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THEORY, HISTORY, AND ETHICS OF CONSERVATION

Interventions: Contesting time, expertise and perspective in conservation decision-making

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Abstract
Conservation decision-making is a critical component of professional practice, which responds to a variety of external sources of information and data in order to make informed judgements. *Time*, *expertise* and *perspective* form the foundation of heuristic methodologies that facilitate decision-making in participatory processes but often challenge consensus. These concepts can be understood through active reflexive practice, whereby decisions are interrogated and the challenges brought by *time*, *expertise* and *perspective* understood. Case studies spanning varying settings including the archaeological field, museum and university illustrate aspects of this process and provide insight into conservation practice and its impact on artefact interpretation.

INTRODUCTION

Conservators constantly engage with decision-making processes as part of their professional work – either through active practice or review/reconstruction of decisions made in the past. When viewed from this lens, conservation decision-making is both a dynamic and static process that responds to an ongoing dialogue spanning numerous disciplines and chronologies. This discourse engages stakeholders with varying *expertise* and *perspectives* developed over *time*, whilst simultaneously pivoting around a single, punctuated moment in which decisions are made. Efforts to understand this dichotomy are crucial for practitioners engaged in their own ethical decision-making that considers past, present and future (Clavir 1998, Cather 2010). This paper examines conservation decision-making and its responsiveness to *time*, *expertise* and *perspective*. Case studies illustrate their role in decision-making and how their changing positions result in varying outcomes.

BACKGROUND

During the past century, conservation decision-making has evolved throughout the discipline's development and establishment of ethical codes. These transcend national boundaries to engage ethically with all aspects of tangible and intangible cultural heritage. The participation of stakeholders through transparent communication and collaborative consultation is an accepted tenant of conservation decision-making in the 21st century. While ethical codes guide thinking and practice, implementing decision-making is challenging due to barriers – *time*, *expertise* and *perspective* – that complicate consensus. This leads to decisions that must consider the impact of changing values and stakeholders. At the same time, conservators must be able to arbitrate them at particular moments in *time* with incomplete knowledge. This give-and-take is fluid and punctuated – further challenging our ability to reconstruct the influence of *time*, *expertise* and *perspective* on the execution of decision-making.

CORE CONCEPTS – *TIME*, *EXPERTISE* AND *PERSPECTIVE*

Time, *expertise* and *perspective* are used to structure conservation decision-making. Understanding their roles is critical to produce a nuanced interpretation of how decisions are made in the recent, distant and deep pasts. The issue of knowledge and data – and their varying degree of

completeness – complicates discussions by introducing uncertainty and varying levels of complexity. As a result, decisions made in the face of doubt require conservation judgement that is challenging to define, codify and structure. As Cather (2008, 24) points out, there are many parallels between judgement in conservation and in the medical field due to environmental similarities in how it is made: complex situations with many variables and incomplete information in which symptoms are used to diagnose issues. Cather further notes that incremental approaches which enable iterative decision-making facilitate and manage the reinterpretation of data at subsequent stages (2008, 25–6). This allows conservators to reconcile practical limits of funds, *time* and supplies in a diversity of settings (Pohl et al. 2010). The interrelationships of *time, expertise* and *perspective* are crucial when using this heuristic methodology.

Time

Conservators have long recognised the importance of *time* to the preservation of cultural heritage (Gettens 1970, Brandi 2005, Pugliese et al. 2008, Clavir 2009, Hölling 2017b). *Time* as measurement marks intent (artistic or otherwise) through the sequential construction and manufacture, use and discard of artefacts and embedded/associated intangible concepts (Brandi 2005, 61). This dimension of *time* moves forward in a singular direction, where artefacts mark time and 'are valued as evidence, as facts, as material witnesses to the truth of the times and places they were created and used in' (Clavir 2009, 4). However, as Hölling (2017b) points out, *time* is a critical dimension in conservation decision-making governing concepts of reversibility and restoration – which seek to return artefacts to 'authentic' points in the past. Patina and decay are critical components marking 'authenticity', as they register the passage of *time*. Brandi (2005, 101) observes that patina – in relationship to paintings – is a 'skin, it being that general darkness which time causes to appear on paintings', whilst Rutherford (1970, 58) relates metals patina to more than just a corrosion layer 'mean[ing] evidence of age and use'. While Pugliese et al. (2008, 485) accept patina as 'marks of time on ancient artistic crafts', they emphasise that replacement of decayed elements in contemporary art conceptually reconceives patina. Ko (2008, 59) notes the importance of decay for cultural groups including the Maori, who 'acknowledge that buildings decay naturally and may not warrant conservation'. Therefore, patina, decay and the desire to preserve these skins as evidence of age or performance marks authentic *time* through elevation of a single moment. Stakeholders (conservators and others) must work together to determine if one moment or many are allowed to co-exist (Martín-Hernández 2014, 44–5) – a conversation arbitrated by ethical protocols including the Nara Document on Authenticity (ICOMOS 1994) and the Burra Charter (Australia ICOMOS 2013).

Despite their discontinuity, these multifaceted aspects of *time* dictate change in all temporal contexts. Stakeholders alter artefact meaning and significance through their interactions. Varying methods conceive and mark *time* based on cultural epistemological frameworks and orientations to the future (Ko 2008, 59; Fulmer et al. 2014). In contrast, conservators use *time* to structure treatment decision-making – by selecting punctuated

and incremental moments to determine how to preserve artefacts and intangible concepts to audiences. In this way, *time* functions as a limiting factor that influences the temporal space in which conservators enact decision-making.

Opportunities and challenges arise when artefact preservation must acknowledge multiple points in *time*. Lewis (2005, 87) describes this opportunity when discussing the re-treatment of leather fragments initially interpreted as a jerkin. Excavated and treated nearly 40 years earlier, the so-called jerkin holds dimensions of deep archaeological *time* associated with manufacture and use (AD 500–1000), a punctuated moment of *time* at the time of discovery and preservation (1960), and the moment of re-treatment (early 2000s). Re-treatment consisted of removing the excessively applied stabilisation materials combined with reorienting and reconstructing fragments, which enabled the artefact's reinterpretation as a satchel (Lewis 2005, 87–91). This intervention returned the artefact to an 'authentic' period before its discovery and initial treatment, resulting in reinterpretation. This equally elevates the primacy of decisions made during the *time* associated with retreatment.

Challenges often arise when these varying dimensions of *time* compete during efforts to preserve artistic intent – particularly as it relates to the conservation of modern and contemporary art. Material degradation, obsolescent technology and artistic intent as modes of *time* can complicate preservation efforts. Wharton (2018, 64–7) highlights issues in balancing *time* through the assessment of decisions made during the conservation of works by Nam June Paik. Solutions introduce competing moments of *time* that respect varying aspects of the artist's intent. These include: (a) purchasing vintage cathode ray tube televisions as replacements, thus freezing the object at the moment of making; (b) partial replacement of vintage televisions, which hybridises *time* to reflect the moment of making and replacement; and (c) complete replacement of original televisions with newer hardware, echoing later moments in *time* which will change each time replacement occurs. *Time*, in these cases, is arbitrated by judgement and *expertise*.

Expertise

The role of *expertise* or authority plays a critical role in conservation decision-making and the identification of stakeholders. *Expertise* represents relevant and diverse bodies of knowledge that carry insight into cultural/spiritual significance, artistic intent, technical information, etc. *Expertise* is socially constructed by actors engaged in demarcating boundaries that create monopolies of knowledge whereby experts are distinguished from novices (Gieryn 1983; Koppl 2010, 221). External/internal acknowledgement of these monopolies is a crucial component of *expertise*, as data, experience and skills are necessary in its cognitive construction (Hoffman 1996).

Issues result when external/internal acknowledgement does not recognise experts or excludes them from dialogues during participatory decision-making (Harding 2005, Clavir 2008, Henderson and Nakamoto 2016). Harding (2005) highlights this important fact in her discussion of the *Bonnichsen v. United States* court decision, which determined legal scientific access

to the skeletal remains informally known as Kennewick Man. The ruling judgement privileged scientific claims of expertise over tribal claimants who provided evidence (e.g. *expertise*) as oral tradition (Harding 2005, 253). This understanding of scientific *expertise* as neutral, objective and able to provide insight into the past operates at the expense of the cultural realms of *expertise*.

Efforts to flip this dynamic require dialogue and respect of *expertise*. Clavir (2008, 27–8) highlights this when discussing memorandum of understanding (MOU) protocols whereby parties and their attendant *expertise* carry equal status at the negotiating table. Dialogues and consultation only become effective when the value of stakeholders and the *expertise* they hold are recognised and respected by all participants (Sloggett 2009, 12–13; Henderson and Nakamoto 2016, S2-68). Acknowledgement of *expertise* requires constant, reflexive reframing of knowledge so that marginalised groups are invested, thereby subverting dominant narratives of exclusion – a frequent critique that participatory conservation seeks to rectify (Peters 2008, Heritage 2018). Conservators, therefore, rely on *expertise* to guide the selection of particular moments used to frame decision-making.

Perspective

Finally, the importance and role of *perspective* dictates the foundation from which *time* and *expertise* are selected and used in decision-making. *Perspective* illustrates differences and borders that define stakeholder beliefs, marks *time* used to select viewpoints, as well as directs the process of acknowledging and selecting *expertise* used to make decisions. *Perspective* derives from multiple cultures of identity including ethnicity, gender, culture, spirituality, disciplines, professions, institutions, etc. – each component being critical to the collaborative landscape where choices are made (Cohen 1993, Henderson 2005, Clavir 2009, Dillon et al. 2014). Used to describe the importance of artefact or architectural setting (excavation, museum, laboratory, or in situ), *perspective* plays a significant role in determining preservation goals (e.g. survey, assessment, analysis, treatment, exhibition and storage) and decision-making (e.g. stabilisation, cleaning, reconstruction, burial, destruction). By signposting the criteria on which conservators make decisions, *perspective* structures judgement and calibrates scales of intervention (Cather 2008, 22–3; Henderson 2011, 5; Henderson and Nakamoto 2016, S2-68).

Values and meanings ascribed to artefacts, as well as interactions with artefacts, help establish *perspective*. Shifting notions of values and their role in decision-making dictate contemporary approaches to ethnographic and contemporary art conservation by referencing multiple domains of *expertise* that manage the dynamism of heritage (Hölling 2017a, Wharton 2018). Judgement retains its primacy when considering how *perspective* guides daily practice and is a political act benefitting one party over another (Sloggett 2009, 11; Clavir 2009; Scott 2015, 8–9). Distance and access are key components that politicise preservation. Strategies to bridge these gaps require acknowledgement of all dimensions of meaning – tangible and intangible, scientific and emotional (Clavir 2009, 4–5).

Conservators are a critical link between artefacts, institutions, stakeholders and the ideological *perspectives* used to negotiate preservation processes.

Questions regarding the extent and degree of cleaning have long been a point of contention, with debates occurring as early as the 15th century regarding paintings (Keck 1984) and continuing into the 20th century with wall paintings (Beck 1991). Cleaning controversies surrounding paintings in the National Gallery in the 19th century and the 20th-century Sistine ceiling wall paintings hinge on *perspective*, whilst being characterised by passionate vitriol. Stakeholders claimed that cleaning transformed artworks, which were 'completely flayed' (Keck 1984, 75) and 'scraped raw' (Keck 1984, 76), and 'robbed all future generations of the real thing' (Muchnic 1987). In these challenges, the issue of *expertise* and knowledge is on trial, as opposing *perspectives* adjudicate how an 'authentic' clean state appears, as defined by a particular moment in *time*.

Cleaning cultural heritage carries with it the potential to restore objects to a specific moment in *time* by removing past layers and information – an action that is irreversible. In this case, *perspective* uses *expertise* to make practical judgements about how and where to clean. Understanding the connections between these facets is critical for transmitting and justifying decision-making. However, it is only recently that a plurality of views spanning experts (conservation professionals) and the novice (the public) are recognised. The democratisation of knowledge in conservation and other disciplines has expanded participatory models to include movements such as citizen science (Scott 2015, 8–9) and repair cafés (Rosner and Ames 2014). This democratisation process enables the *perspective* of both expert and novice to carry similar weight during decision-making.

Saunders and Golfomitsou (2016) report data collected from conservation practitioners (experts) and the public (novice) regarding metals cleaning and its impact on perceptions of physical appearance and aesthetics. They directly explore the role of *perspective* as it defines alteration and acceptable levels of 'authenticity'. Whilst professionals rely on disciplinary and institutional associations when assessing and valuing the level and degree of acceptable cleaning – viewing patina, tarnish, scratches and other marks as negative – the public views heavy tarnish levels as a positive and favoured appearance for display (Saunders and Golfomitsou 2016, 215–17). Conservators must actively reflect on the role *perspective* plays in the expectation and acceptance of *expertise* that spans various levels of knowledge in order to make meaningful decisions.

Each core concept – *time*, *expertise* and *perspective* – dictates conservation judgement based on the active or passive acknowledgement of stakeholders and relevant data. They are considered with artefacts to meaningfully interpret preservation and make intervention decisions when data is incomplete. Incremental approaches that assembly the scaffolding used to arrange data whilst allowing their restructure through multiple iterations are critical heuristic tools. They provide a space for conservation to acknowledge and contest knowledge realms as dictated by the punctuated and dynamic functions of *time*, *expertise* and *perspective*.

CASE STUDIES

The selected case studies presented use the lenses of *time*, *expertise* and *perspective* to illustrate active decision-making processes and their

Figure 1. Archaeological ceramic vessel with selective conservation cleaning (indicated by circles) to facilitate reconstruction (KAP 109.523.53.1)

Figure 2. Pierced and rounded sherd (interior) demonstrating complete conservation cleaning (KAP 99.526.107.108)

outcomes, as well as the approaches used by conservators to reconstruct decisions made in the past. These are drawn from intervention judgements made whilst working in the archaeological field, museum and university settings. In each, *time*, *expertise* and *perspective* play different roles as they influence decision-making processes and outcomes. The case studies contrast conservation actions – including analysis, cleaning and loss compensation – where the basis for judgement is known with those where it is unknown. In each, *time*, *expertise* and *perspective* are used to examine practitioner/stakeholder memories, institutional documents and analytical data to understand decision-making and their impact on artefact condition and appearance. Further, these are assessed within evolving histories of the profession.

Archaeological field setting

Conservation judgement and decision-making in archaeological field settings are marked by minimal resources (time, funds, supplies, etc.) and must navigate preservation at the moment of discovery whilst retaining a plurality of meanings and values. Archaeological artefacts carry cultural, ethnic, material, technological and geographic data about the past which is incomplete, missing or unrecognisable. Interventions must simultaneously sift through these meanings at a single moment in *time* and make decisions that preserve as much as possible. Unfortunately, it is difficult to avoid privileging one over the other. At the archaeological site of Kaymakçı, located in western Turkey and dating to the Middle Bronze Age (2000–1500 BCE) (Roosevelt et al. 2018), most artefacts are recovered with thick burial accretions. Accretions are variable in composition, structure, hardness and solubility, as pure calcium carbonate may form directly or intermixed with layers of soil. Regardless of composition/structure, these obscure artefact surfaces, perimeter edges and features of interest are critical to varying realms of existing *expertise*.

Common treatments include selective or complete cleaning depending on different data points to be exposed, for example extant paint for instrumental analysis, features of technology to provide chronologies, perimeter ceramic edges to enable reconstruction, etc. Conservators, archaeologists, workers and students conduct cleaning based on judgements that conserve surfaces and reveal data. Selective cleaning results in the exposure of particular features to facilitate analysis (archaeological, technological, or instrumental) and/or further conservation interventions (reconstruction). In contrast, complete cleaning decisions may result in various combinations of complete/partial exposed original surfaces, complete/partial preservation of burial accretions, or complete/partial removal of original surfaces due to overcleaning (Figures 1, 2). Understanding the purpose of cleaning is challenging to understand, as the resulting exposed surfaces have many possible interpretations.

Museum setting

Conservation treatment decisions in the museum setting frequently require interpretation of past interventions that have an impact on the current condition of an artefact. This is particularly true of collections formed during past centuries or decades, where treatment interventions may span

Figure 3. Typical historic Mexican repair found on a Casas Grandes Ramos Polychrome effigy jar (Arizona State Museum GP10184) with inset detail of layering

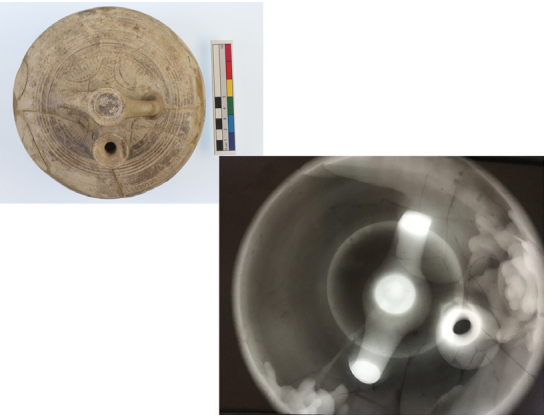

Figure 4. Ceramic stirrup jar from Tell el-Ajjul (Palestine) as reconstructed in visible light (left) and x-radiograph of jar showing application method used in loss compensation (UCL-IoA EXIII.57/1)

multiple moments in *time*. Understanding intervention decisions made in the past can be challenging – particularly when there is limited information available from museum archives or documentation. This is the case for a series of Casas Grandes ceramics with historic repairs accessioned into the collections of the Arizona State Museum prior to 1950 – though archives suggest repairs occurred before 1938 (Figure 3) (O'Grady 2009, 206). Loss compensation repairs, applied to losses or cracks by private firms for wealthy collectors, are 'characterised by thickly applied, granular white-buff-tan conglomerate materials incorporating matted fibres' (ibid.), may include multiple layers and are rarely integrated with surrounding original surfaces. Instead, they appear to replicate acceptable archaeological damage in the form of burial accretions (patina). This *perspective* defines 'authentic' archaeological surfaces as those altered by burial and highlights the importance of age or deep *time* in ensuring that repaired artefacts retain their authenticity and monetary value. In this case, the perceived significance of *time* and patina seems to dictate intervention decisions. This is in contrast to contemporary academic requirements that artefacts be aesthetically complete in order to publish them as evidence of the past (Odegaard and O'Grady 2016, 86).

University setting

In the university setting, conservation instruction aims to provide students with skills to navigate decision-making and artefact interpretation. Varying *perspectives* on this process have developed over *time* at the University College London Institute of Archaeology (UCL-IoA) depending on the primacy of disciplinary (archaeology, conservation, etc.) relationships. Early conservation interventions preserved and explicated claims of authority on the past where archaeologists, chemists and curators often dictate decisions in the field and laboratory (O'Grady 2017, 3–4; O'Grady 2019, 64–5). In contrast, and as stated previously, contemporary approaches seek participatory decision-making whereby a plurality of *perspectives* support conservation judgements and sequential decision-making integrates knowledge and *expertise*. Students engage with artefacts from varying collections and backgrounds by creating value statements, reconstructing past repair intervention histories through scientific analysis and treating artefacts using these data sets to inform decision-making. Students learn to interpret extant evidence of historic repair techniques and compare these methods/materials with their own contemporary intervention decisions.

This dichotomy becomes clear when comparing methods of gap filling when assessing ceramics with narrow openings (Figure 4, left). Observation of the visible exterior surfaces indicates detailed finishing of visible exterior surfaces – suggesting careful judgement and skill used in its creation. However, x-radiography provides a more nuanced *perspective* in interpreting decision-making used during the gap-filling process (Figure 4, right). There are various layers of excessively applied plaster of Paris suggesting it was viscous, while the sequential application lacks precision and overfills existing losses. Only the completed exterior surface is significant, highlighting the *perspective* that the hidden interior lacks importance. Does this reflect *expertise* (skill), *time* (allocated to intervention) or *perspective* (unimportant to finish hidden features of intervention) during intervention? For the student,

differentiating between these three concepts is difficult and challenges their understanding of decision-making made in the past. However, if they learn to recognise the importance of each, they will develop methodologies for incrementally ordering their conservation judgements according to the potential roles of *time*, *expertise* and *perspective* during interventions.

CONCLUSION

Conservation decision-making is a critical component of professional work. It relies on conflicting intervals of *time* and *expertise* to gain consensus that reflects a dynamic continuum of *perspectives* held in a stasis through a single point of defined time. The case studies presented illustrate the challenges associated with reconstructing decision-making within this paradigm – even when it is possible to know how decisions were actually made. They also illustrate the changing influence of *time*, *expertise* and *perspective* on how the past is viewed, consumed and interpreted. The *perspective* and judgement used during treatment decision-making is difficult to interpret from the artefact alone due to variable surface appearances. Knowledge about conservation practice (historic and contemporary), practitioner experience in intervention, archaeological processing, museum practice, and environment are critical components that enable, while simultaneously complicate interpretation. Is condition due to selective intervention, complete intervention or the state of preservation at the moment of discovery? Is the observed condition due to a deliberate decision not to intervene, inability to intervene due to artefact discovery in periods of stress or an intervention by actors other than conservators? Who is making the intervention decision and how do *time*, *expertise* and *perspective* contribute to this judgement?

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REFERENCES

Australia ICOMOS. 2013. *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013.* Burwood: Australia ICOMOS. https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf

Beck, J. 1991. Michelangelo's "pentimento" bared. *Artibus et Historiae* 12(24): 53–63.

Brandi, C. 2005. *Theory of restoration*, trans. C. Rockwell, ed. G. Basile. Rome: Nardini Editore and Instituto Centrale per il Restauro.

Cather, S. 2010. Choices and judgment: The professional conservator at the interface. In *Conservation of Ancient Sites on the Silk Road: Proceedings of the Second International Conference on the Conservation of Grotto Sites, Magao Grottoes, Dunhuang, People's Republic of China, June 28–July 3, 2004*, ed. N. Agnew, 22–32. Los Angeles: Getty Conservation Institute.

Clavir, M. 1998. The social and historic construction of professional values in conservation. *Studies in Conservation* 43(1): 1–8.

Clavir, M. 2008. Conservation, protocol, and praxis. In *Preserving Aboriginal Heritage: Technical and Traditional Approaches. Proceedings of a Conference Symposium 2007, Préserver le patrimoine autochtone: approaches techniques et traditionnelles: Actes du Symposium 2007, Ottawa, Canada, September 24–28, 2007*, eds. C. Dignard, K. Helwig, H. Mason, K. Nanowin, and T. Stone, 27–34. Ottawa: Canadian Conservation Institute.

Clavir, M. 2009. Social contexts for conservation: Time, distance, and voice in museums and galleries. *Journal of the Canadian Association for Conservation* 34: 3–9.

Cohen, A.P. 1993. Culture as identity: An anthropologist's view. *New Literary History* 24(1): 195–209.

Dillon, C., N. Bell, K. Fouseki, P. Laurenson, A. Thompson, and M. Strlič. 2014. Mind the gap: Rigour and relevance in collaborative heritage science research. *Heritage Science* 2: art. 11.

Fulmer, A., B. Crosby, and M.J. Gelfand. 2014. Cross-cultural perspectives on time. In *Time and work, Volume 2: How time impacts groups, organizations, and methodological choices*, eds. A.J. Shipp and Y. Fried, 53–75. New York: Psychology Press.

Gettens, R.J. 1970. Patina – Noble and vile. In *Art and technology: A symposium on classical bronzes*, eds. S.F. Doeringer, D.G. Mitten, and A.R. Steinberg, 57–72. Cambridge, Massachusetts: The MIT Press.

Gieryn, T. 1983. Boundary-work and the demarcation of science from non-science: Strains and interests in the professional ideologies of scientists. *American Sociological Review* 48(6): 781–95.

Harding, S. 2005. *Bonnichsen v. United States:* Time, place, and the search for identity. *International Journal of Cultural Property* 12(2): 249–63.

Henderson, J. 2005. Influence: The impact of language, credibility and gender. *The Conservator* 29(1): 63–72.

Henderson, J. 2011. Reflections on decision-making in conservation. In *Cultural Heritage/ Cultural Identity: The Role of Conservation. ICOM-CC 16th Triennial Conference Preprints, Lisbon, 19–23 September 2011*, ed. J. Bridgland, art. 1511, 8 pp. Almada: Critério Produção Gráfica, Lda. [for the] ICOM Committee for Conservation. Available at https://www.icom-cc-publications-online.org/

Henderson, J. and T. Nakamoto. 2016. Dialogue in conservation decision-making. *Studies in Conservation* 61(sup. 2): S2-67–S2-78.

Heritage, A. 2018. Current issues and future strategies in sharing conservation decisions. Findings of the ICCROM Seminar held in Rome, 4–8 July 2011. In *Sharing conservation decisions: Current issues and future strategies*, eds. A. Heritage and J. Copithorne, 1–10. Rome: ICCROM.

Hölling, H. 2017a. The *technique* of conservation: On realms of theory and cultures of practice. *Journal of the Institute of Conservation* 40(2): 87–96.

Hölling, H. 2017b. Time and conservation. In *Linking Past and Future. ICOM-CC 18th Triennial Conference Preprints, Copenhagen, 4–8 September 2017*, ed. J. Bridgland, art. 1904, 7 pp. Paris: International Council of Museums. Available at https://www.icom-cc-publications-online.org/

International Council on Monuments and Sites (ICOMOS). 1994. *The Nara Document on Authenticity.* https://www.icomos.org/charters/nara-e.pdf (accessed 12 September 2019).

Keck, S. 1984. Some picture cleaning controversies: Past and present. *Journal of the American Institute for Conservation* 23(2): 73–87.

Ko, J. 2008. Regional authenticity: An argument for reconstruction in Oceania. *APT Bulletin: The Journal of Preservation Technology* 39(2–3): 55–61.

Koppl, R. 2010. The social construction of expertise. *Society* 47(3): 220–26.

Lewis, R. 2005. Interpretation in conservation: A rare leather find from an early historic crannog. *The Conservator* 29(1): 87–94.

Lindsay, W. 2005. Time perspectives: What 'the future' means to museum professionals in collections-care. *The Conservator* 29(1): 51–61.

Martín-Hernández, M.J. 2014. Time and authenticity. *Future Anterior* 11(2): 40–47.

Muchnic, S. 5 April 1987. Crying in the chapel: Is the cleaning of the Sistine Chapel a glorious restoration or a monumental sacrilege? *Los Angeles Times*. https://www.latimes.com/archives/la-xpm-1987-04-05-ca-77-story.html (accessed 15 November 2019).

Odegaard, N. and C.R. O'Grady. 2016. The conservation practices for archaeological ceramics of Sir Flinders Petrie and others between 1880–1930. In *Recent advances in glass and ceramics conservation 2016*, eds. H. Roemich and L. Fair, 85–95. Paris: International Council of Museums – Committee for Conservation (ICOM-CC).

O'Grady, C. 2009. Investigation and analysis of historic early twentieth-century Mexican restoration fills and repairs on Casas Grandes ceramics at the Arizona State Museum. In *Holding it all together: Ancient and modern approaches to joining, repair and consolidation*, eds. J. Ambers, C. Higgitt, L. Harrison, and D. Saunders, 205–10. London: Archetype Publications.

O'Grady, C.R. 2017. The model conservator – Unpicking the past to understand discipline development. In *Linking Past and Future. ICOM-CC 18th Triennial Conference Preprints, Copenhagen, 4–8 September 2017*, ed. J. Bridgland, art. 1906, 8 pp. Paris: International Council of Museums. Available at https://www.icom-cc-publications-online.org/.

O'Grady, C.R. 2019. Waxing enthusiastic: Transmission and migration of consolidation materials in the early twentieth century. In *Migrants: Art, artists, materials, and ideas crossing borders*, eds. L. Wrapson, V. Sutcliffe, S. Woodcock, and S. Bucklow, 59–76. London: Archetype Publications.

Peters, R.F. 2008. The brave new world of conservation. In *Diversity in Heritage Conservation: Tradition, Innovation and Participation. ICOM-CC 15th Triennial Meeting Preprints, New Delhi, 22–26 September 2008*, ed. J. Bridgland, vol. 1, 185–90. New Delhi: Allied Publishers [for the] ICOM Committee for Conservation. Available at https://www.icom-cc-publications-online.org/

Pugliese, M., B. Ferriani, and A. Rava. 2008. Time, originality and materiality in contemporary art conservation. The theory of restoration by Cesare Brandi, between tradition and innovation. In *Diversity in Heritage Conservation: Tradition, Innovation and Participation. ICOM-CC 15th Triennial Meeting Preprints, New Delhi, 22–26 September 2008*, ed. J. Bridgland, vol. 1, 484–88. New Delhi: Allied Publishers [for the] ICOM Committee for Conservation. Available at https://www.icom-cc-publications-online.org/

Roosevelt, C.H., C. Luke, S. Ünsüloy, C. Çakilar, J.M. Marston, C.R. O'Grady, P. Pavúk, M. Pieniążek, J. Mokrišova, C.B. Scott, N. Shin, and F.G. Slim. 2018. Exploring space, economy, and interregional interaction at a second-millennium B.C.E. citadel in central Western Anatolia: 2014–2017 research at Kaymakçı. *American Journal of Archaeology* 122(4): 645–88.

Rosner, D.K. and M.G. Ames. 2014. Designing for repair? Infrastructures and materialities of breakdown. In *Proceedings of the Computer Supported Cooperative Work & Social Computing, ACM 2014*, ed. S. Fussell, 319–31. New York: ACM.

Saunders, J. and S. Golfomitsou. 2016. Cleaning complexities: Motivations, outcomes and professional perceptions. In *Metal 2016: Proceedings of the Interim Meeting of the ICOM-CC Metals Working Group, 26–30 September 2016, New Delhi,* eds. R. Menon, C. Chemello, and A. Pandya, 212–19. New Delhi: International Council of Museums-Committee for Conservation (ICOM-CC) and Indira Gandhi National Centre for the Arts (IGNCA).

Scott, M. 2015. Normal and extraordinary conservation knowledge: Towards a post-normal theory of cultural materials conservation. *AICCM Bulletin* 36(1): 3–12.

Sloggett, R. 2009. Respect: Engendering participatory relationships in conservation education. *Journal of the Canadian Association for Conservation* 34: 10–20.

Wharton, G. 2018. Bespoke ethics and moral casuistry in the conservation of contemporary art. *Journal of the Institute of Conservation* 41(1): 58–70.

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