced by crystals of the related barium carbonate to improve the structure of the material. The process must take place below the surface of the painting, otherwise a white veil is created. MATTEINI 1999, pp. 49-83; MATTEINI 2008, pp. 13-27.

of the procedure involved applying a cellulose poultice, impregnated with a 20% ammonium bicarbonate solution¹⁴ through two layers of Japanese paper for a contact time of fifteen minutes. In the second part of the procedure, the removal of the poultice was followed by the application of anionic resins diluted in distilled water through two layers of clean Japanese paper (Fig. 6). After fifteen minutes, the first layer of Japanese paper was removed and the surface was rinsed with sea sponges and distilled water through the second layer of Japanese paper. The surface was then rinsed with distilled water for several more days to completely remove residual anionic resins and reduce the whitening effect.¹⁵ When the cleaned surface was examined with the naked eye, raking light and UV light, no changes to the paint layer were detected. After they had dried, the paintings looked similar to when they had been cleaned with distilled water. Small areas of whitening appeared in some places but we were quite successful in removing them by applying 1.5% triammonium citrate in agar gel,¹⁶ and leaving it on the surface for ten minutes.

The traces of whitewash were removed after cleaning with ammonium bicarbonate and anionic resins while the surface was still very wet. They were removed mechanically using scalpels, wooden sticks and bundles of fibreglass strands. We were not able to remove the wax residue (black stain) on the north wall using the process described above, so we tried solvents. We used a mixture of benzyl alcohol and white spirit gelled in KSG 350 Z gel.¹⁷ After several repetitions, the procedure proved quite successful.

When consolidating the paintings, we decided from the outset to use inorganic consolidants, which prove to be most compatible. Both the plaster and the paint layers had to be consolidated. To recapitulate, the main damage to the plaster was its detachment from the support and its friability, i.e. the absence of a binder in the plaster. The problem of detachment was more frequent in the plaster directly beneath the paint layer (*intonaco*), while friability occurred mainly in the lower layer of plaster (*arriccio*). Weakened plaster was first strengthened with the nano-lime¹⁸ Calosil to restore solidity and consolidate the interface between plaster layers where there was only slight detachment or the plaster was fragmented. For better penetration, the lower concentration Calosil E5 was used first, followed by the higher concentration Calosil E25. The process was repeated until the plaster was saturated with the hardener. In areas with more pronounced plaster detachment, where movement upon contact was detected, the Calxnova lime-based mortar was used as an injection agent.¹⁹

The paint layer was generally quite stable but still very delicate if wiped in the higher areas, with occasional flaking. Attempts to consolidate the paint layers were carried out with nano-lime and barium hydroxide (Fig. 7). We used the nano-limes Nanorestore Puro,²⁰ Calosil E25²¹ (diluted to a 5% solution) and the so-called Nanokalk, prepared at the Natural Science Research Department of the Ljubljana Restoration Centre.²² Before the nano-limes were applied, the surface was first wetted once or twice with a mixture of distilled water and ethanol (at a 1:1 ratio) through Japanese paper. This was followed by 6-7 coats, depending on absorption. No significant differences were observed in the

¹⁴ A 20% ammonium bicarbonate solution was mixed with a combination of Technocel 200 and Technocel 1000 cellulose pulp and Sepiolite inert filler to produce a homogeneous mixture.

¹⁵ Greater amounts of anionic resins accumulated mainly in the cracks of the painting. The surface was inspected with a UV light during the rinsing process to remove any resin residues.

¹⁶ A rigid gel derived from red algae with an excellent ability to retain water molecules.

¹⁷ KSG 350 Z is a ready-to-use silicone gel. Using a gel meant the solvents worked only on the surface, thereby preventing damage or alterations to the painting. The gel residue was removed with the silicone solvent cyclomethicone D5.

¹⁸ Dispersion of nano-lime particles in ethanol.

¹⁹ Calxnova is an injection mortar used for fixing cavities, flakes and cracks in wall paintings and stone objects. HACKER, POLOŠKI 2016, pp. 85-101.

²⁰ DI GREGORIO 2010.

²¹ MOREAU, SLIZKOVÁ, DRDÁČKÝ 2010, pp. 1113-1121.

²² Prepared according to the instructions of Luigi Dei from the Università degli Studi di Firenze, given at the workshop entitled *Techniques for the consolidation of wall paintings using calcium hydroxide nanoparticles*, held in 2007. The agent is isopropanol, which contains approximately 1% calcium hydroxide.

performance of the three nano-lime preparations. This application of nano-limes slightly improved the bonding, which allowed us to carry out the cleaning with ammonium bicarbonate and anionic resins. Surface whitening, which often occurs after the application of nano-hardeners, was avoided in two ways: by applying distilled water through Japanese paper and by applying it in a cellulose poultice.²³

During the trials with barium hydroxide, we decided to test 3%, 6% and 10% concentrations of an aqueous solution, which we applied to the wall in a cellulose poultice for 4 hours. Fourteen days²⁴ after the procedure had been carried out, we tested the consolidation of the paint layer by wiping it with a damp cotton swab. To further verify the effectiveness of the selected processes, chemical studies were carried out which showed that barium sulphate and barium carbonate were present on the surface – a clear indication that the consolidation process had been effective.²⁵ An indicator of successful consolidation and a saturated surface is its reduced absorbency and the most noticeable effect – increased colour saturation. The best results were achieved when the surface was treated with a 10% solution, but even here the consolidation was not complete, especially in the upper areas where the condition of the paint layer was the worst. For example, the red-brown pigment on the cross in the *Crucifixion* scene remained problematic. Two new, larger trial areas were created over the first trial areas on the *Crucifixion* scene. The same concentrations of barium hydroxide (6% and 10%) were used in both trials (Fig. 8). While no significant changes in terms of consolidation were observed in the area where the 6% solution had been applied twice, excellent results were obtained in the area where the 10% solution had been reapplied. The paint layer became stable and resistant to wet swabs and mechanical abrasion. Following the trials, barium hydroxide was used to consolidate the entire north wall in two steps. The 6% solution was applied first, followed by the 10% solution (Fig. 9).

Results and selected cleaning and consolidation methods

The process of removing salts and other impurities was carried out on almost the whole south wall, but only partially on the north wall. Chemical analyses have shown that this method of removing impurities by first applying ammonium bicarbonate in cellulose pulp and then anionic resins immediately afterwards (without rinsing the wall between the two applications), has been more or less successful in reducing the amount of gypsum on the surface of the paintings.²⁶ The painted surface on the south wall has been freshened up (see Fig. 3), with only some slight white veil in a few small areas on the lower *pontata*.²⁷ In addition, the surface was prepared for later barium hydroxide consolidation. There was no visible difference between the treated and untreated surfaces on the upper *pontata* of the north wall of the nave. The lower *pontata* still showed whitening after drying.²⁸ We were not able to remove the brown stains on the upper part of the north wall. Other methods will have to be used in the future or they will be left in place.

Swab tests showed an improvement after trials with nano-limes, but the paint layer was still susceptible to mechanical abrasion. An improvement was particularly noticeable in the plasters, which showed a marked increase in solidity. Nano-limes were used in the consolidation procedure prior to cleaning.

²³ In the first case, the amount of work and water intake is smaller. Experience has shown that higher water intake reduces the effectiveness of the hardener. Alberto Felici, oral information.

²⁴ The time required for barium hydroxide to react.

²⁵ The barium remained at or just below the surface, at a depth of about 50 µm, and even deeper in faults and cracks. KAVKLER 2024, p. 125.

²⁶ KAVKLER 2024, p. 125.

²⁷ *Pontata* is the term used for the area of a fresco painted in one day, or until the applied plaster has dried sufficiently. It differs from the term *giornata* in that it is not defined by the painting's composition but by the height of the scaffolding and therefore forms a horizontal seam on the wall.

²⁸ It was reduced by using triammonium citrate in a rigid gel or a combination of cotton wool and mechanical removal.

A double application of 6% then 10% barium hydroxide did an excellent job of consolidating the paint layer (Fig. 10). The colours have become more vivid and saturated, the paintings are more homogeneous in colour, and there are no longer major tonal variations due to different states of preservation. The porosity of the paintings has also been significantly reduced. The only unwelcome result of this consolidation are the as yet unexplained white stains that have appeared on Christ's white robe in the *Crowning* scene, on Mary's robe in the *Crucifixion* scene, on several of the green robes, and on Satan's thigh in the scene of Christ descending to hell. However, with repeated rinsing these stains also lost their intensity (Fig. 11).

Conclusion

Before the start of the 2023 Summer School, we reviewed the results of the removal of secondary deposits and the consolidation trials carried out on the south wall over the previous two years together with the participating conservator-restorers. We opened a discussion on whether it is actually necessary to remove the salts from the north wall if there is no visual difference and local whitening still occurs after the procedure. Chemical studies have shown that barium hydroxide produces encouraging results in terms of the removal of degrading materials and surface protection. We decided to also continue with the established methodology on the north wall, as our aim is to remove as much material as possible from the surface of the painting that could damage the paint and other layers over time and with the deteriorating conditions in the church.

After the cleaning, another dilemma arose. The surface of the painting was probably treated in the past with a watercolour glaze (so-called *acqua sporca*), which covered up the remains of whitewash and unified the plastered areas with the rest of the painting. After cleaning, which also removed the glaze, these areas became lighter, more visible and therefore visually distracting. The damage to the paint layer and the incisions of inscriptions became more distinct. This became a challenge for the aesthetic presentation of the wall paintings, a topic that was addressed at the 2023 Summer School, where participants prepared examples of colour reintegration on the south wall.

After the consolidation trials, we also consulted on the method for consolidating the paint layer of the paintings. Opinions were divided, with one side arguing in favour of minimal consolidation using nano-limes. Even if the paint layer is not fully consolidated after this process, it is stable enough not to decay on its own if the building is regularly maintained. According to this group, it would be better to avoid consolidation using 'foreign' materials that are not currently present in the painting. The other side argued in favour of barium hydroxide consolidation to ensure the paintings would be in the best possible condition. As maintenance is always problematic and uncertain, we now have the opportunity to get the painting into a good condition so it is better prepared for possible future stress situations. It is envisaged that the church will be used as a museum, which means an increase in the number of visitors with possible unforeseen situations, and the wall paintings are close to the ground and within reach. We must envisage that not all visitors are well informed, and that there may be crowding. Retouching was also planned. If the original paint layer was not consolidated, it would mix with the retouching, and the retouching could not be removed because it would be absorbed into the open, porous substrate (Fig. 12).

This example shows how complex the choice of procedures and materials in conservation and restoration can be. Even basic tasks such as cleaning and consolidation require many different circumstances to be taken into account, knowledge of the artwork material, its properties and character, and maturity and responsibility in judgement and decision-making. The future fate of a work of art depends on the choices we make now!

AESTHETIC REINTEGRATION - WHAT IS IT ABOUT?

Jonas Roters, Neva Pološki, Andrej Jazbec

Wall paintings by our ancestors have always exerted an irresistible fascination. Many examples serve as witnesses of artistic expression since mankind's earliest history. They provide us valuable information about society's self-perception in the respective epochs. The fascination with such works as a reflection of society is based on several dimensions of architecture-related art, which are briefly explained below. Our considerations on the aesthetic reintegration¹ of *lacunae*² as traces of age are based on these influencing factors. Let us begin by briefly addressing the question: What constitutes the value of a work of art? Around 1900, Alois Riegl³ (1858–1905) established a value matrix that is still considered important today. Referring to Riegl's two main categories of *Gegenwartswerte* (present-day values) and *Erinnerungswerte* (memory values), we will subsequently reduce the answer to the question of the appreciation of artworks to two of the multiple dimensions of wall paintings: on the one hand, fascination for beauty and thus also the artistic genius (as part of Riegl's *Gegenwartswerte*) and on the other hand, respect for the testimony of the past (Riegl's *Erinnerungswerte*). In this fascinating area of tension – where pristine beauty intersects with the natural ageing process, marked by the traces of time – the aesthetic reintegration of *lacunae* remains emblematic of the conventional perception of the art conservation profession. Perhaps with good reason because there is hardly an act in the variety of conservation tasks whose effectiveness is more visible. As the influence of this (re-)touching⁴ on subsequent interpretations by viewers is immense, the connection between the person carrying out the aesthetic reintegration with the artwork is probably never more intimate. Every conservator therefore feels a responsibility to mediate between presenting beauty and the aged source of knowledge, as well as communicating both dimensions to viewers. This feeling is heightened by working in a team, as is the case at the Summer School, and often in general. Individual questions, doubts and the resulting solutions from the team members must be reflected upon, communicated, mirrored and integrated into the team spirit. This may sound like a painful path but the exact opposite can be the reality: if the team members engage in this personal exchange by sharing their questions and ideas at all times, they will not only achieve optimal results, but the bonds that develop within the conservation team will also leave a lasting impression on everyone. These moments are then not painful, but rather define the ethos. A reintegration of *lacunae* that is convincing and is the product of a unified effort by the team, also enables the executors to feel joy and fascination for their own profession. So far it has become clear that the act of aesthetic reintegration represents a sensitive moment both for the artwork, because the performers must weigh up between re-establishing the aesthetic dimension and preserving the authentic source, and for the performers themselves because they become aware of their responsibility and their sense of fulfilment, which is rarely experienced in other actions.

¹ The term refers to the reintegration of preparatory or paint layers with the aim of optimising the artwork's aesthetic potential. The procedure reduces the visual impact of the damage (*lacuna*) and contributes to the unity of the painting. SITAR 2020, p. 210.

² *Lacuna* (pl. *lacunae*) is an interruption in the artwork's material composition, which is otherwise structurally and formally connected. It can refer to a deficiency, gap or partial loss, for example, of the support, plaster or paint layer, which affects the artwork's integrity. Depending on their depth, size and extent, *lacunae* are restored by using different reintegration methods. SITAR 2020, p. 218.

³ Alois Riegl was an Austrian art historian and philosopher, one of the major figures in the establishment of art history as a self-sufficient academic discipline. Among his many published works, *Der moderne Denkmalkultus, sein Wesen, seine Entstehung* (1903) revolutionised the European concept of the monument and set a path towards the codification of the historicity of artefacts at the international level. Today, conservation work and the relevant terminology still rely on the principles first outlined by Riegl. HARRER 2017, p. 29.

⁴ The term *retouch*, deriving from the French *retoucher* – meaning 'to touch again', initially referred to the final repairing of the painting by the artist himself. Over time, its use spread to the art conservation profession, where retouching refers to the process of colour supplementation of losses (i.e. *lacunae*) with the aim of improving the artwork's aesthetic impression. In the history of the profession, the term was widely used for all methods of aesthetically supplementing losses. In recent times, efforts are being made to replace it with the terms *reintegration* or *colour reintegration*, which are more specific and include different kinds of methods. In the narrower sense, *retouching* refers to supplementing the losses of the paint layers. MLADENOVIC 2021, p. 22.



Fig. 1: Materials used to produce plaster mock-ups at the 2023 Summer School; from upper left: lime putty binder, local red earth as an additive and three different aggregates (silicate and carbonate) (photo: Carmen Hiltbrunner, 2023).



Fig. 2: Surface treatment of mock-ups using Wishab sponges to expose aggregate grains (photo: Blaž Šeme, 2023).

Brains' n' Hands on! Work beforehand and on site in 2023

Let us now turn to the question of how the 2023 team of conservators and students dealt with the (self-) demands that have been highlighted so far. What theoretical and technical concept did we pursue? What solutions were found to assist interpretation of the supposed discrepancy between the presentation of beauty and the aged source of knowledge, and how exactly were they implemented?

Before aesthetic reintegration by means of colour application is discussed in more detail, the production of plaster infills will first be described, as *lacunae* reaching into the *intonaco* or even deeper can be integrated with plasters modified in colour and texture, so that they are less conspicuous. The aim of infills is not only to reduce the disturbing effect of losses but also to secure marginal areas and prevent further damage. They can serve as a foundation for colour reintegration, but when the *lacunae* are large and when the use of paint is avoided to align with the ethical requirement to conserve the integrity of the artist's work while acknowledging the changes it has undergone since its creation, plaster infill usually becomes a very powerful and suggestive element in the overall presentation. In this case especially, manipulation of the composition, level and texture of the plaster infill gives the conservator tools to communicate the artwork's previously established multiple values, for example by emphasizing one and diminishing another. This clearly indicates a correlation with retouching, highlighting the need for subtlety on the performer's behalf. This requirement often goes against the general belief that finesse is not required, as infilling is typically perceived as 'rough' work.

In St Helen's church in Gradišče, we didn't use infills on the *lacunae*, but we did tackle potential solutions by making plaster mock-ups and discussing their characteristics. We considered what would be a suitable base for retouching, as it can be difficult to execute properly if the plaster does not have the same, or at least very similar, properties to the original *intonaco*. Several ways of integrating large *lacunae* were also considered. Should they be preserved, additionally treated or perhaps even removed and replaced? How can substantial damage be integrated? In this context the impact of the infills on the reception of the artwork as an integral component of the entire architecture and its historicity was even more important than the technical execution itself. Historicity here does not concern just the issue



Fig. 3: Each mock-up, made using one specific plaster recipe, resulted in four different appearances because of various application procedures and surface treatments (photo: Alessia Grandoni, 2023).



Fig. 4: Plaster mock-ups produced during the 2023 Summer School (photo: Carmen Hiltbrunner, 2023).

of 'what really happened', but also how modern observers can come to know 'what really happened'. The decision regarding the treatment of the large *lacunae*, which had been infilled in the previous restoration campaign in 1966/67, was not ours. However, discussions made us realise that Slovenian conservators tended to preserve them as part of documentary and historical value.

As with all conservation treatment, plaster infills have to fulfil certain requirements such as removability, retreatability, compatibility, durability, appearance, distinctness, etc. Manipulating the type of aggregate (which has a specific colour, size and shape), the use of additives (Fig. 1), the ratio between the lime putty binder and the aggregate, the amount of water added to the plaster mixture, the application procedure and the surface treatment (Figs. 2-3) resulted in seventeen mock-ups (Fig. 4), which we produced following the aforementioned requirement profile. The evaluation of the results (Fig. 5) will help conservators in their future decisions.

There are still decisions to be made with regard to plaster infills, but we will now describe the solutions already used for aesthetic reintegration by adding colour, known as retouching.

With the move away from retouching as a creative act towards a manner of integration that sought to avoid any (mis) interpretation by the conservator, various schools of thought developed retouching methods, which sought to avoid or minimise any invention. These methods spread and (re-)combined over space and time and are clearly subject to prevailing tastes and trends. In this context, it is worth mentioning the theories of Cesare Brandi⁵ (1906–1988), whose influence has gone far beyond his own practical implementations and those of his 'disciples' in Rome. Basically, Brandi's world-famous approaches can be seen as another important catalyst in this process, which has had a profound influence on the Western profession to this day. In the early 1950s, Brandi formulated his *Teoria del restauro* based on his lectures at the Scuola di perfezionamento di storia dell'arte at the Facoltà di Lettere at the University of Rome. His definition of the act of restoration also makes clear once again the already mentioned area of tension "pristine

⁵ Brandi received his doctorate in law from the University of Siena in 1927 and in art history and history at the University of Florence in 1928. In 1938 he was appointed Superintendent for the Administration of Monuments and Museums in Rome. From 1939 to 1960 he became director of the newly founded Istituto Centrale per il Restauro in Rome. In 1960 he was appointed to the Chair of Medieval and Modern Art History at the University of Palermo and in 1967 to the Chair of Modern Art History at La Sapienza University in Rome. His broad practical experience and his phenomenological references ranging from Plato to Kant, culminated in what became known as the Theory of Critical Restoration. In 1963 Brandi published his theories in the book *Teoria del Restauro*, a landmark theoretical essay on conservation.



Fig. 5: Discussion and evaluation of plaster mock-ups (photo: Neva Pološki, 2023).



Fig. 6: Students practicing the *selezione cromatica* method (photo: Blaž Šeme, 2023).

beauty in relation to natural ageing with the traces of time.” He declares: ‘*Restoration consists of the methodological moment in which the work of art is recognized, in its physical being, and its dual aesthetic and historical nature, in view of its transmission to the future.*’⁶ To learn more about the history and methods of aesthetic reintegration, as well as the differences in their practical implementation between countries in recent decades, the students read selected publications on the subject in the run-up to the on-site campaign.⁷ During the preceding online week, they shared their findings. This exchange was further reinforced and expanded by several online lectures covering both the topic in general as well as specific case studies from the various participating countries. To familiarize the participants with one of the many methods and thereby deepen their understanding of the approaches from the past century following Riegl, the students were able to practice the *selezione cromatica*⁸ (colour selection) method on mock-ups (Figs. 6-7).

⁶ BRANDI 2005, p. 48. ‘*Il restauro costituisce il momento metodologico del riconoscimento dell’opera d’arte nella sua consistenza fisica e nella duplice polarità estetica e storica, in vista della sua trasmissione nel futuro.*’ BRANDI 1963, p. 34.

⁷ The following articles were read by the students as basic texts: A) Rickerby, Stephen, Shekede, Lisa, Reintegrating Wall Paintings – Priorities and dilemmas, in: A. Jean E. Brown (ed.), *The Postprints of the Image Re-integration Conference*, Northumbria University Press, Newcastle upon Tyne, 2007, pp. 81-89, B) Olson, Nina, From mimetic to differentiated – Traditions and current practices in Italian inpainting, *AIC Paintings Specialty Group Postprints*, 16, 2003, pp. 4-12, C) Brajer, Isabelle, Authenticity and restoration of wall paintings. Issues of truth and beauty, in: Erma Hemmens, Tina Fiske (eds.), *Art, Conservation and Authenticities – Material, Concept, Context*, Archetype Publications Ltd., London, 2009, pp. 22-32.

⁸ *Selezione cromatica* is to be applied where the gap can be reconstructed in its chromatic and figurative reality without this reconstruction entailing doubts, interpretative arbitrariness, multiple formal or chromatic solutions. CASAZZA 1981, pp. 7-10. It is performed on plaster infills by lining up short parallel lines with several pure colours. The choice of colours depends on the original around it, but usually yellow, red, green, brown and black are used. The lines partially overlap and remain partially visible in their pure colour, which enables additive mixing in the eye of the observer. The lines follow the shapes and contours of the original alongside them. The raster of lines enables the distinction between a reintegrated area and the original.



Fig. 7: Painted mock-up, pigments and binders used for practicing *selezione cromatica*; during the implementation of the method (photo: Carmen Hiltbrunner, 2023).

This method was developed by Umberto Baldini (1921–2006)⁹ and Ornella Casazza¹⁰ in the 1970s in the so-called ‘Florentine school’ of restoration. Another purpose of this exercise was to experiment with three different binders, allowing students to experience the working properties of different paint mediums. When the time came to work on the wall, each student was assigned a part of the wall paintings on the south wall, which had been cleaned and consolidated between 2021 and 2023. Their task was to retouch the paintings using the *abbassamento di tono* (tonal adjustment) method with watercolours (Fig. 8). This method involves applying paint to the original *intonaco* where there has been superficial alteration of the paint layer (or patina), due either to abrasion or to the loss of small flakes of paint. Such an alteration ‘...causes small light spots (sometimes even white spots when the rendering is exposed) to appear optically in front of the original pictorial plane.’¹¹ Therefore, the aim of the method is to consign damage to the background, which can be achieved by lowering the tone of the damaged surfaces. That way, the image is optically brought to the foreground, making the painting’s content more evident and chromatically more consistent.

⁹ Baldini earned a degree in art history at the University of Florence in 1948. He was conservation director in the Uffizi Gallery and in 1949 became director of the Restoration department of the Florentine Soprintendenza. He became the first director of the Florentine institute Opificio delle Pietre Dure in 1970 and from 1983 to 1987 he worked as director of the Istituto Centrale per il Restauro in Rome. He was named President of the Università Internazionale dell’Arte and director of the Horne Museum in Florence. He led the conservation efforts following the Arno river flood of 1966 in Florence, which damaged many masterpieces. These interventions resulted in the techniques and methodology of the so-called Florentine school of restoration. He made a huge impact on the art conservation profession with his book *Teoria del restauro e unità di metodologia* (1978/1981) and by establishing science as an indispensable partner in the conservation process.

¹⁰ Ornella Casazza worked as a conservator and professor at the Opificio delle Pietre Dure. In her book *Il restauro pittorico nell’unità di metodologia* published in 1981, she describes in detail the colour reintegration methods used by the Institute at the time (*astrazione cromatica, selezione cromatica, selezione dell’oro and selezione dell’argento*). CASAZZA 1981.

¹¹ MORA et al. 1984, p. 307.



Fig. 8: Student retouching the upper part of the *Descent from the Cross* scene on the south wall, using the *abbassamento di tono* method (photo: Suzana Damiani, 2023).



Fig. 9: Segment of the *Descent from the Cross* scene before retouching (photo: Karla Borenić, 2023).



Fig. 10: Segment of the *Descent from the Cross* scene after retouching with the *abbassamento di tono* method (photo: Karla Borenić, 2023).

The first step was to optically analyse a specific area. The aim of this visual inspection was to identify zones where, based on the subjective assessment of the person working on the image, the paint layer alterations (abrasions) were deemed non-disruptive because they were already integrated without the need for intervention. This subjective assessment could be balanced and verified in an intersubjective exchange in the group. Starting from this reference zone, the first colour field (coloured detail of a representation in close proximity) was visually harmonised. For this purpose, chromatic glazes were prepared to a 'neutral', darker, brownish hue made of red, blue and yellow *alla prima*¹² and applied with a pointed brush. Depending on the perceived colour temperature of the *intonaco*, the integration could be adjusted with a slightly modified colour temperature – warmer tones with red/yellow or colder with blue. Once the appearance of a colour field and the internal defects had been retouched satisfactorily, it was possible to continue with an adjacent colour area. It is important to note that the subsequent field may significantly impact the previously retouched colour zone. This influence in the sense of a simultaneous contrast required adjustment. Sometimes completed zones had to be treated again (Figs. 9-10).

La fine non è la fine!

The highly iterative process of retouching described here applies not only to individual depictions but also to the entirety of the painted decoration on the south wall. It is also clear that the reintegration measures on the south wall cannot be viewed in isolation from those on the north wall. In addition, it is always necessary to respond to the relationship between the treated zones and those that were not treated between 2021 and 2023. The retouched wall paintings have an influence on the neighbouring wall areas, such as the parts bearing older, sizeable plaster infills, as well as on the entire architectural structure and vice versa. This required far-sighted conceptualisation from the outset. The outcome of the work in 2023 was blessed by good fortune: in addition to extensive intellectual exchange in the process of finding solutions, there was never a strict deadline for completion within the span of a few days. Of course, individual processes were to be maximised as far as possible, however, alongside the emphasis on quantitative performance, the quality of work was not allowed to suffer under any circumstances. In the end, the dialogue, which had moments of both doubt and inspiration, was the driving force behind a result that seems to meet the set requirements in the best possible way.

References

- BRANDI 1963: Brandi, Cesare, *Teoria del restauro*, Roma 1963.
 BRANDI 2005: Brandi, Cesare, *Theory of Restoration*, (ed. Giuseppe Basile), Firenze 2005.
 HARRER 2017: Harrer, Alexandra, The Legacy of Alois Riegl: Material Authenticity of the Monument in the Digital Age, *Built Heritage*, 2017, 2, pp. 29-40. Internet source (on 22. 1. 2024): <https://built-heritage.springeropen.com/counter/pdf/10.1186/BF03545661.pdf>
 MLADENVIĆ 2021: Mladenović, Ajda, *Etika in estetika pri konservatorsko-restavratskih posegih – retuša in prezentacija srednjeveških stenskih slik v Sloveniji*, doctoral thesis, Univerza v Ljubljani, Ljubljana 2021.
 MORA et al. 1984: Mora, Paolo, Mora, Laura, Philippot, Paul, *Conservation of Wall Paintings*, London 1984.
 SITAR 2020: Sitar, Mateja Neža (ed.), *Prezentacija stenskih poslikav – Pogledi, koncepti, pristopi*, RES.7, Ljubljana 2020.

¹² *Alla prima* (it.) – meaning 'at the first attempt', refers to the method of painting in which the paint is applied in a single application instead of being built up layer by layer.

STJECANJE DIJELJENJEM - DIDAKTIČKO ISKUSTVO LJETNE ŠKOLE

Suzana Damiani

„Planning a course is like writing a piece of music. We have to consider where we want the points of emphasis, the appropriate tempo, and the variations of rhythm and melody you intend to offer. We also have to decide who is playing the instruments and what kind of audience they will have!“¹

Robert Ferguson and Elisabeth Pye: *Our Students and Ourselves*

Uvod

Svaki učitelj zna da je za uspjeh njegova rada nužna motivacija. To se jednako odnosi na motivaciju studenata kao i njegovu vlastitu. Kada je riječ o posebnim oblicima nastave kao što je ljetna škola, koja je inicijalno nastala da popuni praznine u obrazovanju, a kasnije je prerasla u mogućnost pribavljanja dodatnog iskustva i proširivanja znanja stečenog formalnim obrazovanjem,² motivi prvenstveno dolaze od samih sudionika.

Specifični zahtjevi obrazovanja konzervatora-restauratora podrazumijevaju potrebu stjecanja praktičnog iskustva³ koje je, pogotovo u području nepokretne baštine, ponekad teško uklopiti u standardni raspored akademske godine. Stoga su ljetni mjeseci doba kada je priključivanje timovima i rad na objektima nepokretne baštine nužnost. Ljetna škola je, dakle, idealan oblik dodatne nastave za studente konzerviranja-restauriranja tijekom koje u relativno kratkom razdoblju mogu steći značajno iskustvo na samom objektu baštine. To je samo jedan od motivirajućih faktora u ovom slučaju. Činjenica da se ovdje radi o međunarodnoj ljetnoj školi koja je smještena u prekrasan krajobraz kraškog područja slovenske Primorske s izuzetno bogatom prirodnom i kulturnom baštinom na vrlo malom geografskom području, bio je dodatni motiv. Dakako, ljubiteljima zidnog slikarstva značajan motiv svakako je vrijedan i u velikoj mjeri očuvan ciklus zidnih slika pripisan radionici majstora Ivana iz Kastva koji potječe s kraja 15. st. i, ne manje važno, vrhunska priprema i organizacija tima konzervatora i konzervatora-restauratora Slovenije i znanstvenika s kojima surađuju. Potaknuli su i okupili visoke škole u regiji da im se pridruže u ovom vrijednom projektu, što je bio još jedan motiv svima koji su sudjelovali u ovoj ljetnoj školi.

Iz izjava sudionika prikupljenih nakon završetka trećeg ciklusa Ljetne škole vidljivo je da je internacionalno iskustvo, iskustvo suradnje sa studentima i nastavnicima iz različitih visokih škola i dijelova Europe⁴ možda najvažnija vrijednost koju su dobili sudjelovanjem. To podrazumijeva nova prijateljstva i buduće suradnje, razmjenu znanja i iskustva te povezivanje mladih iste struke kao važan zalog za njen budući razvoj.

Obrazovni ciljevi i metode njihova ostvarivanja

Ova ljetna škola bila je usmjerena na aktivnosti vezane uz konzervatorsko-restauratorska istraživanja, metode i postupke na zidnim slikama u crkvi sv. Helene u Gradišću pri Divači. No, jednako tako, ciljevi ove škole bili su okrenuti obrazovanju mladih budućih konzervatora-restauratora. Ne manje važno bilo je i uspostavljanje (ili nastavak) suradnje između djelatnika institucija kao što su visoke škole i odjeli Zavoda za zaštitu kulturne baštine Slovenije. Ta suradnja usmjerena je na kontinuirano cjeloživotno obrazovanje stručnjaka za zaštitu baštine, pa obrazovni ciljevi ove škole nisu bili usmjereni samo na studente nego i na ostale sudionike. Zato možemo reći da su se ciljevi kretali od osobnog profesionalnog razvoja, preko razvoja komunikacije unutar struke i ulaganja u mlade stručnjake, do razvoja kulturne baštine regije.

¹ "Planiranje tečaja slično je skladanju. Nužno je razmotriti gdje želite postaviti naglaske, odgovarajući tempo te varijacije ritma i melodije koje namjeravate ponuditi. Također moramo odlučiti tko svira instrumente i kakvoj publici se obraćamo!" FERGUSON, PYE 2004, str. 30.

² COOPER et al. 2000, str. 4–6.

³ ENCORE, On Practice in Conservation-Restoration Education.

⁴ Tijekom Ljetne škole, osim službenog engleskog jezika, mogao se čuti slovenski, talijanski, njemački, hrvatski, francuski, a možda i još pokoji jezik sudionika.



Slika 1: Sudionici Ljetne škole 2021. tijekom odmora i druženja u hladu crkve sv. Helene (foto: Anka Batič, 2021.).
Fig. 1: Participants of the 2021 Summer School during break socialising in the shade of the church of St. Helen (photo: Anka Batič, 2021).



Slika 2a: U posjetu crkvi Gospe od Žalosti u Dolenjoj Vasi (foto: Suzana Damiani, 2023.).
Fig. 2a: Visit to the Church of Our Lady of Sorrows in Dolenja Vas (photo: Suzana Damiani, 2023).

Internacionalni kontekst te heterogenost sudionika vezano uz različite razine njihovog predznanja i iskustva te različite obrazovne sadržaje koji im se pružaju unutar obrazovnih institucija, predstavljali su više prednost nego prepreku. Zbog takvog konteksta, stil i pristup sadržajima odvijao se postupno i sustavno te je struktura Ljetne škole svima omogućavala aktivno sudjelovanje u programu i ostvarivanje postavljenih ciljeva i ishoda učenja.

Pri ostvarivanju obrazovnih ciljeva korištene su različite didaktičke metode i oblici organizacije rada, pri čemu su primijenjena različita didaktička načela.

Sve tri sezone dio nastave odvijao se *online*, a dio *in situ*. U *online* dijelu kombinirana su izlaganja uz PowerPoint prezentacije, vježbe, individualni i grupni rad. Pritom je *online* dio Ljetne škole 2021. g. podrazumijevao i prethodnu pripremu studenata sudionika u vidu kratkog tečaja izrade grafičke dokumentacije u programu AutoCad, a 2023. u vidu grupnih zadataka vezanih uz specifične pisane izvore povezane s temom radova na objektu (estetska prezentacija). Male grupe od oko tri sudionika oblikovane su heterogeno, tako da je svaka grupa bila sastavljena od sudionika iz različitih država. Taj princip oblikovanja heterogenih grupa⁵ primijenjen je u svim aktivnostima da bi se potaknula suradnja i komunikacija te sudionike upoznao s terminologijom na zajedničkom jeziku škole (engleskom). Prednost uključivanja studenata u *online* sesiju, koja je prethodila radovima *in situ*, odrazila se na veću angažiranost studenata u praćenju tog dijela škole i u njihovom aktivnom sudjelovanju te u boljoj pripremljenosti za temu, stručni rječnik i komunikaciju na stranom jeziku. Također, njihova suradnja započela je prije nego su se susreli uživo pa je umanjena nelagoda prvih dana upoznavanja.⁶

Ciljevi uvodnog *online* dijela odnosili su se većinom na upoznavanje s kontekstom - baštinom Slovenije, poviješću objekta i zidnih slika te prethodnih zahvata i rezultata istraživanja, a na drugoj i trećoj Ljetnoj školi i sa sadržajem prethodnih aktivnosti, naglašavajući multidisciplinarni pristup umjetnici.

Najvažniji i najplodniji dio odvijao se *in situ*, na samom objektu te tijekom posjeta objektima u okruženju. Sudionici su bili smješteni u blizini Gradišča pri Divači u većim grupama, tako da se komunikacija ostvarivala i u slobodno vrijeme nakon radionica. Studenti su sami pripremali doručak i večeru pa su tako imali priliku družiti se, što je pojačalo njihovo zblizavanje, uklonilo barijere i omogućilo stvaranje ugodne atmosfere što je nužan preduvjet za uspješnost ovakvog tipa neformalnog obrazovanja (Slika 1). Izleti na zanimljive lokalitete manje ili više povezane s tematikom aktivnosti Ljetne škole proširili su iskustva i znanja vezana uz povijest i znamenitosti u okruženju i specifične konzervatorsko-restauratorske probleme (Slike 2a-c).

Same aktivnosti obuhvaćale su različite oblike rada kao što su frontalni, individualni rad u paru, grupni i timski rad, pri čemu je naglasak stavljen na timski rad koji je osnovno i najvažnije obilježje rada na objektu nepokretne baštine (Slike 3-6). Timski rad u ovoj Ljetnoj školi karakterizirala je zajednička angažiranost nastavnika, studenata i stručnjaka (konzervatora, konzervatora-restauratora, znanstvenika) pri čemu je svaki član tima pridonosio ostvarivanju zajedničkog cilja sukladno svojim sposobnostima, znanju i iskustvu koji su se nadopunjavali.

Primijenjene su metode usmenog izlaganja, razgovora i diskusija, predavanja praćena demonstracijama pri kojima bi voditelj uživo pokazivao načine pripreme materijala, primjenu pojedinih metoda te ukazivao na pojedine specifičnosti (Slika 7). Odmjeren raspored različitih metoda pomagao je održavanju fokusa i pažnje te vodio k primjeni stečenog i demonstriranog znanja u praktičnom radu sudionika. S obzirom na kompleksnost problema, ovo je bila idealna situacija za primjenu problemske nastave u kojoj se studenti potiču da identificiraju, pronalaze i analiziraju informacije,



Slika 2b: Konzervator-restaurator Andrej Jazbec objašnjava način prezentacije zidnih slika u crkvi Gospe od Žalosti u Dolenjoj Vasi (foto: Suzana Damiani, 2023.).

Fig. 2b: Conservator-restorer Andrej Jazbec explains the method of presenting wall paintings in the Church of Our Lady of Sorrows in Dolenja vas (photo: Suzana Damiani, 2023).

otkrivaju, razumijevaju i rješavaju probleme izvodeći zadatke samostalno i grupno te vrednujući moguća rješenja.⁷ Prvenstveno tijekom prve godine a i kasnije, uvodeći se u problematiku tehnoloških karakteristika i građe te stanja objekta/zidnih slika, studente se poticalo da promatraju i otkrivaju postavljajući si pitanja poput „Što vidim?, Od čega se sastoji viđeno?“ te da svoja zapažanja identificiraju, grupiraju (sortiraju), odgovarajući na pitanja „Što to znači?, Što mogu zaključiti na osnovu ovih zapažanja?“

Male grupe studenata bile su posvećene jednom ograničenom dijelu zidnih slika radeći individualno i grupno, naizmjenice, često vođeni dvama voditeljima (kolaborativno poučavanje). Nadalje, poticali su da provjeravaju ono što su zapazili, dijele saznanja s drugim grupama te dokumentiraju svoja zapažanja. Tek na osnovu svih podataka sakupljenih vizualnim zapažanjem te analize i sinteze, dobiveni rezultati su vodili vrednovanju i interpretiranju kroz raspravu i kritičko razmišljanje. Upravo razvoj kritičkog i kreativnog razmišljanja⁸ potaknut diskusijama u kojima su sudjelovali svi sudionici Ljetne škole, najvažniji je didaktički cilj koji vodi k razvoju sposobnosti koje onda omogućuju donošenje odluka vezanih uz konzervatorsko-restauratorske zahvate i evaluaciju različitih pristupa i rješenja. Takva

⁵ “Working with heterogeneous groups is essential, since within Cooperative learning “the formation of collaborative groups is based on the heterogeneity of knowledge, skills, values, previous ways of acting and thinking, as well as social and behavioral skills, gender, age, etc.” (“Rad s heterogenim skupinama je ključan, budući da se unutar kooperativnog učenja “formiranje suradničkih grupa temelji na heterogenosti znanja, vještina, vrijednosti, prethodnih načina djelovanja i razmišljanja, kao i društvenih i ponašajnih vještina, spola, dobi, itd.”). RODRÍGUEZ, TENORIO 2005, str. 23-37 prema CARABAL-MONTAGUD et al. 2019, str. 66.

⁶ “EduSaPMan” 2017, str. 3.

⁷ FUSTER-LÓPEZ, KRARUP ANDERSEN 2014, str. 17–19.

⁸ CHERNYSHOVA, TOKMYLENKO 2020, str. 273.



Slika 2c: Pred crkvom sv. Trojstva u Hrastovlju (foto: Suzana Damiani, 2023.).
Fig. 2c: In front of the Church of the Holy Trinity in Hrastovlje (photo: Suzana Damiani, 2023).

nastava ukazuje na važnost interdisciplinarnog pristupa umjetnini te važnost timskog rada i odlučivanja.⁹ Tijekom razgovora unutar grupa mogla se osjetiti sloboda u komunikaciji i uklanjanje barijera između studenata, nastavnika i profesionalaca pri čemu je glavni cilj ujedinio sve sudionike u težnji k odabiru optimalnih metoda.

Praktičan rad na zidnim slikama koji je prve godine obuhvaćao istraživanje tehnologije, dijagnosticiranje stanja zidnih slika i dokumentaciju, kasnije se proširio na metode čišćenja i učvršćivanja te konačno metode estetske prezentacije zidnih slika u kontekstu njihove nove funkcije kao ekspanata budućeg muzeja zidnih slika.

Kako su u međuvremenu, između radionica Ljetnih škola, djelatnici Zavoda nastavljali rad na zidnim slikama usvojenim metodama, u samo tri ciklusa Ljetnih škola studentima je pružena slika cijelog postupka rada koji u pravilu traje puno duže od trajanja Ljetne škole. Sadržaj sva tri ciklusa Ljetnih škola sažeo je sve aspekte koji rad na objektu baštine podrazumijeva i omogućio sudionicima da osvijeste, razviju i usvoje neke od važnih kompetencija u struci kao što su:

- biti u mogućnosti provoditi istraživanja i prikupljati informacije, ne samo povijesne prirode, već sve one koje pridonose opisu kulturnog dobra,
- biti u stanju provesti preliminarno istraživanje baštine i podataka o njenom okruženju,

⁹ „In professions related to the conservation and restoration of cultural assets, we work as a team, thus is fundamental that the students' training prepares them for this work reality and enables them to be part of and lead these teams, fostering cross-cutting skills such as communication effective, critical thinking, application and practical thinking among others.“ („U profesijama povezanim s konzervacijom i restauracijom kulturnih dobara radimo kao tim, stoga je ključno da studente obuka pripremi za ovu radnu stvarnost i omogući im da budu dio tima i voditelji timova, njegujući međusektorske vještine kao što su, između ostalog, učinkovita komunikacija, kritičko mišljenje, primjena i praktično razmišljanje.“ CARABAL-MONTAGUD et al. 2019, str. 63.



Slika 3: Voditelj Ljetne škole Alberto Felici; frontalni oblik rada (foto: Jonas Roters, 2023.).
Fig. 3: Summer School leader Alberto Felici; frontal form of work (photo: Jonas Roters, 2023).

- istražiti izvedbene tehnike i konstitutivne materijale kako izvornih tako i one mogućih naknadnih intervencija,
- evaluirati uvjete degradacije i interakcija između djela i njegovog konteksta,
- biti svjestan različitih faza intervencije koje treba izvesti da bi se u odgovarajuće vrijeme planirale kompetentne faze,
- znati odabrati odgovarajući instrumentarij i opremu za intervencije/aktivnosti koje treba provesti,
- kontrolirati ispravnost provedbe aktivnosti i provjeravati kvalitetu rezultata,¹⁰
- biti sposoban za javnu komunikaciju u različitim okolnostima i korištenjem različitih medija.

Zaključak

Sve što su naučili tijekom Ljetne škole studenti su prezentirali svake godine lokalnoj zajednici i zainteresiranoj javnosti i to je predstavljalo jedan vid vrednovanja njihovog rada (Slika 8). Reakcije publike i uvažavanje na koje su naišle ovako prezentirane aktivnosti, dodatno su potvrdile ono što se osjetilo tijekom trajanja radionica: entuzijazam, energiju i dobru volju svih sudionika te učinkovitost primijenjenih metoda poučavanja.

Motivacija i posvećenost profesiji, objektu, suradnji i okruženju rezultirali su višestrukim vrijednostima – doprinosu u procesu konzerviranja-restauriranja zidnih slika, interkulturalnom iskustvu i znanju stečenom na vrhunskom objektu baštine i u prekrasnom okruženju, novim vezama i prijateljstvima među kolegama iz struke, a svakako i jednim lijepim novim obrazovnim iskustvom. Slobodni od svojih uobičajenih uloga, u tom su iskustvu sudionici naizmjenice bili i studenti i učitelji, shvaćajući da svi zajedno nešto dajemo, nešto dobivamo i da nas je ta razmjena obogatila u ljudskom i profesionalnom smislu.

¹⁰ ACHILLE, FIORILLO 2022, str. 2567.



Slika 4: Studenti Irina Pozdorovkina (ALUO) i Lorenz Amann (SUPSI) tijekom individualnog rada (foto: Anka Batič, 2022.).
Fig. 4: Students Irina Pozdorovkina (ALUO) and Lorenz Amann (SUPSI) during individual work (photo: Anka Batič, 2022).



Slika 5: Studenti Urh Tacar i Angela Walther; test kohezije; rad u paru (foto: Neva Pološki, 2022.).
Fig. 5: Students Urh Tacar and Angela Walther test cohesion by working in pairs (photo: Neva Pološki, 2022).



Slika 6: Konzervatorica-restauratorica Marta Bensa tijekom izlaganja (foto: Anka Batič, 2022.).
Fig. 6: Conservator-restorer Marta Bensa during a presentation (photo: Anka Batič, 2022).



Slika 7: Alberto Felici prilikom demonstracije materijala za čišćenje (foto: Anka Batič, 2022.).
Fig. 7: Alberto Felici demonstrating cleaning materials (photo: Anka Batič, 2022).



Slika 8: Prezentacija radova gostima zadnjeg dana Ljetne škole 2023. (foto: Suzana Damiani, 2023.).

Fig. 8: Presentation of works to guests on the last day of the 2023 Summer School (photo: Suzana Damiani, 2023).

Literatura i izvori / References

- ACHILLE, FIORILLO 2022: Achille, Cristiana, Fiorillo, Fausta, Teaching and Learning of Cultural Heritage: Engaging Education, Professional Training, and Experimental Activities, *Heritage*, 5, 2022, pp. 2565–2593. Dostupno na web stranici / Available on the website (pristupljeno / accessed on 12. 1. 2024): <https://doi.org/10.3390/heritage5030134>
- CARABAL-MONTAGUD et al. 2019: Carabal-Montagud, Maria Ángeles, Santamarina-Campos, Virginia, Victoria Esgueva López, María, Vicente-Palomino, Sofia, Cooperative learning and brainstorming as didactic strategies in conservation and restoration of cultural assets, *INNODOCT*, 2019, pp. 63–70. Dostupno na web stranici / Available on the website (pristupljeno / accessed on 10. 1. 2024): https://www.researchgate.net/publication/344946582_Cooperative_learning_and_brainstorming_as_didactic_strategies_in_conservation_and_restoration_of_cultural_assets
- CHERNYSHOVA, TOKMYLENKO 2020: Chernyshova, Olena, Tokmylenko, Tetyana, Summer school: a non-formal way to tackle education challenges, *Educational Dimension*, 2020, 3 (55), pp. 267–284. Dostupno na web stranici / Available on the website (pristupljeno / accessed on 18. 1. 2024): https://www.researchgate.net/publication/352250694_Summer_school_a_non-formal_way_to_tackle_education_challenges
- COOPER et al. 2000: Cooper, Harris, Charlton, Kelly, C. Valentine, Jeff, Muhlenbruck, Laura, D. Borman, Geoffrey, Making the Most of Summer School: A Meta-Analytic and Narrative Review, *Monographs of the Society for Research in Child Development*, 65, 1, 2000, pp. i–127. Dostupno na web stranici / Available on the website (pristupljeno / accessed on 18. 1. 2024): <http://www.jstor.org/stable/3181549>
- “EduSaPMan” 2017: Guideline_How to Manage a Successful Summer School.pdf. Dostupno na web stranici / Available on the website (pristupljeno / accessed on 18. 1. 2024): https://ec.europa.eu/programmes/erasmus-plus/project-result-content/20f88051-86f1-4b41-963d-c25828ffb5a4/Guideline_How%20to%20Manage%20a%20Successful%20Summer%20School.pdf
- ENCORE, On Practice in Conservation-Restoration Education. Dostupno na web stranici / Available on the website (pristupljeno / accessed on 10. 1. 2024): <https://www.encore-edu.org/ENCoRE-documents/PracticePaper2014.pdf>
- FERGUSON, PYE 2004: Ferguson, Robert, Pye, Elisabeth, Our Students and Ourselves, ICCROM, Rome 2004. Dostupno na web stranici / Available on the website (pristupljeno / accessed on 12. 1. 2024): https://www.iccrom.org/sites/default/files/2017-02/ICCROM_06_OurStudents_en.pdf
- FUSTER-LÓPEZ, KRARUP ANDERSEN 2014: Fuster-López, Laura, Krarup Andersen, Cecil, Understanding structural conservation through materials science: strategies and didactics, *Teaching Conservation-Restoration*, HS, 2014, *CeROArt, Revue électronique*. Dostupno na web stranici / Available on the website (pristupljeno / accessed on 23. 1. 2024): <https://doi.org/10.4000/ceroart.4380>
- RODRÍGUEZ, TENORIO 2005: Rodríguez, Guillermo Bernaza, Tenorio, Francisco Lee, Una concepción didáctica basada en el aprendizaje colaborativo para la educación de posgrado, *Revista Cubana de educación superior*, 2005, pp. 23-37.

ACQUIRING BY SHARING - DIDACTIC EXPERIENCE OF THE SUMMER SCHOOL

Suzana Damiani

“Planning a course is like writing a piece of music. We have to consider where we want the points of emphasis, the appropriate tempo, and the variations of rhythm and melody you intend to offer. We also have to decide who plays the instruments and what kind of audience they will have!”

Robert Ferguson and Elisabeth Pye: *Our Students and Ourselves*

Introduction

Every teacher knows that motivation is essential for the success of their work. This applies equally to students' motivation as well as their own. When it comes to special forms of education, such as summer school, which initially emerged to fill gaps in education but later grew into an opportunity to gain additional experience and expand the knowledge acquired through formal education,² motivation primarily come from the participants themselves.

The specific education requirements for conservators-restorers entail the necessity of acquiring practical experience,³ which, especially in immovable heritage, can sometimes be challenging to integrate into the standard academic year schedule. Therefore, the summer months are a time when joining teams and working on immovable heritage sites is necessary. Summer School, therefore, represents an ideal form of additional education for conservation-restoration students during which they can gain significant hands-on experience on heritage objects within a relatively short period. This is just one of the motivating factors in this case. The fact that this is an international summer school situated in the beautiful landscape of the karst region of Slovenian Primorska, with a vibrant natural and cultural heritage within a very small geographical area, was an additional motivating factor. Of course, for enthusiasts of wall painting, a significant motivation was the valuable and largely preserved cycle of wall paintings attributed to the workshop of the master Ivan from Kastav, dating back to the late 15th century. Equally important was the excellent preparation and organisation by the team of conservators and conservator-restorers from Slovenia, as well as the scientists they collaborated with. Their initiative also encouraged and brought together regional higher education institutions to join in this valuable project, which was another motivating factor for everyone involved in this summer school. From the statements gathered from participants after completing the third cycle of the Summer School, it is evident that the international experience, the experience of collaborating with students and teachers from different higher education institutions and regions of Europe,⁴ might be the most essential value they gained from participating. This includes forming new friendships and future collaborations, exchanging knowledge and experiences, and connecting young professionals in the same field as an important cornerstone for its future development.

Educational objectives and methods of their achievement

This Summer School focused on activities related to conservation-restoration research, methods, and procedures on wall paintings in the Church of St. Helen in Gradišče pri Divači. However, equally important, the objectives of this school were oriented towards the education of young future conservator-restorers. Equally significant was the establishment (or continuation) of collaboration between staff members of institutions such as higher education institutions and departments of the Institute for the Protection of Cultural Heritage of Slovenia. This collaboration aimed at continuous lifelong education of heritage conservation professionals, so this school's educational objectives were focused on students and other participants. Therefore, we can say that the objectives ranged from personal

¹ FERGUSON, PYE 2004, p. 30.

² COOPER et al. 2000, pp. 4–6.

³ ENCORE, On Practice in Conservation-Restoration Education.

⁴ During the Summer School, besides the official English language, Slovenian, Italian, German, Croatian, French, and perhaps a few other languages of the participants could be heard.

professional development through the development of communication within the profession and investment in young professionals to the development of the region's cultural heritage. The international context and the heterogeneity of participants related to different levels of their prior knowledge and experience and the diversity of educational content provided within educational institutions represented more of an advantage than a hindrance. Due to such context, the style and approach to the content unfolded gradually and systematically, and the structure of the Summer School enabled everyone to participate actively in the program and achieve set learning objectives and outcomes.

Various didactic methods and work organisation were used to achieve educational objectives, applying different didactic principles.

Throughout all three seasons, a portion of the lectures was conducted online, while another portion was conducted in person. The online component employed a combination of presentations with PowerPoint slides, exercises, and individual and group work. Additionally, the online segment of the 2021 Summer School included prior preparation of student participants through a short course on creating graphic documentation in the AutoCAD program, while in 2023, it involved group tasks related to specific written sources connected to the theme of work on the object (aesthetic presentation). Small groups of around three participants were formed heterogeneously so that each group consisted of participants from different countries. The principle of forming heterogeneous⁵ groups was applied in all activities to encourage collaboration and communication and to familiarise participants with terminology in the common language of the school (English). The advantage of involving students in the online session preceding the on-site work was reflected in their greater engagement in following that part of the school, active participation, better preparation for the topic, professional vocabulary, and communication in a foreign language. Additionally, their collaboration started before they met in person, reducing the discomfort of the first days of getting to know each other.⁶

The objectives of the introductory online part mainly focused on familiarising participants with the context — Slovenia's heritage, the history of objects and wall paintings, previous interventions, and research results. In the second and third Summer Schools, the objectives aligned with the content of previous activities, emphasising a multidisciplinary approach to the artwork.

The most important and productive part occurred on site, directly at the object itself and during visits to nearby sites. Participants were accommodated near Gradišče pri Divači in larger groups, allowing communication even during free time after workshops. Students prepared breakfast and dinner themselves, allowing them to socialise, which enhanced their bonding, removed barriers, and created a pleasant atmosphere, which is essential for the success of this type of informal education (Fig. 1).

Excursions to interesting sites, more or less related to the theme of the Summer School activities, expanded the experiences and knowledge related to the history and landmarks of the surrounding area and specific conservation-restoration issues (Figs. 2a-c). The activities encompassed various forms of work, such as frontal lectures, individual work in pairs, group work, and teamwork, emphasising teamwork, which is the fundamental and most important characteristic of working on immovable heritage objects (Figs. 3-6). Teamwork in this Summer School was characterised by the collective engagement of teachers, students, and experts (conservators, conservator-restorers, scientists), with each team member contributing to achieving a common goal according to their abilities, knowledge, and complementary experiences. The methods applied included oral presentations, conversations, and discussions, lectures accompanied by demonstrations where the facilitator would demonstrate material preparation methods, application of certain techniques, and point out specific nuances (Fig. 7). A balanced schedule of different methods helped maintain focus and attention, leading to the application of acquired and demonstrated knowledge in the

⁵ “Working with heterogeneous groups is essential, since within Cooperative learning”, the formation of collaborative groups is based on the heterogeneity of knowledge, skills, values, previous ways of acting and thinking, as well as social and behavioural skills, gender, age, etc.” RODRÍGUEZ, TENORIO 2005, p. 23-37, according to CARABAL-MONTAGUD et al. 2019, p. 66.

⁶ “EduSaPMan” 2017, p. 3.

practical work of the participants. Given the complexity of the issues, this was an ideal situation for applying problem-based learning, where students are encouraged to identify, find, and analyse information, discover, understand, and solve problems by performing tasks independently and in groups, and evaluate possible solutions.⁷ Primarily during the first year and later on, as students were introduced to the technological characteristics, structure, and condition of the object/wall paintings, they were encouraged to observe and discover by asking themselves questions such as “What do I see? What is the observed made of?” They were then prompted to identify and group observations, responding to questions like “What does this mean? What conclusions can I draw based on these observations?”

Small groups of students were dedicated to a specific limited part of the wall paintings, working individually and in groups, alternately, often guided by two facilitators (collaborative teaching). Furthermore, they were encouraged to verify what they observed, share their knowledge with other groups, and document observations. Based on all data collected through visual observation, analysis, and synthesis, the obtained results led to evaluation and interpretation through discussion and critical thinking. The development of critical and creative thinking,⁸ encouraged by discussions in which all participants of the Summer School took part, is the most crucial didactic goal that leads to the development of abilities enabling decision-making regarding conservation-restoration interventions and the evaluation of different approaches and solutions. Such teaching highlights the importance of an interdisciplinary approach to the artwork and the significance of teamwork and decision-making.⁹ During group discussions, a sense of freedom in communication and the removal of barriers between students, teachers, and professionals could be felt, with the primary goal of uniting all participants in the pursuit of selecting optimal methods. Practical work on wall paintings, which in the first year encompassed technology research, diagnosing the condition of wall paintings, and documentation, later expanded to include methods of cleaning and consolidation, and finally, methods of aesthetic presentation of wall paintings in the context of their new function as exhibits for a future museum of wall paintings. In the meantime, between the Summer Schools workshops, the Institute employees continued their work on wall paintings using the adopted methods. In just three cycles of the Summer School, students were given an overview of the entire working process, which typically lasts much longer than the duration of the Summer School.

The content of all three cycles of the Summer Schools summarised all aspects involved in working on cultural heritage objects. It enabled participants to become aware of, develop, and adopt some of the essential professional competencies, such as:

- being able to conduct research and gather information, not only of a historical nature but all those contributing to the description of cultural heritage;
- being able to conduct preliminary research on heritage and data about its surroundings;
- explore performance techniques and constitutive materials of both original and potential subsequent interventions;
- evaluate degradation conditions and interactions between the artwork and its context;
- being aware of the different phases of intervention that need to be carried out in order to plan competent phases at the appropriate time;
- knowing how to select appropriate tools and equipment for interventions/activities that need to be carried out;
- controlling the correctness of activity implementation and checking the quality of results;¹⁰
- being capable of public communication in various circumstances and using different media.

⁷ FUSTER-LÓPEZ, KRARUP ANDERSEN 2014, pp. 17–19.

⁸ CHERNYSHOVA, TOKMYLENKO 2020, p. 273.

⁹ “In professions related to the conservation and restoration of cultural assets, we work as a team. Thus, it is fundamental that the students’ training prepares them for this work reality and enables them to be part of and lead these teams, fostering cross-cutting skills such as effective communication, critical thinking, application, and practical thinking, among others.” CARABAL-MONTAGUD et al. 2019, p. 63.

¹⁰ ACHILLE, FIORILLO 2022, p. 2567.

Conclusion

All that they learned during Summer School students presented to the local community and interested public each year, representing a form of evaluation of their work (Fig. 8).

The public’s reactions and appreciation for these presented activities further confirmed what was felt during the workshops: the enthusiasm, energy, and goodwill of all participants, as well as the effectiveness of the teaching methods applied.

The motivation and dedication to the profession, the object, collaboration, and the environment resulted in multiple values - contributions to the process of conserving and restoring wall paintings, intercultural experiences, and knowledge gained at a top heritage site and in a beautiful environment, new connections and friendships among colleagues in the field, and indeed a beautiful, new educational experience. Free from their usual roles, participants alternated between being students and teachers in this experience, realising that together we give something, we receive something, and this exchange enriched us personally and professionally.

SHORT FEEDBACK FROM THE PARTICIPANTS

Editor: Jonas Roters

Short feedback from the participants answering the following question:

“Looking at the time before and after my participation in the Gradišče Summer School and the weeks themselves, what was the biggest and most unexpected professional gain?”

“In addition to serving as a platform for imparting knowledge to students, the Gradišče Summer School was also a place for exchanging and confronting opinions and collaboratively searching for answers to concrete restoration problems and theoretical questions. It was tiring but valuable, both professionally and in terms of the personal contacts made. The best solutions were found for restoring the paintings in Gradišče, which will be used in completing the restoration work.”

Andrej Jazbec (organiser / teacher)

“It was an experience that contributed greatly to my professional training as we faced essential considerations before intervening on a work of art. I think the following questions should not be underestimated: What is my goal? What do I want to communicate with my intervention? The choices that were made were based on the necessary compromise between restoration and pure conservation. This experience taught me to critically evaluate the situation.”

Alessia Grandoni (student)

“For me, the most unexpected and professional benefit of the Summer School was not only meeting and working with professionals from Slovenia and other countries, but also building a bond with them that will last a lifetime. There is such a kinship between us, enthusiasm for the same goals, and there is always someone to call when you need help, knowledge or advice. I am very grateful for this experience.”

Anka Batič (organiser)

“Participating in the Summer School gave me an insight into the difficulty, but also the joys of collaboration between people from various backgrounds, experiences and of different opinions. It was a great way to learn from one another and about making compromises when it comes to finding the best solution to a common problem.”

Lara Cizel (student)

“New methodologies to apply on different objects: a) using non-invasive analyses to monitor conservation-restoration processes with the Raman spectrometer; b) monitoring consolidants within cross-sections.”

Katja Kavkler (teacher)

“Exchanging with people from other countries was very valuable for realising how diverse the approach to retouching cultural assets can be. Applying the principle of “Abbassamento di Tono” to the wall paintings of the church of St. Helen showed that the aim of a procedure and the way it is achieved are as important as the result.”

Carmen Hiltbrunner (student)

“Knowing how demanding and precise the organization of this Summer School was, I was pleasantly surprised at how spontaneous it was at the same time. It is remarkable how many topics were covered during each workshop, encompassing purely technical and material issues but also philosophical discussions on truth and beauty; from mixing plaster to questioning every single term and every intervention on the paintings. In this way, the Summer School managed to present all the complexity and beauty of our profession and left a trace not only on the wall paintings in Gradišče but also in all the parts of Europe from where the participants came.”

Suzana Damiani (organiser / teacher)

“The main purpose of the 2023 Summer School was to discuss and learn about aesthetic presentation and retouching wall paintings, but we experienced and gained so much more. Mainly how to collaborate within a multicultural group and how to help each other reach a common goal.”

Karla Borenić (student)

“Conservation-restoration is a field that performs its tasks in a highly sensitive and holistic manner. It demands much more than just analysis, conceptualisation and action. The wall paintings become the centre of an effort, uniting the mixed team over a period of time. A supra-professional connection is created, which is an absolute prerequisite for fulfilling the task and for the result that has been achieved in the last three years. And I’m proud to have been a small part of it. Especially in times that are increasingly marked by international unrest, personally, the time in Slovenia has also served as an encouragement for my belief in good communication across both physical borders and those that exist in our minds.”

Jonas Roters (organiser / teacher)

“My greatest enrichment during my time in Gradišče was the international cooperation between students and lecturers. It was very good to learn how and which practices are used in other countries.”

Lea Vollenweider (student)

“I was deeply impressed by the retouching process, which demands exceptional sensitivity for the artwork and constant comparison of the minute detail that is undergoing treatment with the artwork as a whole and everything that it implies. This process gradually reveals the multifaceted nature of the artwork, encouraging an ever-growing heightening of the senses, which in turn makes it highly creative. Even the smallest non-colour dot is suggestive and affects the understanding of the image – an observation that I found utterly astounding. This was the first time that I performed the tone reduction retouching method.”

Neva Pološki (organiser/ teacher)

“I loved how different people with different backgrounds and nationalities united to achieve the same goal – to share experience and to gain more knowledge about our beautiful profession in this small church in Gradišče. I will forever cherish the experience of working with such professionals, and even more the bonds I made with other students, connecting with them through the journey of learning.”

Viktorija Peternel (student)

“When protecting religious buildings, we are often faced with the problem of maintenance, partly due to the high costs of proper renovation, partly because a large proportion of these facilities are simply underutilized. That is why we put a lot of effort into popularising ecclesiastical heritage sites, spreading awareness of their value, and reviving them or adding new contents. For the church of Saint Helen in Gradišče the Summer School did all of the above. Today, thanks also to the Summer School, Saint Helen is one of the most renowned churches in the region and certainly the best documented. Furthermore, the site has a new manager and a plan for the future that may result in additional innovative content and it may become an exemplary solution for similar buildings.”

Minka Osojnik (organiser)

“To see so many possibilities for the documentation of paintings.”

Eva (student, first year)

“It was amazing to see how restorers from different countries and backgrounds share common professional ethical and theoretical principles and can connect instantly, discussing different views and sharing knowledge while working towards the same goal – the preservation of a monument and the enhancement of its values.”


Ajda Mladenović (organiser)

“During this project, I saw and lived the experience of receiving explanations from professionals of four different countries. I realised the importance of having a common precise language, related to a visual understanding of our actions.”

Elisa Lüthi (student)

“Listening to and respecting the opinion of others is an attitude that is rarely at the centre of training course curricula but it should be the basis for any form of teaching. During the Slovenian weeks in the Gradišče Summer School, each participant tried to give their best to achieve the common goal by listening and respecting. A great result for good conservation work.”

Alberto Felici (organiser / teacher)



“Želeli bi si, da bi bilo živo, živahno. Da bi bili koncerti, dogodki, obisk ... In da bi se mladi angažirali. Lepo bi bilo, če bi se ta gozdiček pred cerkvijo uredilo in povežalo z razglediščem. We would like it to be lively here. That there would be concerts, events, visits, etc. And that young people would get involved. It would be nice if the area in front of the church were tidied up and connected to the scenic viewpoint.”

Jožica Sila

ŠIROKIM OBZORJEM NAPROTI

Neža Čebtron Lipovec, Minka Osojnik

Cerkev sv. Helene na Gradišču pri Divači je torej v preteklosti že večkrat zaspala kakor lepa Trnuljčica. Prevečkrat se je zgodilo, da je po kratkem obdobju večje prepoznavnosti vedno znova potonila v pozabo, tako pri širši javnosti kot pri stroki. Zdi se, da se cerkev in njene poslikave prerinejo v ospredje le takrat, ko je treba gasiti požare oz. ko se pojavijo hujše težave, sicer pa spi in čaka. Vendar se v zadnjih letih zaradi vse večjega zanimanja lokalne skupnosti in njene vpetosti v življenje tega kulturnega spomenika tudi strokovnjaki različnih strok spoprijemajo z izzivom, kako bi preprečili nadaljnje epizode narkolepsije te skrite lepote.

Problematika praznjenja podeželja in posledično vse manjše rabe manjših podružničnih cerkva je v zadnjih desetletjih vse bolj pereča. Čeprav se ponekod trend že obrača nazaj v korist podeželju, se je močno spremenila tudi družbena in verska struktura prebivalstva, ki je zaradi sekularizacije manj prisotno pri skrbi za sakralne objekte. Tako je večje število podružničnih cerkva izgubilo svoje prvotno poslanstvo verskega objekta ali je versko življenje v njih vsaj močno okrnjeno. Na vprašanje, kdo bo skrbel za te objekte danes, ni preprosto odgovoriti.

Drobna cerkvica z neprecenljivimi poznosrednjeveškimi poslikavami je danes torej zgovoren primer konserviranega-restavriranega spomenika, a hkrati tudi vzorčen primer sobivanja lokalne skupnosti in spomenika. Pred sabo imamo neprecenljivo bogastvo. Da ga ne izgubimo, je treba poskrbeti za njegovo prihodnost; poskrbeti, da pomeni in vrednosti te dediščine ne bodo izgubljeni. Njena prihodnost bo rasla iz njene preteklosti, a tudi sedanjosti. Ključ do uspeha predstavljajo zagotovitev trajne, spoštljive rabe, vzdrževanje in torej ustrezno upravljanje.

Cerkev sv. Helene ponuja več izvrstnih izhodišč za dolgoročno upravljanje. Prvi, temeljni korak predstavlja dogovor o upravljanju, s katerim je Občina – torej njeni prebivalci – dobila v najem ta čudoviti objekt za naslednji dve desetletji. Z dolgoročno predajo upravljanja je bilo omogočeno, da lokalna skupnost bolj opolnomočeno in dejavno pristopi k novim rabam cerkve, ki bi jo lahko ohranile pri življenju. Tovrstna prilagojena raba ne ogroža dediščinskih vrednosti cerkve – zgodovinske, umetniške, duhovne, družbene – saj ohranja tudi njeno primarno rabo liturgičnega objekta z občasnimi mašami. Novi dogodki, kot so koncerti, predstavitve, delavnice o kulturni dediščini idr., njen dediščinski pomen in prepoznavnost le še krepijo.

Na divaškem se je zaradi velikega deleža ozaveščenih prebivalcev, ki razumejo, da so tako sakralni kot posvetni spomeniki dediščina nas vseh, in zaradi dejavne vključenosti skupnosti v ohranjanje te dediščine porodila ideja o t. i. razpršenem muzeju o srednjeveških stenskih poslikavah. Izjemno kakovostne in vzorčno prenovljene poslikave v cerkvi sv. Helene na Gradišču pri Divači ponujajo tudi izhodišče za velikopotezni razvoj modela upravljanja in interpretacije dediščine.

Največja posebnost sakralnih spomenikov v divaški občini je namreč ta, da na tako majhnem geografskem območju obstaja izjemna koncentracija zelo kakovostnih in dobro ohranjenih srednjeveških poslikav. Dobro ohranjene so freske v cerkvah v Dolenji vasi, Famljah, Vremskem Britofu, Naklem in na Gradišču. Kljub dejstvu, da so si te cerkve v prostoru zelo blizu, so slogovna izhodišča njihovih poslikav popolnoma različna, segajo od furlanskih do beneških, istrskih ter celo salzburških vplivov in vzorov. Če si jih v mislih sestavimo v celoto, dobimo neke vrste učilnico srednjeveškega cerkvenega stenskega slikarstva. Poleg tega so v omenjenih cerkvah ohranjene poslikave v različnih delih objektov. Na Gradišču so poslikave ohranjene v ladji, v Famljah in Vremskem Britofu v prezbiteriju ter v Dolenji vasi in Naklem v prezbiteriju in na slavoločni steni, s tem, da imamo v Naklem ohranjeno celo poslikano gotsko menzo nekdanjega oltarja.

Spoznanje o veliki koncentraciji dobro ohranjenih poslikav na majhnem območju je spodbudilo idejo o razpršenem muzeju, medtem ko se je kot dobra rešitev ponudila organizacija mednarodne poletne šole, ki bi pomagala zasnovati tovrsten muzej. Poleti 2023 se je zaključila Mednarodna poletna šola konserviranja-restavriranja stenskih poslikav, nato pa je bil ključ cerkve sv. Helene simbolno predan novi Mednarodni poletni šoli konservatorstva in interpretacije, ki se je v tem letu prvič odvila. Nova šola je osredotočena na konservatorstvo in interpretacijo dediščine poznosrednjeveških poslikav v Vremski dolini. Posveča se torej ohranjanju dediščine v najširšem smislu, ne le njenemu fizičnemu ohranjanju, temveč tudi vpenjanju te dediščine v širši prostor, s predstavljanjem javnosti (interpretacijo) in z oblikovanjem novih dejavnosti. Gre torej za sestrsko šolo prvi, konservatorsko-restavratski šoli, pri čemer se »mlajša



Slika 1: Švicarska študenta konservatorstva-restavrorstva predstavljata ikonografske značilnosti tako imenovanega »kranjskega prezbiterija« v cerkvi sv. Brikcija v Naklem, ki je del dediščinske tematske poti (foto: Stojan Borštnar, 2023).

Fig. 1: Two Swiss conservation-restoration students presenting the iconographic features of the so-called 'Carniolan sanctuary' in the church of St Brice in Naklo, which is part of the heritage trail (photo: Stojan Borštnar, 2023).

sestra« trudi nadaljevati in nadgraditi delo »starejše sestre«. Nova šola je tako tudi mednarodna, a v primerjavi s prvo združuje študente različnih strok, od umetnostne zgodovine, etnologije in antropologije, zgodovine do naravovarstva. Zasnovali smo jo pod okriljem UNESCOVE katedre za interpretacijo in izobraževanje za spodbujanje celostnih pristopov k dediščini, ki jo vodita Fakulteta za humanistične študije Univerze na Primorskem in Park Škocjanske jame. Pri organizaciji šole smo strnili moči z že dejavnimi strokovnjaki drugih ustanov iz prve, konservatorsko-restavratske šole. Cilj nove šole, posvečene interpretaciji dediščine, je v nekaj letih oblikovati podlage za razpršeni muzej poznosrednjeveškega slikarstva, ki bi gradiško cerkev povezal z ostalimi poznosrednjeveškimi cerkvicami v ožji regiji (Naklo in Famlje), a tudi s širšim grajenim in naravnim okoljem.

Kaj sploh je razpršeni muzej? Razpršeni muzej je različica modela upravljanja in interpretacije, ki ga v Sloveniji bolje poznamo kot ekomuzej. Ekomuzej je oblika upravljanja z območjem dediščine, ki temelji na tesnem sodelovanju z lokalnim prebivalstvom, pri čemer torej lokalna skupnost dejavno sodeluje pri preučevanju in ovrednotenju celotne dediščine, tako snovne kot nesnovne, vključno z naravnim in s kulturnim okoljem. Delovanje muzeja lokalni skupnosti omogoča gospodarski in kulturni razvoj.¹ Ekomuzeji so zasnovani z željo po varovanju dediščine in hkrati z zagotavljanjem ekonomskega preživetja ali razvoja skupnosti, ob tem pa tako ekomuzeji sami postanejo tudi orodje za ekonomsko, družbeno in politično rast ter razvoj skupnosti, iz katere izhajajo.² Kot pravi manifest o ekomuzejih iz leta 1985, so ti lahko hkrati instrument, ki ga lokalne oblasti, lokalne skupnosti in znanstveniki zasnujejo skupaj; so ogledalo ljudi in njihovih vezi do prednikov; lahko so tudi šola, laboratorij in konservatorsko središče obenem.³ Običajno ga sestavlja neka središčna točka (informacijska točka, interpretacijski center ali center za obiskovalce) ter niz tematskih poti in morebitnih storitev, povezanih z lokalno realnostjo ob njih. Podzvrst ali različica ekomuzeja je razpršeni muzej.

¹ PIRKOVIČ 2012, str. 45.

² DEAN, EDSON 1994.

³ HUDALES 2018, str. 48–49.

Pojem je sicer najširše uveljavljen v italijanskem govornem okolju (*museo diffuso*) in predstavlja pravzaprav ekomuzej z drugačnimi poudarki. Razpršeni muzej pogosto izhaja iz delovanja nekega lokalnega muzeja, medtem ko temelji na predstavitvi neke izbrane tematike ali zgodbe, ki povezuje več različnih točk v prostoru – delov krajine, stavb, predmetov, praks, izročil. Izbrane tematike so nato strukturirane v tematske poti, ki skupaj pripovedujejo krovno zgodbo. Vsaka pot je opremljena z različnimi razlagalnimi sredstvi, oblikovana so vodstva, pri čemer je pomembno, da skozi osrednjo temo pripovedujemo tudi o širšem naravnem in kulturnem okolju. Ob tem se ob posameznih točkah lahko predstavijo ali na novo razvijejo tematsko povezane storitve (izobraževalne, turistične ...).

Koncept razpršenega muzeja poznosrednjeveških poslikav v Vremski dolini združuje poudarke obeh modelov: hrbtnico muzeja sestavljajo tri cerkvice Vremške doline – sv. Helena na Gradišču, sv. Tomaž v Famljah in sv. Brikcij v Naklem. Osrednja interpretacijska nit, torej rdeča nit predstavitve, je poznosrednjeveško slikarstvo. Vse tri cerkve skupaj pripovedujejo in poustvarjajo popolno podobo poznosrednjeveškega interjerja, medtem ko vsaka ilustrira oziroma pripoveduje o enem od njegovih delov – ladji, slavoloku, prezbiteriju. Ker so v treh cerkvah prisotni različni deli idealnega poznogotskega interjerja, se v nekaterih ponuja priložnost, da se neposlikani prostori uporabijo za interpretacijo, oz. predstavitev in ponazoritev povezanih vsebin. Osnovni koncept razpršenega muzeja poznosrednjeveškega slikarstva torej temelji na teh treh objektih, vsak od njih bi predstavljal eno podtemo: v gradiški cerkvi sv. Helene bi lahko bile predstavljene konservatorsko-restavratorske tehnike in pristopi v konserviranju-restavriranju stenskih poslikav; v cerkvi sv. Tomaža v Famljah, ki ima proste stene ladje, se ponuja priložnost, da se na velikih površinah demonstrira tehnika izdelave stenske poslikave skozi njene glavne faze; in v cerkvi sv. Brikcija v Naklem ikonografski program poznosrednjeveškega stenskega slikarstva v regiji.

Ideja treh »žarišč« razpršenega muzeja se je postopoma oblikovala skozi številne skupne dejavnosti organizatorjev konservatorsko-restavratorske Poletne šole ter dejavnih članic in članov lokalne skupnosti, predvsem med romanji in pohodi. Ključno spodbudo ideji so tako dala zdaj že tradicionalna »Romanja k fari«, ki jih lokalno turistično društvo Urbanščica v sodelovanju z lokalno skupnostjo organizira vsakega 15. avgusta. Pohodi, ki vsako leto vodijo po različnih trasah po Vremski dolini, so povezali tudi tri omenjene cerkve, medtem ko so druge trase jasno pokazale, kako je dediščina v prostoru prepletena ter skupaj pripoveduje o zgodovini in identiteti prostora. Tematska osrediščenost na poznosrednjeveško slikarstvo ter vpetost cerkva v naravno in kulturno okolje skozi čas in v skupnost predstavljata dva stebra načrtovanega razpršenega muzeja. Na osnovno strukturo treh cerkva se tako lahko pripne več tematskih poti ali zgolj pohodniških poti z različnimi zgodbami. Te povezave nato spodbudijo, da se ob točkah interesa – ali med njimi – razvijajo nove ali krepijo obstoječe drobne, lokalne storitve, kot so prodaja domačega sladoleada, pohodnikom dostopna gostinska ponudba domačih jedi, srečanje z domačimi rokodelskimi obrtni v delavnicah domačinov itd. Prav poskus orisa prve tematske poti, ki bi povezala tri cerkve in hkrati pripovedovala zgodbo o širšem prostoru, je bila v prvem letu naloga »mlajše«, torej Mednarodne poletne šole o konservatorstvu in interpretaciji. Udeleženci, mladi bodoči strokovnjaki, so pripravili tematska izhodišča, tako posamezne točke pripovedujejo o nekem vidiku okolja – zgodovini, etnologiji, biologiji, geologiji. Na travniku v bližini sv. Brikcija lahko pripovedujemo o praproti, sicer vklesani na vhodne obeliske pred cerkvenim obzidjem, o praproti kot rastlini, a tudi skozi ljudsko izročilo o magični moči njenih zrn; v Naklem prav tako lahko izvrstno predstavimo srednjeveško arhitekturo in gradbene tehnike na širšem območju Krasa, to temo nadaljujemo v Matavunu s predstavitvijo suhozidov in suhozidne gradnje; na princesinem razgledišču nad jamo se odpre priložnost za pripoved o jami, njeni geologiji, njenem raziskovanju, izročilu; gozdna pot proti Gradišču ponuja iztočnice za predstavitev čebelarjenja; slednjič, Gradišče lahko poleg zgodbe o cerkvi in poslikavah ponuja izhodišče za predstavitev arheološke dediščine in mitskega izročila, vezanega nanjo. Izbor trase je sledil dragocenim nasvetom že izurjene dejavne članice lokalne skupnosti in planinske vodnice Mirjam Frankovič Franetič, hkrati so bile upoštewane strokovne smernice o prilagajanju razdalj pohoda, točk počitka in dostopnosti za različne ciljne skupine (družine z otroki, starejši pohodniki, telesno ovirani). Predlagana trasa z opornimi točkami in s predlogi tematskih razširitev je le ena od številnih možnih zasnov, ki se bodo v prihodnosti

razvijale v sodelovanju z domačini. Namreč, le sodelovanje domačinov, ki so ne le prvi dediči, temveč vsakodnevni skrbniki te dediščine, lahko zagotovi, da bo ideja o razpršenem muzeju zaživela in preživela. Kot že v drugih uspešnih primerih (denimo Mitski park v Rodiku) in kot pravi sodobna dediščinska teorija, je aktivno sodelovanje ključnega pomena, saj bodo prav domačini tisti prvi vodniki in interpretatorji ter tudi razvijalci novih ponudb in storitev ter končno ponudniki teh. In krog se bo sklenil. Bistveni sta sodelovanje in povezovanje vseh deležnikov – lokalne skupnosti, ki sodeluje z dobronamerno stroko in s spodbujevalnimi lokalnimi oblastmi.

Ezopova basen o miški in levu govori o srčnosti, o tem, da se dobro z dobrim vrača, in navsezadnje o tem, da lahko spreminja svet tudi nekaj majhnega, morda na prvi pogled nepomembnega. Morda lahko tudi iz zgodbe o treh majhnih cerkvah v neki majhni občini, kjer za objekte srčno skrbijo povsem navadni ljudje, zraste nekaj velikega in pomembnega, kar bo dalo zgled ostalim primerom. Mala cerkev sv. Helene na Gradišču tako lahko postane vzor za sodelovalno, skupnostno in torej trajnostno upravljanje dediščine.

Literatura in viri / References

DEAN, EDSON 1994: Dean, David, Edson, Gary, *The Handbook of Museums*, London&New York 1994.

HUDALES 2018: Hudales, Jože, Ekomuzej in druge oblike sodobnih lokalnih muzejev, *Ekomuzej hmeljarstva in pivovarstva Slovenije. Idejna zasnova za stalno muzejsko postavitve v Žalcu*, (ur. Vito Hazler), Ljubljana 2018, str. 48–52.

PIRKOVIC 2012: Pirkovič, Jelka, *Arheološko konservatorstvo in varstvo nepremične kulturne dediščine*, Ljubljana 2012.



Slika 2: Skupina obiskovalcev in študentov v Matavunu na predstavitvenem pohodu po dediščinski tematski poti (foto: Stojan Borštnar, 2023).
Fig. 2: A group of visitors and students in Matavunu on a presentation hike along the heritage theme trail (photo: Stojan Borštnar, 2023).



Slika 3: Študentki naravovarstva in konservatorstva-restavratorstva s Hrvaške in iz Švice predstavljata naravoslovne in simbolne pomene kraške flore (foto: Stojan Borštnar, 2023).

Fig. 3: Two students from Croatia and Switzerland, one studying environmental conservation and the other conservation-restoration presenting the natural and symbolic meanings of Karst flora (photo: Stojan Borštnar, 2023).



Slika 4: Udeleženci Mednarodne poletne šole konservatorstva in interpretacije ob škofeljskem mostu (foto: Minka Osojnik, 2023).

Fig. 4: Participants of the International Summer School for Conservation and Interpretation at the bridge in Škoflje (photo: Minka Osojnik, 2023).



Slika 5: Ogled stenskih poslikav v cerkvi sv. Tomaža apostola v Famljah z razlago konservatorja-restavratorja Alberta Felicija (foto: Minka Osojnik, 2023).

Fig. 5: Viewing the wall paintings in the church of St Thomas the Apostle in Famlje, with an explanation by conservator-restorer Alberto Felici (photo: Minka Osojnik, 2023).



Slika 6: Predaja ključev cerkve sv. Helene: iz rok konservatorjev-restavradorjev v roke interpretatorjev pod budnim očesom domačinov (foto: Stojan Borštnar, 2023).

Fig. 6: The conservator-restorers handing over the keys of St. Helen's to the interpreters, under the watchful eye of the locals (photo: Stojan Borštnar, 2023).

TOWARDS BROAD HORIZONS

Neža Čebren Lipovec, Minka Osojnik

The church of St Helen in Gradišče pri Divači has fallen asleep more than once in the past, just like Sleeping Beauty. Too often, after a brief period of increased visibility, it was again forgotten, both by the general public and professionals. The church and its paintings seem to come to the fore only when serious problems arise, otherwise it sleeps and waits. In recent years, however, the local community's growing interest and involvement in the life of this cultural monument has led experts from various disciplines to tackle the challenge of preventing this hidden beauty from suffering further bouts of narcolepsy.

The problem of the emptying countryside and the declining use of small succursal churches has become increasingly acute in recent decades. Although in some places the trend is turning back in favour of the countryside, the social and religious structure of the population has also changed considerably, with secularisation making it less likely that places of worship are looked after. As a result, a large number of succursal churches have lost their original function as religious buildings, or at least their religious life has been severely curtailed. The question of who will look after these buildings is difficult to answer.

The tiny church, with its unique late medieval paintings, is now an eloquent example of a monument that has been conserved and restored, as well as of the coexistence of a local community and a monument. We have a priceless treasure before us and we must secure its future so that the meanings and values of this heritage are not lost. Its future will grow out of its past, but also out of its present. The key to success is ensuring sustainable, respectful use and maintenance, in other words proper management.

The church of St Helen offers several excellent starting points for long-term management. The first, fundamental step is the agreement, which has leased this wonderful building to the municipality – in other words its citizens – for the next two decades. This transfer of ownership, and especially the running of the church, has enabled the local community to take a more empowered and active approach to finding new uses for the church that could keep it alive. This adapted use of heritage – historical, artistic, spiritual and social – does not endanger the church, as it also preserves its primary use as a liturgical building where masses are occasionally celebrated. New events such as concerts, presentations and workshops on cultural heritage only strengthen its heritage significance and visibility.

In the region of Divača, the idea of a so-called dispersed museum presenting medieval wall paintings was born thanks to the large number of informed inhabitants who understand that both religious and profane monuments are heritage that belongs to all of us, and to the active involvement of the community in preserving this heritage. The exceptional quality and exemplary renovation of the paintings in the church of St Helen in Gradišče offer a starting point for the ambitious development of a model for managing and interpreting heritage.

What is special about the religious monuments in the Municipality of Divača is that there is an exceptional concentration of very high quality and well-preserved medieval paintings in such a small geographical area. The frescoes in the churches in Dolenja vas, Famlje, Vremski Britof, Naklo and Gradišče are all well preserved. Despite the fact that these churches are very close to each other, the styles of their paintings are quite different, with influences from the regions of Friuli, Venice, Istria and even Salzburg. If we imagine them together, the result is like a classroom of medieval church wall painting. In addition, the preserved wall paintings in these churches are located in different parts of the buildings. In Gradišče, the paintings have been preserved in the nave, in Famlje and Vremski Britof in the sanctuary, and in Dolenja vas and Naklo in the sanctuary and on the sanctuary arch. In Naklo even the paintings on the Gothic table of the former altar have been preserved.

The realisation that there is a high concentration of well-preserved wall paintings in a small area gave rise to the idea of a dispersed museum. Holding an international summer school to help conceive such a museum has also been proposed as a good solution. The International Summer School for the Conservation-Restoration of Wall Paintings came to an end in the summer of 2023, and the key to the church was symbolically handed over to the organisers of the new International Summer School for Conservation and Interpretation, which took place for the first time in the summer of 2023. The new school focuses on the conservation and interpretation of the heritage of late medieval wall paintings in the Vreme Valley. It therefore focuses on heritage conservation in the broadest sense, not only its physical preservation, but also its wider

integration through public presentations (interpretation) and the creation of new heritage-related activities. It is therefore a sister school to the first conservation-restoration school and the 'younger sister' tries to continue and build on the work of the 'older sister'. The new school is also international, but unlike the first one it brings together students from different disciplines including art history, ethnology, anthropology, history and nature conservation. It was conceived under the auspices of the UNESCO Chair in Interpretation and Education for Promoting Integrated Approaches to Heritage, led by the Faculty of Humanities of the University of Primorska and the Škocjan Caves Park. In organising the school, we joined forces with experts from other institutions who were already active in the first conservation-restoration school. The aim of the new school dedicated to heritage interpretation is to lay the foundations for a dispersed museum of late medieval painting within a few years, linking the church in Gradišče with other late medieval churches in the immediate region (Naklo and Famlje), but also with the wider built and natural environment.

What is a dispersed museum? A dispersed museum is a variation on the model of management and interpretation better known in Slovenia as the ecomuseum. An ecomuseum is a form of heritage site management based on close cooperation with the local population, where the local community is actively involved in studying and evaluating both tangible and intangible heritage in both the natural and cultural environment. The museum's work enables the local community to undergo both economic and cultural development¹. Ecomuseums are conceived with the dual wish of protecting heritage and contributing to the community's economic survival and development. This is how they also become a tool for the economic, social and political growth and development of the community from which they originate.² As the 1985 manifesto on ecomuseums states, ecomuseums can be an instrument created together by local authorities, local communities and scientists; they can reflect people and their links to their ancestors; and they can be a school, a laboratory and a conservation centre all at the same time.³ They usually consist of a focal point (information point, interpretation centre or visitor centre) and a series of thematic trails and possible services related to the local circumstances. A dispersed museum is a variant of the ecomuseum. Although the name is most widely used in Italian (*museo diffuso*), it is in fact an ecomuseum with different focuses. Often stemming from the activity of a local museum, a dispersed museum presents a chosen theme or story that connects different points in space – parts of the landscape, buildings, objects, practices and traditions. The selected themes are then structured into thematic trails that together tell a main story. Each trail is equipped with different interpretive tools and guided tours are organised. It is important that a narrative about the wider natural and cultural environment is told through the central theme. At the same time, thematically related services (educational, tourism, etc.) can be presented or developed at specific points.

The concept of a dispersed museum of late medieval wall paintings in the Vreme Valley combines the highlights of both models: the backbone of the museum consists of the three churches in the valley – St Helen in Gradišče, St Thomas in Famlje and St Brice in Naklo. The central interpretive theme of the presentation is late medieval wall painting. Together, the three churches tell and recreate a complete picture of the late medieval interior, each illustrating or telling the story of one part of a typical late medieval church interior – nave, sanctuary arch and sanctuary. As the three churches contain different parts of the ideal late Gothic interior, some of them provide an opportunity for the unpainted surfaces to be used for interpretation, i.e. for presenting and illustrating related themes. The basic concept of a dispersed museum of late medieval wall painting is therefore based on these three buildings, each of which would represent a sub-theme. The church of St Helen in Gradišče could serve as a venue for presenting techniques and approaches for the conservation-restoration of wall paintings. The walls of the nave of St Thomas in Famlje have no paintings so the large surfaces could be used to demonstrate the main stages of wall painting technique. Meanwhile,

the church of St Brice in Naklo could present the iconographic programme of the region's late medieval wall painting. The idea of three 'focal points' of a dispersed museum gradually took shape during the many joint activities of the Conservation-Restoration Summer School organisers and the active members of the local community, especially during the pilgrimages and walks. The idea was given a key boost by the now traditional 'Pilgrimage to the Parish', which is organised every 15 August by the local tourist association Urbanščica in cooperation with the local community. The walks, which take different routes through the Vreme Valley each year, have also linked the three churches, and have clearly shown how the heritage of the area is intertwined and tells of the area's history and identity. The thematic focus on late medieval painting and how the churches have become integrated in the natural and cultural environment and in the community are the two pillars of the planned dispersed museum. Several thematic trails or just hiking trails with different stories can therefore be based around the three churches. These links then encourage new local service providers to become established at the points of interest – or between them – or for existing small businesses to strengthen their activity. Examples are the sale of home-made ice-cream or local dishes for hikers, and encounters with local handicrafts in people's workshops, etc. The first year of the 'younger' International Summer School for Conservation and Interpretation was tasked with outlining a first thematic trail that would connect the three churches while telling the story of the wider area. The participants, young future professionals, prepared thematic starting points, where each point describes an aspect of the environment – history, ethnology, biology, geology. On a meadow near St Brice's in Naklo, we can talk about the ferns engraved on the entrance obelisks that adorn the church wall, about ferns as plants, and even about the folk tradition that speaks of its grains having magical powers. In Naklo we may also make a wonderful presentation of medieval architecture and construction techniques in the wider Karst area, and continue on this subject in Matavun with a presentation of dry walls and dry-wall construction. The Princess's viewpoint above the cave offers the opportunity to tell the story of the cave, its geology, exploration and tradition. The forest trail to Gradišče is good for presenting bee-keeping, and finally Gradišče is a perfect place for presenting archaeological heritage and the mythical traditions associated with it, alongside the story of the church and its wall paintings. The route was conceived thanks to the valuable suggestions by Mirjam Frankovič Franetič, an experienced and active member of the local community and guide, while at the same time taking into account expert guidelines on adjusting the hike distances, rest points and accessibility for different target groups (families with children, elderly hikers and the physically challenged). The proposed route with its reference points and suggestions for thematic extensions is just one of a number of possible concepts that will be developed together with local people in the future. Only the involvement of local people, who are not only the first heirs but also the day-to-day custodians of this heritage, can ensure that the idea of a dispersed museum will come to life and survive. As in other examples of success stories (e.g. the Mythical Park in Rodik) and as contemporary heritage theory suggests, active participation is essential, as the locals will be the first guides and interpreters, as well as the developers of new products and services, and ultimately their providers. And the circle will be complete. The cooperation and integration of all stakeholders is essential – the local community working together with supportive professionals and local authorities.

Aesop's fable about the lion and the mouse talks about kindness, about how a good turn is repaid and, ultimately, about how even something small, perhaps seemingly insignificant, can change the world. Perhaps the story of three small churches in a small municipality, where ordinary people take loving care of their buildings, can grow into something big and important that will serve as an example for others to follow. The small church of St Helen in Gradišče can thus become a model for collaborative, community-based and therefore sustainable heritage management.

¹ PIRKOVIČ 2012, p. 45.

² DEAN, EDSON 1994.

³ HUDALES 2018, pp. 48-49.



AVTORJI BESEDIL CONTRIBUTING AUTHORS



Anka Batič
višja konservatorica-restavratorka
samozaposlena
anka.batic@gmail.com

Anka Batič
senior conservator-restorer
self-employed
anka.batic@gmail.com



Marta Bensa, mag.
konservatorsko-restavratska svetovalka
Zavod za varstvo kulturne dediščine Slovenije
Območna enota Nova Gorica
Delpinova 16, 5000 Nova Gorica
marta.bensa@zvks.si

Marta Bensa, M.Sc
conservation-restoration consultant
Institute for the Protection of Cultural Heritage of Slovenia
Nova Gorica Regional Office
Delpinova 16, 5000 Nova Gorica
marta.bensa@zvks.si



doc. dr. Neža Čebren Lipovec
Univerza na Primorskem
Fakulteta za humanistične študije
Titov trg 5, 6000 Koper – Capodistria
neza.cl@fhs.upr.si

assist. prof. Neža Čebren Lipovec, PhD
University of Primorska
Faculty of Humanities
Titov trg 5, 6000 Koper – Capodistria
neza.cl@fhs.upr.si



prof. mr. art. Suzana Damiani
Sveučilište u Zagrebu, Akademija likovnih umjetnosti
Odsjek za konzerviranje i restauriranje umjetnina
Zamenhofova 14, 10 000 Zagreb
suzanadamiani65@gmail.com

prof. Suzana Damiani, MA
University of Zagreb, Academy of Fine Arts
Department for Conservation and Restoration of Works of Art
Zamenhofova 14, 10 000 Zagreb
suzanadamiani65@gmail.com



doc. Alberto Felici
Scuola universitaria professionale della Svizzera italiana
Dipartimento ambiente, costruzioni e design
Via Flora Ruchat-Roncati 15, 6850 Mendrisio
alberto.felici@supsi.ch

assist. prof. Alberto Felici
Scuola universitaria professionale della Svizzera italiana
Dipartimento ambiente, costruzioni e design
Via Flora Ruchat-Roncati 15, 6850 Mendrisio
alberto.felici@supsi.ch



mag. Andrej Jazbec
konservatorsko-restavratski svetovalec
Zavod za varstvo kulturne dediščine Slovenije
Restavratski center
Območna enota Nova Gorica
Delpinova 16, 5000 Nova Gorica
andrej.jazbec@zvks.si

Andrej Jazbec, M.FA
senior conservator-restorer
Institute for the Protection of Cultural Heritage of Slovenia
Restoration Centre
Nova Gorica Regional Office
Delpinova 16, 5000 Nova Gorica
andrej.jazbec@zvks.si



mag. Anita Klančar Kavčič
konservatorsko-restavratska svetovalka
Zavod za varstvo kulturne dediščine Slovenije
Restavratski center
Poljanska cesta 40, 1000 Ljubljana
anita.kavcic@zvks.si

Anita Klančar Kavčič, M.FA
conservation-restoration consultant
Institute for the Protection of Cultural Heritage of Slovenia
Restoration Centre
Poljanska 40, 1000 Ljubljana
anita.kavcic@zvks.si



dr. Katja Kavkler
konservatorsko-restavratska svetovalka
Zavod za varstvo kulturne dediščine Slovenije
Restavratski center
Poljanska 40, 1000 Ljubljana
katja.kavkler@zvks.si

Katja Kavkler, PhD
conservation-restoration consultant
Institute for the Protection of Cultural Heritage of Slovenia
Restoration Centre
Poljanska 40, 1000 Ljubljana
katja.kavkler@zvks.si



dr. Ajda Mladenović
konservatorsko-restavratska svetovalka
Zavod za varstvo kulturne dediščine Slovenije
Restavratski center
Poljanska 40, 1000 Ljubljana
ajda.mladenovic@zvks.si

Ajda Mladenović, PhD
conservation-restoration consultant
Institute for the Protection of Cultural Heritage of Slovenia
Restoration Centre
Poljanska 40, 1000 Ljubljana
ajda.mladenovic@zvks.si



Minka Osojnik
konservatorska svetovalka
Zavod za varstvo kulturne dediščine Slovenije
Območna enota Nova Gorica
Delpinova 16, 5000 Nova Gorica
minka.osojnik@zvks.si

Minka Osojnik
conservation consultant
Institute for the Protection of Cultural Heritage of Slovenia
Nova Gorica Regional Office
Delpinova 16, 5000 Nova Gorica
minka.osojnik@zvks.si



prof. mr. art. Neva Pološki
Sveučilište u Zagrebu, Akademija likovnih umjetnosti
Odsjek za konzerviranje i restauriranje umjetnina
Zamenhofova 14, 10 000 Zagreb
noloski@yahoo.com

prof. Neva Pološki, MA
University of Zagreb, Academy of Fine Arts
Department for Conservation and Restoration of Works of Art
Zamenhofova 14, 10 000 Zagreb
noloski@yahoo.com



Doz. Dipl.-Rest. Jonas Roters
HKB Academy of the Arts Bern
Department of the BFH Bern University of Applied
Sciences, Conservation and Restoration Division
Fellerstrasse 11, Bern
jonas.roters@hkb.bfh.ch

Doz. Dipl.-Rest. Jonas Roters
HKB Academy of the Arts Bern
Department of the BFH Bern University of Applied Sciences
Conservation and Restoration Division
Fellerstrasse 11, 3027 Bern
jonas.roters@hkb.bfh.ch



doc. dr. Blaž Šeme
Univerza v Ljubljani
Akademija za likovno umetnost in oblikovanje
Oddelek za restavracijsko
Erjavčeva cesta 23, 1000 Ljubljana
blaz.seme@aluo.uni-lj.si

assist. prof. Blaž Šeme, PhD
University of Ljubljana
Academy of Fine Arts and Design
Department of Restoration
Erjavčeva cesta 23, 1000 Ljubljana
blaz.seme@aluo.uni-lj.si



Zavod za varstvo
kulturne dediščine Slovenije

University of Applied Sciences and Arts
of Southern Switzerland
SUPSI

 **ALUO**
UNIVERZA
V LJUBLJANI Akademija za likovno
umetnost in oblikovanje

 Sveučilište u Zagrebu
Akademija likovnih
umjetnosti


Hochschule der Künste Bern
Haute école des arts de Berne
Bern University of the Arts




Park Škocjanske jame
Slovenija


kuca
fre saka
Klasična in sodobna
Cena deli afreski in litografije


PPNI
POSREDOVANJE V PROMETU S PRAVNO
POSREDOVANJE V PROMETU S PRAVNO

 aris
Slovenian Research and Innovation Agency

CIP - Kataložni zapis o publikaciji
Narodna in univerzitetna knjižnica, Ljubljana

75.052:7.025.4(082)

726:27-523.4(497.4Gradišče pri Divači)(082)

MEDNARODNA poletna šola konserviranja-restavriranja stenskih poslikav - Gradišče
Summer School (2021-2023 ; Gradišče pri Divači)

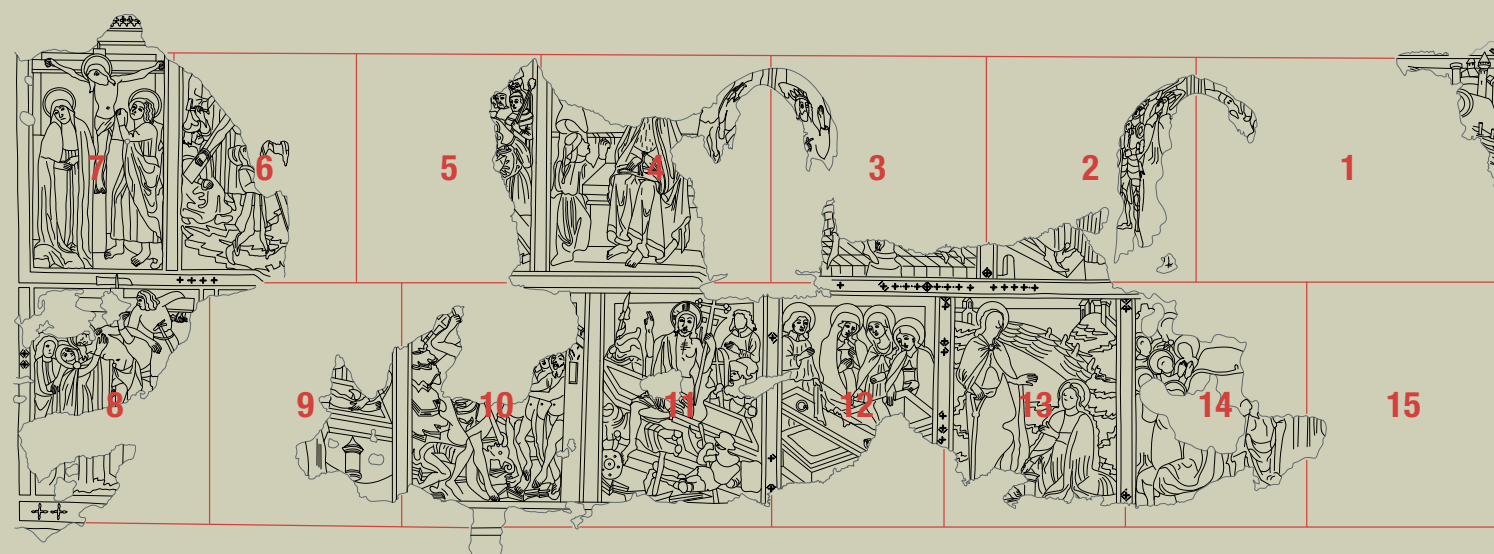
Cerkev sv. Helene na Gradišču pri Divači : mednarodna poletna šola konserviranja-restavriranja stenskih poslikav - Gradišče Summer School 2021-2023 = The church of St Helen in Gradišče pri Divači : International Summer School for the Conservation-Restoration of Wall Paintings - Gradišče Summer School 2021-2023 / [uredili Ajda Mladenović, Minka Osojnik ; avtorji besedil Anka Batič ... [et al.] ; prevod iz slovenščine v angleščino Marko Petrović, Eliana Geržević Macan, iz hrvaščine v angleščino Ela Poljarević, iz italijanščine v angleščino Sean Housby, Amidas]. - Ljubljana : Zavod za varstvo kulturne dediščine Slovenije (ZVKDS) = Institute for the Protection of Cultural Heritage of Slovenia (IPCHS), 2024. - (RES. : publikacije ZVKDS Restavratorskega centra = The publications of the IPCHS Restoration Centre. Dela. = Papers ; 8)

ISBN 978-961-7169-65-2
COBISS.SI-ID 195731715



JUŽNA STENA / SOUTH WALL

Kristusov pasijon / Passion of Christ



PRIZORI SCENES

- | | | |
|-----------|----------------------------|----------------------------|
| 1 | Kristusa primejo | Arrest of Christ |
| 2 | Kristus pred Pilatom | Christ before Pilate |
| 3 | Bičanje | Flagellation |
| 4 | Kronanje s trnjem | Crowning with Thorns |
| 5 | Kristus nosi križ | Christ Carrying the Cross |
| 6 | Kristusa pribijejo na križ | Christ Nailed to the Cross |
| 7 | Križanje | Crucifixion |
| 8 | Snemanjem s križa | Descent from the Cross |
| 9 | Polaganje v grob | Entombment of Christ |
| 10 | Kristus v predpeklju | Christ in Limbo |
| 11 | Vstajenje | Resurrection |
| 12 | Žene ob grobu | Women at the Tomb |
| 13 | <i>Noli me tangere</i> | <i>Noli me tangere</i> |
| 14 | Vnebohod | Ascension |
| 15 | Binkošti | Pentecost |

Zavod za varstvo
kulture dediščine Slovenije
*Institute for the Protection of
Cultural Heritage of Slovenia*



9 789617 169652