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Museum Reality: Digital, Virtual, Online, Analog

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1.

In the present decade – and particularly in the wake of the recent pandemic – there can no longer be any doubt that museums must, beyond traditional 'analogue' practice, learn to work actively and progressively in virtual space. Despite the surge in digital content that came with museums' taking their hours online, post-pandemic reopening has been followed by a measure of apathy, as evinced by research that – while affirming the presumed importance of a physical-virtual link – has simultaneously noted this surrounding uncertainty. The aim of this article is to respond to the question: on what is this seeming distaste for museum digitisation founded, and what has caused progress in the area to decline or stall? Other issues include whether museums' non-physical – i.e. digital, virtual, and online – spaces can be defined as true dimensions of institutional practice; whether related practices are integral to museum complexity or, rather, merely accommodations made to globally changing consumer needs and info-communications trends; and whether the sometimes quiet, sometimes more radical curatorial relationship to museum artefacts has contributed to a concentration on objects' metaphysical and immaterial meanings in the online environment. (1)

2.

Any examination of the digital museum – i.e., the spaces a museum occupies online – will represent a particular challenge where the topic is approached from the standpoint of classical museological theory and practice. After all, the material nature of the museum artefact is fundamental to how it is defined, the aims of the museum as institution being to preserve the physical condition of the objects in its collections; to explore related information; to present both objects and information in the physical space of the museum building; and, in doing so, to interpret the meanings these three-dimensional objects carry. The entire essence or unique quality – the magic, one might say – of museum presentation resides in the original object, that is, in its display of authenticity. In a museum, an architecturally composed space is filled with artefacts that, though defined by their physical nature, also bear immaterial meaning, whether from the standpoint of science, cultural canon, heritage, identity, tradition, or representation of power, and whether in and of themselves, in relation to each other, or even in their physical absence. (2) The strength of the museum stems precisely from its material nature: even if the narratives surrounding collection establishment, expansion, exhibition, and contextualisation are necessarily constructed or deconstructed by the spirit, ideology, and power relations of a given age – including the worldview and objectives, scientific, personal, or otherwise, of the curator in charge of a given topic – still, the expertly preserved physical object (hopefully) does not change, but as a material source, permits the generation of parallel or sequential interpretations. To the museum, collections are like gene banks that preserve information via the

medium of material objects. It is from this that the museum's fundamental peculiarity, the one that sets it apart from other cultural institutions, is derived: it safeguards objects in analogue space, as material entities. In other words, the museum's mission and identity, the basis upon which museum work is conducted, is physical reality and the struggle to persevere against the physical environment.

3.

The physical nature of the object (manifested in aspects like material; production technique; size; condition; and circumstances of use, manufacture, or discovery) plays a prominent role in the maintenance of collection records, even where a piece was acquired for other reasons: e.g. for its former owner; its association with an event, identity, or concept; or its capacity to represent some scientific discovery or mode of thinking. Whether these reside in museum storage or on the exhibition floor, they cannot be abstracted from their size, value, beauty, special quality, level of workmanship, material, condition, or vulnerability to damage. Museum staff, curators, and conservators, too, sort them on the basis of these criteria, placing each in the environment most appropriate to its physical and chemical properties.

4.

When planning exhibitions, curators operate not only with information and narratives, but also with *concepts* that bear interpretation in physical space: distance and proximity, up and down, front and back, central and lateral, light and heavy, bright and dim. Sometimes, the presentation of some narrative requires the exploitation of other spatial devices: juxtaposition, contraposition, separation, elevation, conjugation, and elimination. An object's physical attributes – craftsmanship, ornamentation – are the first things the visitor's gaze encounters. Only later, if things go well, does the curatorial message – the array of meanings the object encompasses – begin to unfold. The setting? A building whose physical reality in the man-made environment frequently signals, via tangible, publicly mandated features (tympanum, portico, high-tech, etc.), its status as a unique representative of the culture.

5.

Ordinary museum practice, too, builds on an array of concepts suggestive of work conducted with physical objects in three-dimensional space: constructed features such as the exhibition floor, storeroom, display, visitor route, signboard, and glass case; abstract notions such as conservation; environmental factors like temperature and humidity; etc. Additionally, the Hungarian authors of critical studies, monographs, and written volumes on the theoretical dilemmas of the museum and museum practice select titles (Turai–Székely 2012, György 2003, 2013, Fejős 2017, Frazon 2011) that reflect the institution's physical nature with surprising frequency, thus stressing that the scientific, intellectual, methodological, ideological, and theoretical questions they ask have validity either vis-à-vis or in support of the material reality of a spatial complex. The museum's relationship with visitors, its public character, and its role in society all impel the professionals in its orbit to couch what they have to say in metaphors of the physical world. (3)

6.

The classic museum guides and textbooks, too, construct knowledge related to the museum environment from material, physical reality. Their focus? The museum building, institutional history, collecting work, artefact and materials conservation, and object-centered transmission of knowledge (*Cf.* Korek 1988). In his *Handbook of General Museology* published in 1999 (in 2011 in Hungarian translation), the Austrian Fridrich Waidacher defines museology as 'the theoretical explanation and practical realisation of the absorptive and evaluative relationship of

humankind with reality using the tools of philosophy.' Further: 'It is this relationship the discipline terms "museality," finding its expression in such objects as are selected, safeguarded, studied, and mediated as witnesses to a defined societal reality, in the service of said society' (Waidacher 2011: 7). It is by precisely this testimonial character that objects rise from the infinite material world in which humanity finds itself. Whether artificial or natural, objects in the museum context become – by virtue of their non-recurring nature – both carriers of information and sources of knowledge (Király 2012:47). And this is true even where a museum uses the occasional reproduction. Authenticity is a basic condition, as it is through this that the reality from which an object is derived – the one to which it testifies – is communicated. In other words, the authentic object has attestative value: a declarative 'aura' (Benjamin 1969). While the natural objects held by science museums (*Naturafakte*) are authentic in essence, man-made objects (*Artefakte*) are entities that, though laden with cultural meaning and significance, are open to interpretation (Király 2012: 47). In other words, it is here that the issue of a dynamically shifting relationship between physical reality and changing meaning arises.

7.

When we examine the history of museums, (4) however, we find that the primary emphasis falls on such matters as institutional development and the findings of prominent scholars: in other words, the enrichment of the institution in the material sense. Even the critical approach, which explores the powers that have influenced institutional history, is forced to discuss changes in the material and physical environment to some extent (Fejős 2000: 11–12). Eilean Hooper-Greenhill, who studies the history of museums, has named material considerations as the dominant factor in museum acquisitions policy and collection definition, as well as in the classification, presentation, and placement of artefacts. In her view, the various branches of museum work have *the object* at their foundation. In approaches founded on the traditions of the 19th century, on the other hand, the focus was more on visual features and related technologies than on the social relations and articulatory practices through which the object emerged (Hooper-Greenhill 1990).

8.

From the very beginning, the quantitative expansion and maintenance of physical collections has constituted the core of museum practice, with criteria emerging in the midst of the 19th-century museum boom that would form the basis for the future classification of various collections. A notion rooted in contemporary empirical thinking was that the true meaning of an object lay in its physical form, recordable only via observation, description, and measurement. Thus, the moment an object was given a place in a certain classification system, it earned a particular interpretation, one that then excluded other possible meanings and subjective points of view (Cameron 2012: 161). This same effect persists in modern documentary practice, though today, in the post-structuralist methodologies of the contemporary museum, object narratives, and subjective interpretations also play an important role. At the same time, there commenced a process of differentiation between various types of museums, whereby the former universal approach, which sought to map out the world in an encyclopedic fashion, yielded to breakdown by scientific or artistic discipline, resulting in the establishment of natural history, fine arts, applied arts, history, technology, open-air, and other types of institutions. Notably, this phenomenon manifested as much in the presentation and storage of collections as it did in the domain of institutionality (Waidacher 2011: 49–51). It was in this way that in 1872, the Museum of Applied Arts split off from

the Hungarian National Museum, founded seventy years earlier in 1802. Similarly, in 1896 a portion of the same institution's gallery became the Museum of Fine Arts, and in the 20th century, the Museums of Ethnography and Natural History made their debut as independent institutions. The objects in these museums' various collections found themselves subject to a thesaural system of classification, differentiated on the basis of categories constructed by academic science, leaving them segregated not only conceptually, but also spatially. In this scenario, integrative presentation was, for a long time, only possible via temporary exhibitions on specific themes. This same period also witnessed the birth of the types of architectural spaces that would transform museums into temples of science and the arts, while also serving visitors' perpetually changing wants and needs. In the 20th century, therefore, museums became not only *places* for the preservation, classification, and presentation of artefacts, but also *spaces* that brought ever-broadening strata of society into contact with original physical objects arranged into a typically temporal system: bearers of (among other things) national history, evolution, technological development, human progress, beauty, exoticism, peculiarity, sacrality, and glory (Benett 2012: 41–43). These were not, however, the only processes underway: as the growth in popularity of museums as institutions during the 19th century cannot be separated from the emergence of the concept of the nation-state (Macdonald 1996), they can also be seen as contributors to the emergence and solidification of group identity.

9.

By the mid-to-late 20th century, following a period of continuous, if frequently random growth, museums were faced with yet another situation that was distinctly physical: the problem of quantity. In fact, it was the bitter experience of many states that the artefacts in their public collections were not only exceedingly delicate, but also suffered from inadequate systematisation, resulting in a degree of opacity regarding both content and composition. The response was to develop and standardise a range of collection management processes – rules for inventorying, storage, and conservation – that would further strengthen museum work's ties to physical reality and deepen its experience with the knowledge that comes from three-dimensional objects (Balázs 2000, Sterre 2000). The emergence of museum education, too, gave rise to methods related to spatial perception, visual culture, and object-based teaching/learning, further reinforcing the museum's material foundations (Hooper-Greenhill 1990, Vásárhelyi 2009). In the opening passage of her 1996 critical study, Anna Wessely offers the following definition: 'The museum: a typically monumental, unordinary building where people wander, silently or at most murmuring, among objects that, carefully secured, await their focused attention.' Wessely's work examines in minute detail the topics of spectacle, the museum space's cavalcade of faces, and the special features that determine recommended routes and viewing methods (Wessely 1995). Also covered are the effects on museum interiors of various reforms in institutional knowledge transfer and the museum-visitor relationship: the shift from objects arranged in glass cases or shut away in storerooms to concepts like the open museum, visitor-object interaction, obstacle-free exhibition spaces, and the object as a messenger that have both rejuvenated the museum's approach to the material environment and broadened the range of possibilities the museum space affords.

10.

The above tendencies can also be identified in the way the museum has typically been defined, a pursuit that has similarly been focused on physical characteristics. According to the International Council of Museums (ICOM), whose first definition

dates to 1948: ‘The word “museum” includes all collections, open to the public, of artistic, technical, scientific, historical or archaeological material, including zoos and botanical gardens, but excluding libraries, except in so far as they maintain permanent exhibition rooms’ (Sári 2023). Clearly, the authors of this definition were still thinking in terms of physical spaces. The definition given in Hungarian *Act CXL of 1997 on Museal Institutions, the Funding of Public Libraries, and Pubic Education*, too, points in a materialist direction, even if the concepts of intellectual heritage, scientific study, and knowledge transfer do at least come into play. (5) Resulting from years of vigorous debate, the ICOM definition valid until August of 2022 describes the museum as ‘a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.’ The list of museum definitions composed by different states is long, but in every case, the collection, preservation, and presentation of tangible objects are cited first, before any mention of intangible aspects (See Galambos 2019a, 2019b). It is for this reason, among others, that ICOM’s years-long debate on the 2022 definition may be interpreted as a turning point: the result signifies that in the 21st century, museum thinking is now considerably richer, its focus increasingly extending beyond the mere collection, preservation, and presentation of objects / intellectual heritage to include such messages as museum artefacts permit curators to express and the social/community relationships that develop from them. Although not stated explicitly, in general, the new definition imparts a sense that the authors’ relationship to processes occurring in, and information/meanings presented by the classical physical museum as monitored and strictly supervised by museum staff has changed (Berényi 2022b).

11.

The process in question has been catalysed, among other things, by changes in the relationship between museums and their own artefacts, collections, and acquisitions activities. In anthropology, this turn grew out of the thought that objects have agency and can resist the atemporal representations museums force upon them. This additionally implies that the idea that objects can only bear a single, verifiable meaning has become obsolete (Harris–O’Hanlon 2018, 11. Citing: Appadurai 1986). Since the turn of the century, the various institutions that define themselves as social science museums increasingly favour a biographical approach to artefacts, one that inserts personality and narrative into its examination of museum material. This change in perspectives renders visible the symbolic and material transformations, processes, dynamics, values preferences, and intrinsic, animating personal worlds associated with them (Frazon 2018), while also requiring that the institution co-operate with the community, whether in person or by digital means.

12.

Given the traditional context as point of departure, it is unsurprising that museums’ relationship with digitisation and the virtual environment has always been problematic. The objective value of physical objects is fixed in their material nature, in contrast to the oscillating, frequently subjective frameworks of interpretation to which they are attached. The digital and computing revolution that has been gaining strength since the 1990s has affected museum work only very slowly, despite attempts at digital support for record-keeping in multiple places worldwide since as early as the 1960s. The efforts of today’s digital heritage projects notwithstanding, museums have not fully exploited new presentational, interpre-

tive, and communications opportunities, instead approaching technological developments with caution and reserve. As early as 1998, a survey conducted globally provided indication of this reluctance in the revelation that only slightly more than half of institutions at the time had a homepage. The situation was to change much over the next ten years, however, and by the 2010s all major museums maintained an internet presence (Müller 2010: 296). In Hungary, by contrast, in 2021, a full 247 of the nation's 593 licensed museums still lacked their own website. (6) In a series of interviews exploring the distance between information technology use and 'real' museum work conducted by a Finnish research team, it was discovered that staff held the latter to consist expressly of tangible tasks focused on physical objects. Participants furthermore found the thought processes inherent in computer science and technology disorienting and programming logic limiting; digital thinking, in their view, differed too greatly from that of museum disciplines and so stood as some kind of competitor to museological expertise. The author of the 2019 study furthermore found that museum staff regarded digital networks less as a means of bringing the world together than as a wedge between them and the objects with which they worked (Hakamies 2019). Given recent experience, the premise is an interesting one. An illustration of the opposing view can be found in the 2020 speech of UNESCO assistant director-general for culture Ernest Ottone, (7) which drew precisely on the observation that museums had succeeded in uniting otherwise isolated citizens in virtual space during the global pandemic. The shift to a museological approach based on object histories, too, has raised numerous questions: the fixed, standardised descriptive fields permitted by information technology allow for the establishment of but a single meaning, a limitation that does not accord with the approach of treating objects as polysemic entities (Cameron 2012: 163).

13.

At the same time, it was found that museum workers' problems with digital solutions were not limited to feelings of insufficient security; in terms of object ownership and information authorship, for example, staff felt their rights and privileges curtailed and their sources of institutional revenue endangered, as anyone could use their images and descriptions without citation and it had become impossible to follow what publications and conveyances had done so. Though numerous museums acknowledged that online platforms had facilitated public access to their collections, aided in democratising operations, improved knowledge transmission, created opportunities for virtually returning artefacts to their source communities, and prompted reflection on the modern age and the issues people face (Harris–O'Hanlon 2018: 19–20, Geismar 2018), this did little to alleviate fears that they would lose their rights to exclusive control over their material.

14.

From the perspective of the classic museum model, the intent of creating digital reproductions of original artefacts runs into disquieting theoretical challenges, as does the development of an environment that seeks to present material heritage virtually, without reference to the original, tangible objects and documents – even if museum installations themselves frequently display events and phenomena by virtual means. 'The museum is a place where objects, images, and text "rest" in space, and in this seeming absence of movement, show themselves to us,' writes curator Zsófia Frazon in her introductory notes to *Museum: The Leisure Genre*, an exhibition held at the Robert Capa Centre for Contemporary Photography between 15 December 2015 and 25 January 2016. In an unusual undertaking for a Hungarian institution, *Museum* offered a critical reading of the state of contempo-

rary Hungarian museology via photographs of objects, spaces, and people for the journal *MúzeumCafé* (in publication since 2007). Open for just a brief time, the installation was unusual for the manner in which it presented not original museum pieces, but photographs of them, employing an indirect – in fact, virtual – method, in conjunction with an array of concepts related to institutional spatiality and materiality, (8) in order to explore various dilemmas of museum practice.

15.

The theme of the above exhibition, (9) its form of presentation (photographic display), and the curatorial narrative, however, carried within them that complex internal contradiction that is peculiar to the museum universe. The section entitled 'The Kill,' for example, reflected on museum use of taxidermied animals: arranged in dioramas, such creatures, posed 'as if alive,' might easily symbolise virtual thinking within the physical exhibition – objects that link the material to the immaterial. In addition to this somewhat direct example were several more indirect ones involving the conscious use of the information objects evoke – Sándor Petőfi's cockade and the Revolution of 1848; Bertalan Székely's *The Women of Eger* and Hungary's heroic struggle against the Turks; a Model T Ford and the march of technological progress – together with the personal, emotional, and subjective interpretive opportunities these objects afford. In other words, while it may be the authentic, spatially arranged, physically interpretable, tangible objects that form the essence of the museum, the mental configurations that earn them their place in collections or, as in our example, exhibitions – patterns that can reach unique consummate form in the mind of each visitor – cannot be disregarded.

16.

Viewed this way, museology is no longer the science of arranging and presenting material heritage within a limited space, but of reading and re-reading the intellectual heritage such objects carry. Whether it is Walter Benjamin's concept of *aura* as related to reproduction versus original work (Benjamin 1969) or Germot Böhme's concept of atmosphere as related to the act of detection (Böhme 2019) that we reach, the discourse (10) we encounter occurs along the lines of museum artefacts and the meanings and moods borne by the museum environment. To repeat the much-discussed sentiment of Kenneth Hudson: 'A tiger in a museum is not a tiger.' (11) In other words, an object in a museum fulfills its objective only in the knowledge it transmits, the interpretations it delivers, the meanings it holds forth, and the relationships it belies. Beyond physical characteristics, it also carries messages that are symbolic – that can even be understood as virtual. Seen from this perspective, digitisation is no 'soul-killing' reproduction technique, but, potentially, an aid toward providing contextualisation (Müller 2010: 296–297). Relationships made evident in the online space or via digital means can render the tangible vestiges of material and intellectual heritage rethinkable, expandable, accessible, and multivocal, thus preserving and enriching the museum's air of authenticity. There have been numerous experiments in this vein, some using digital applications in the physical space of the museum, others the means of the World Wide Web (Bényei–Ruttkay 2021, German–Ruttkay 2017).

17.

The digital elements of contemporary museum practice frequently arise as alternatives to classical museum operations, opportunities capable of alleviating some of the sluggishness and ponderousness inherent in this particular institution type. Haidy Geismar's 2018 *Museum Object Lessons for the Digital Age*, for example, attempts to take individual museum pieces appearing in digital collections and explore their meanings, thus refuting numerous beliefs and prejudices related to

digital technology. The author's contemporary 'object lessons' strive to create 'contact zones' where old collections meet new technologies, all along collection historical lines (Geismar 2018). Regarding this approach, James Clifford and Mary Louise Pratt's concept of the contact zone (Wilhelm 2018) poses questions within the fabric of digital social networks, with a particular view to the digital cliff, insufficient competence and infrastructure, and the rapid deterioration of digital equipment. Museum staff, for their part, must establish for themselves how the digital versions of museum artefacts create knowledge and meaning; what roles these may play in the digital world and how it is understood; and how digital technologies can promote related opportunities (Cf. Cameron 2012: 158).

18.

By the end of the 2010s, 'a general understanding of the representational medium' into which objects were being digitised (György 2003: 11) could be put off no longer: use of the internet and digital devices had become an inevitable, everyday institutional reality (Cf. Bényei–Ruttkay 2021). Research on Hungarian digitisation efforts published at this time (German–Ruttkay 2017, Pacsika 2020, György 2003, Fejős 2017) viewed online museum spaces primarily from the perspective of classical public collections practice, arguing sometimes for, sometimes against them as an unavoidable external challenge. However, the coronavirus crisis, which put all cultural institutions into a similar situation, acted to reframe the opportunities and hazards represented by the digitised object and the World Wide Web. Original artefacts in closed museums had become inaccessible; and 'tangible' museum work of the type seen as 'real' was possible only subject to limitations. All object-centered museum functions were relegated exclusively to the online environment, ultimately providing a wide circle of professionals with concrete experience in the possibility of a museum's remaining credible in the digital realm (Berényi 2022a).

19.

Among factors preventing a rapid transition, however, was a lack of clarity regarding the concepts of digital museum operation, resulting in a continuous mixing of terminology in institutional practice. Online museum services are sometimes found under the 'digital,' sometimes under the 'virtual' tab, suggesting that the words 'online,' 'digital,' and 'virtual,' often used in museum practice as synonyms for one another, would benefit from precise definition on a global scale. In Hungary, the 'Digital Museum' tab on the Museum of Fine Arts' pandemic-era website (12) offers content modules similar to those accessed using the 'Online Museum' menu option on the Hungarian National Museum's home page, (13) though I have seen online services, activities, data, and projects summarised using the term 'virtual,' as well. It is in this direction that the Encyclopaedia Britannica points with its article 'Virtual Museums,' which defines the term as 'collection of digitally recorded images, sound files, text documents, and other data of historical, scientific, or cultural interest that are accessed through electronic media'. A virtual museum in this understanding, because it does not house actual objects, does not have the permanence or unique qualities of a museum as per the institutional definition. The article stresses that digitised representations, through hyperlinking and multimedia capabilities, can be brought together from multiple sources, and therefore permit not only viewing, but also comparative study. (14) The article does not discuss the relationship between the objects contained in virtual museums and the real-world objects in museum collections. However, as it does broach the topics of collection databases and home pages with visitor information, here, too, one senses a degree of conceptual confusion. (15) One interesting treatment is exem-

plified by the website of the Hungarian Open-Air Museum in Szentendre. While the 'Discover Online' menu heading breaks down into various sub-options offering games, apps, online publications, and helpful hints, the online educational materials are found on the 'Learning/teacher' tab and the online artefact database in the 'Skanzen/collections' section. (16) Although the solution does not clearly address the conceptual ambiguities, it does indicate (among other things) that in one of the Hungarian museums with the longest digital history, the use of various technologies and applications has become normative and that the menu options directing visitors to these opportunities have been incorporated into web site content according to function.

20.

It seems clear from these examples that the term 'online' is the most straightforward: what it denotes is a state where a person or thing connects to the internet and so becomes accessible by means of it. The opposite term is 'offline,' which describes the state where one is not connected to the net. When a museum uses the term 'online' to summarise a body of content available to visitors on the World Wide Web, it is primarily referring to internet access – to its presence on the web – approaching the subject from the standpoint of visibility.

21.

The phrase 'digital museum' follows an entirely different logic. Here, the emphasis is rather on the processing of the physical world by information technology. The term 'digitisation' is generally employed to mean the conversion into digital form of previously (primarily or wholly) physical/analogue objects, processes, and content (Csedő–Zavarkó–Sára 2019: 88). The word 'digital' is most often used when real-world information is converted into binary numbers. This can mean the display of artefacts from the collection via information technological devices or the performance of work previously done on paper or in physical space by a computer. It can even mean the creation of cultural elements by digital means (Rab 2007). In other words, the word 'digital' denotes not only technological conversion of the analogue world, but also the rapidly changing mechanisms used to do so. The change in attitude seen with museums is a new challenge because they must concentrate not only on the scanning and photographing of existing physical objects – on the creation of metadata – but also on the collection, processing, and presentation of content that emerges from the digital environment.

22.

The term 'digital museum' was coined by Ben Davis in 1994 (Davis 1994: 68–70) and has been used in the international professional literature first in relation to digital humanities, then later in connection with institutional web presence, collection digitisation, virtual museums, and exhibition interpretation technologies. In Hungary, the 2021 paper by Zsófia Ruttkay and Judit Bényei, after discussing the variety of uses of the terminology, defined the digital museum (in reference to a summary of the international literature) as comprising means and methods for exploiting the wealth of digital technology, such as promote and disseminate the visitorship-serving, primarily interpretive work of physical cultural heritage institutions: traditional museums and archives (Bényei–Ruttkay 2021).

23.

Professing an entirely different outlook on museums' relationship to digitisation is Leicester University professor Ross Parry, whose impactful 2013 study introduced readers to the concept of the 'post-digital museum'. Since the appearance of online and digital museums, this particular *terminus technicus* has become an indispensable verbal tool for professionals in discussing the effects of the digital re-

volution. With this concept, Parry refers not to the end of the digital revolution, but to a period when eventually, ties between the sector and technological achievement may be viewed as sufficiently rigorous: not a beginning or an end, but a turning point. What Parry hoped to create was a model capable of registering that moment when new technology, together with online and social media, exist with a given organisation not as a burden, but as a naturally occurring element: not as the opposite of physical reality, or as an enemy or friend, or as the key to development, or as an opportunity for change, but as a byproduct of life itself. In Parry's model, digital tools gain the incontrovertible right to museum existence in precisely the same way they weave their way into the fabric of all museum operations – become an integral part of all daily practice. Digital technology has become the new norm: a regular part of work and life, not some irritating protuberance existing apart from the museum's natural physical character. Accordingly, the museum's offline and online spaces diverge ever less radically, the borders between them soften, and virtual and analogue systems complement one another to create the museum's contemporary reality (Parry 2013). At the same time, Parry does not regard this turning point as a global process, but rather accepts that technology will insert itself into organisational structures locally, regionally, and by institutional type in different ways and at different times. Characteristic of the post-digital museum is that the institution picks up even the *rhythms* of the digital world, such that new developments are perpetually underway. It not only creates online and digital interfaces in response to sporadically arising needs or toward the realisation of individual projects, but also starts taking separate bits of content – be they on multimedia devices in physical museum spaces or somewhere in virtual space – and linking them together.

24.

For its own part, the term 'virtual,' too, merits definition here, as museums have been leveraging virtual solutions for the display of messages and research findings since the time of their birth. The integration of objects into museum collections removes/alienates them from their original historical, physical, and emotional contexts by the nature of the process, placing them into a new, virtual museum order, where they are invested with new meanings, indicated by devices ranging from signboards to in-exhibition placement (Müller 2010: 297). Also construable as 'virtual' are physical dioramas, staged interiors, taxidermied animals, and reconstructed modes of dress displayed on mannequins. This is particularly true if the expression is defined, as philosopher László Ropolyi does, as 'not real, but "as if" real' (Ropolyi 2010, Heim 1998: 220). The philosopher does not leave the matter at this, however, but goes on to examine the pre-modern, modern, and post-modern concepts of virtuality as they manifest between co-ordinates on the function with respect to reality. In the latest (post-modern) period, in his view, we can no longer speak of a single reality or factuality, but rather of something like a 'hyperreality,' where the difference between true and untrue grows slender, while images, signs, and simulations no longer refer to anything, but 'mean themselves' – have their own reality. Post-modern notions, in fact, serve not the *concealment of reality*, as, in fact, there is none, but of *the absence of reality*: what they undertake is to *replace reality*. In the world of hyperreality, the majority of traditional values are reassessed: the significance of places, bodies, and mutually distinguishable material and intellectual entities vanishes, the emphasis shifting instead to their interconnections and networks (Ropolyi 2010: 9–11). In this regard, Ropolyi's thesis is interesting, among other things, for the way it abandons the Aristotelian dualistic ontology of actuality versus potentiality, adding to these, as a

necessary consequence of their inseparability, a *third* sphere of existence: that of the virtual. In the author's view: 'Virtuality is a reality whose measure is non-absolute – one that has not a preordained absolute quality, but a measure that is relative and changing. All things existing in the representational mode of being are virtual: the extent of their factuality changes intensively in coincidence with the operation of human representational praxes.' This statement, for its part, runs parallel to assertions made by the abovementioned theories of museology that critique the authoritarianism and power practices of museums while simultaneously directing attention to the emergence of communal, participative attitudes within them. If we accept Ropolyi's thesis, the concept of the virtual museum must be augmented to include not only the absence and replaceability of reality, but also, thirdly, the presence of interconnections and networks – in the same way as the online/digital world and 'real-world' space are no longer separate in the post-digital museum, but have been supplanted by a fused expanse of complex connecting networks.

25.

Standing apart from this line of thinking is the concept of *virtual reality* (*VR*), not to be confused with virtual existence. According to Zoltán Szűts, 'virtual reality is a computer-generated, digital visual world having no material foundation (but that frequently mimics reality), which gives users the opportunity of immersion and, to a certain extent, of forming ideals'. Playing an important part in both the technology, and the user experience are the visual information this world conveys, its interactivity, and the quality of the devices available: how they permit the participant to act in physical space, while imparting the sensation of existing in an alternate one (Szűts 2018: 219–221). Museums increasingly take advantage of VR technology in their physical exhibitions in an attempt to transmit knowledge in a way that is both highly experiential, and effective, conjuring and constructing distant places, ages, or even virtual reproductions of their own real-world spaces for use by interested parties online. In such cases, the user – VR glasses donned and in place – blocks out the surrounding 'real world' and 'enters' the given virtual one. These solutions should be distinguished from *augmented reality* (*AR*), which employs various digital means – fundamentally through the touchscreens of smart devices – to create a layering of virtual elements onto the material world (Szűts 2018: 420). In other words, via technology, text, and images are placed onto a device that the user physically senses and sees. It is now quite usual for museums to use a smart device to display the digitally reconstructed image or environment of a damaged object; to show how a historic building or city originally looked; to bring to life extinct animals; to permit visitors to pick up, move, and enlarge 3D models of objects otherwise enclosed in glass cases; and even to retrieve related materials, information, video images, music, or networks of these things from collection databases and archives.

26.

During the pandemic, millions of internet browsers discovered that, using the websites of museums that were closed, they could nevertheless enter the buildings, walk about, and even view a variety of exhibitions. Since 2011, Google Art Project has been working via an expanding circle of institutions to render the world's art and culture accessible to all. Artefacts digitised using high-tech cameras, museum spaces navigable using Google Street-View technology, and educationally themed compilations of material delight users, who can search for the uploaded objects by various criteria, including even colour. (17) The online exhibitions of Europeana, which holds more than a million total items from European

public collections, focus less on spectacular technological solutions than on content. Users can themselves arrange the uploaded artefacts and documents into exhibitions or, in what has proved a considerably more successful feature, can explore cultural heritage stories in online exhibitions and blogs. (18) A Hungarian aggregator web site that strives to do the same is MuseuMap, whose Gallery familiarises viewers with objects and their stories, in context, through 3D models and virtual exhibitions. (19)

27.

These digital corridors are indicated on museum web sites by differing, yet intelligible names: virtual exhibitions,' 'virtual tours,' 'online exhibitions,' 'online gallery,' 'virtual museum,' '3D panoramic images,' 'virtual tours,' '360-degree virtual tours,' 'online tours,' and 'digital exhibitions'. Almost without exception, the expressions in question are formed by taking a term from the physical world and prefacing it with an adjective suggestive of a digital genre. Often it is only on 'virtual entry' that we find out what the given application or site has to offer: a virtual space to be compassed by mouse, a gallery of text and images to be scrolled or flipped through, a collection of 2D or even 3D-scanned objects, or even a walk to be taken using VR goggles. Nor is it always clear on the decision to 'step in' whether the user will be viewing a digital reproduction of a place that exists in the real world or, rather, a simulated digital space. Similarly unknowable are whether the objects appearing in the space are actually there or have been placed there by the programmers for the purpose of the exhibition; whether the images are of an existing exhibition or a variant planned specifically for online users; or whether the museum is one that exists in physical space or one that offers only virtual exhibitions. An example of a virtual-only museum is the National Women's History Museum of Washington, which despite the 1996 decision mandating its physical creation, today can be visited only via the online exhibitions on the institution's web site. (20) Raising similar questions is the Virtual Shoe Museum, whose owner fails to make clear whether it is shoes or images of shoes that the museum collects, and which it is that the visitor is viewing upon entering the site. (21)

28.

It is no coincidence, therefore, that in a 2020 press release heralding the opening of a new virtual exhibition, the Hungarian National Museum, too, gave attention to the dilemma, indicating that for exhibitions of this genre, they would be distinguishing between three different types of 'artefacts': digitised versions of real objects; objects that exist only digitally; and objects representing a fusion of the two. Yet it is not only the artefact type that matters. The space in which objects are presented is also important, whether it is a digitised version of real spaces, a virtual, simulated space, or a combination of the two, viewable in either two or three dimensions. (22)

29.

In 2020, museum employees tasked with drafting the Ministry of Culture's annual work report and statistical data were given the following strictly and sparingly worded definition to work with: 'A virtual exhibition is one that can be navigated in virtual form. Absent navigability, presentation of one or more artefacts featuring images and text cannot be regarded as a virtual exhibition.' (23) In other words, the ministry would only accept an exhibition that could be walked through and viewed in the virtual space in a manner similar to that occurring in physical space as falling under its definition.

30.

The uncertainty among museum employees is great. In a questionnaire-based study of experiences with the coronavirus pandemic conducted in 2021, I asked Hungarian professionals how they perceived the concept of the virtual exhibition. (24) What I discovered was that 24.3 percent of respondents (81 individuals) had taken part in creating such content during the crisis. When I asked them to actually define a virtual exhibition, the degree of confusion surrounding the concept became clear. In fact, the large number of textual responses (139) suggested that the subject was very much on museum staff's minds. While some stressed the act of presenting material visually, whether on a computer screen or an online platform, others focused more on experientiality, image, and multimedia content. In some responses one encounters the idea of tying virtual material – physical, or 'real' objects placed in the online space or the contents of digital artefact databases – thematically together and of ensuring access to them. From the various definitions emerge notions of online accessibility that is independent of time and space, the importance of curatorial concept, interactivity, hypertextuality, a desire for rendering various multi-media and textual content elements interconnectible, the 'staging' of digitised artefacts, the indispensability of three-dimensional and other technologies, and educational applicability. That respondents strove to separate the virtual versions of real-life spaces from those created in the virtual environment was palpable. In the Hungarian National Museum's previously mentioned press release, museum computer scientist Éva Kómár defined the virtual exhibition similarly in relation to *Our Shared Time 89–90*, a virtual exhibition created in the online space, whose real-world counterpart could not be visited: 'A virtual exhibition is a hypermedia collection outfitted with multi-dimensional information, which threads various digital objects together on the basis of some organising principle (theme, concept), presents them in two or three-dimensional format, and stores them in partitioned systems. The virtual exhibition is a user-oriented, dynamically updatable service employing the very latest in technology that enables immersive learning and entertainment. At the same time, collections consisting of digital objects are not in and of themselves the same as virtual exhibitions. A digital collection can only be said to be a digital exhibition if its contents are organised according to some logic or narrative in order to illustrate a specific topic.' (25)

31.

As we have seen, while the physical character of museums and museum objects can be defined both methodically, and unequivocally, the definitions of online, virtual, and digital phenomena are surrounded by considerable confusion. Although the museum world has always understood that, in its praxis, it is responsible for not only the physical attributes of its objects and spaces, but also for the preservation, exhibition, and creation of complicated and continuously changing meanings and intellectual constructs, the changes that have come in the wake of the digital revolution hold the field in a state of uncertainty to the present day. It is crucial that professional discussions be had regarding the use of the terminology, as museum staff and users alike want to know what types of content they can expect to find under each heading. (26) Though ICOM's new international definition as accepted in 2022 smashes physical barriers and opens up numerous possibilities, the attachment of digital solutions with only decades of history behind them onto analogue practices that have developed over centuries has been causing for a great deal of theoretical and methodological uncertainty. The key point of discourse surrounding the post-digital museum is that museums' online spaces

and digital practices are under a process of integration with institutional ones. This does not mean that the physical and online are merging, but that they are being used consciously, and conscious use requires precise use of terminology where the focus is on online, digital, or virtual museum work, objects, knowledge, and experiences. Research shows that Hungarian and International museology is prepared to have this debate, for which, in the future, it is worth finding the right professional forum. Museum reality, which rests on physical pillars, is only able to incorporate virtual reality, with its relative, changing, non-absolute measures, by way of clear-cut methodological and theoretical praxis if it systematises the variety of digital and online phenomena on the basis of a scientifically supported conceptual structure.

NOTES

1 The elements and findings of this study are part of a PhD thesis entitled *Museum Without Walls: The Impact of the Global Covid 19 Pandemic on the Online Practices of Hungarian Public Museums*, defended in 2022. https://hdl.handle.net/2437/338345 (last downloaded: 04. 16. 2023.)

2 *Cf*. Bennett 2012, Abt 2012, Hooper-Greenhill 1994, Macdonald 2016, Fejős 2017, Ébli 2005, 2016, György 2003, Frazon 2011, Carman 2012.

3 It is this one observes in: Vásárhelyi 2009 and Pató 2009.

4 *Cf*: Korek 1988, Waidacher 2011, Hooper-Greenhill 1990, György 2003, Abt 2012, Bennett 2012.

5 'A museum is a museal institution consisting of scientifically systematised collections of cultural assets, which collects, safeguards, processes, studies, and exhibits cultural assets and elements of intellectual cultural heritage for scientific, heritage protection, and educational purposes, and which publishes the same in other forms.'

6 Source: MuzeumStat https://muzeumstat.hu/hu/summary?state%5Bdatagroup%5D=informatics (last downloaded: 16. 04. 2023)

7 Museums facing Covid–19 challenges remain engaged with communities. 04/04/2020 https://en.unesco.org/news/museums-facing-covid-19-challenges-remain-engaged-communities (last downloaded: 16. 04. 2023.)

8 *gaze, covering, concealment, hidden, confronting, visible, invisible, gold standard, museum time, museum building, the space, where works can be seen, industrial zone, architectural makeover, community meeting place, turning thoughts into spaces, private space, the spirit of a place*

9 The exhibition material can be viewed here: http://lead82.works/work/muzeum-a-lassu-mufaj/ (last downloaded: 17. 10. 2022)

10 For more on the topics of 1) objects and social relations; 2) the complex system of relationships between objects and subjects; 3) material properties and subjective object selection from a consumer perspective; 4) the complicated interactions between people and objects; and 5) the subjective museum, see Frazon 2018.

11 Hudson 1977:7. *Cf*. https://www.neprajz.hu/madok/kutatasok-sorozatok/tigris-a-muzeumban.html. (last downloaded: 27. 11. 2021)

12 As of 26/09/2021, on the szépmuveszeti.hu website, the *Digital Museum* main heading listed the following options: Online tours and lectures; Audio guides; Route suggestions; Quizzes, Games; Make it at home!; We love to read!; Educational materials; Virtual exhibitions; Book or advertise a film, video, or online tour https://www.szepmuveszeti.hu/. The Hungarian Museum of Commers and the Hospitality Industry also uses the term 'digital museum': Museum blog; YouTube channel; Digital

museum education; Virtual exhibitions; Digital collections; Digital publications; Community pages, newsletter https://mkvm.hu/digitalismuzeum/ (Last downloaded: 26. 04. 2023.)

13 As of 26/09/2021, on the mnm.hu website, the main heading 'Online Museum' offered the following menu options: Quizzes and fun educational materials; Online activities for students and online tours for adults, families, and foreigners learning Hungarian; Online programmes; Virtual exhibitions; Legacy of our ancestors; Museum blog; Artefact database; Order an artefact photograph; Archaeological database https://mnm.hu/hu.

14 Source: 'Virtual museum'. Encyclopedia Britannica, 27/03/2017, https://www.britannica.com/topic/virtual-museum (last downloaded: 26. 03. 2023.)

15 It is worth comparing to Werner Schweibenz's 2019 paper on museum digitisation, in which, following a lengthy historical analysis, it turns out just how unclear the concept actually is.

16 Szabadtéri Néprajzi Múzeum. https://skanzen.hu/hu/ (last downloaded: 26. 03. 2023.)

17 Google Arts & Culture. https://artsandculture.google.com/ (last downloaded: 07. 04. 2023.)

18 Exhibitions | Europeana https://www.europeana.eu/en/exhibitions (last downloaded: 07. 04. 2023.)

19 MuseuMap Gallery, MuseuMap's new service, is now available! https://ommik.hu/index.php/hu/component/content/article/14-hirek/651-elindult-a-museumap-uj-szolgaltatasa-a-museumap-gallery (last downloaded: 07. 04. 2023.)

20 Womenshistory. https://www.womenshistory.org/womens-history/online-exhibits (last downloaded: 07. 04. 2023.)

21 About the founder – virtualshoemuseum.com, https://virtualshoemuseum.com/contact/about-the-founder/ (last downloaded: 07. 04. 2023.)

22 New virtual exhibition and the National Museum: Our Shared Time '89–90. https://magyarmuzeumok.hu/cikk/uj-virtualis-kiallitas-a-nemzeti-muzeumban-kozos-idonk-39-89-90 (last downloaded: 06. 04. 2023.)

23 Source: KultStat. https://kultstat.oszk.hu/#/home/news/c4d08b53-45d9-413f-b23d-5a6e0ceabaf1 (last downloaded: 01. 04. 2023.)

24 For more, see Marianna Berényi's PhD thesis: Museum without Walls: The Effects of the Covid–19-Pandemic on the Online Presence of Hungarian Museums. 194–203. https://hdl.handle.net/2437/338345 (last downloaded: 16. 04. 2023.)

25 Source: https://magyarmuzeumok.hu/cikk/uj-virtualis-kiallitas-a-nemzeti-muzeumban-kozos-idonk-39-89-90 (last downloaded: 06. 04. 2023.)

26 *Cf.* Hartig 2019.

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