

Appendices

Appendix A Glossary of key terms

TERM	DEFINITION	SOURCE
3D imaging system	A device for 3D recording that uses a laser stripe or spot to record the surface of an object. The real world object is translated into digital metric measurements in the form of a <i>pointcloud</i> with many millions of colored coordinates in space. A laser scanner is one example of such a system.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
3D model	The replication of a real-world object as a digital 3D model. It is the result of a 3D measurement process and its processing, either by a stand-alone 3D imaging system (laser scanner) or by photogrammetry and post-processing on a computer. A typical 3D model includes geometric information (size, shape, surface characteristics) as well as color information (texture maps).	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
3D scanning	The process of gathering object or environmental data through 'touchless' collection. Although the actual mechanics may vary from system to system, the process in general consists of a series of laser pulses that are bounced from the scanning unit to the object. By calculating the time of flight of the pulse along with the	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology

	speed of light, the scanner can then deduce exactly how far away the object surface is at each bounce. This technique collects dimensional data in the form of a "point cloud."	
Abacus	A flat square slab placed on top of a column's capital.	Cole, Emily. 2002. <i>The Grammar of Architecture</i> . First United States Edition. The Ivy Press Limited.
Accuracy	The degree to which physical measurements performed on a heritage object conform to the actual (true) metric values of the object. Accuracy is related to the scale and precision of the recording technique used.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.
Actual Data	Data recorded with a SUT (System Under Test) which will be compared to a reference (nominal) data set. Often this comparison is also called Actual-Nominal comparison.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Adhisthana	The base of a Buddhist temple. The high basement or plinth upon which a temple is built.	Cole, Emily. 2002. <i>The Grammar of Architecture</i> . First United States Edition. The Ivy Press Limited.
Adobe	Sun-dried mud brick used for buildings in Spain, Africa, New Mexico, and Latin America.	Cole, Emily. 2002. <i>The Grammar of Architecture</i> . First United States Edition. The Ivy Press Limited.

Aerial photogrammetry	<p>Uses large-format aerial imagery to recreate the 3-dimensional geometry of territories, landscapes, urban contexts or buildings as a model in a virtual environment.</p> <p>The imagery must contain two or more stereoscopic (overlapping content, from different camera positions) pairs of images. The camera must be calibrated to correct for lens and curvature distortions in images. Reliable horizontal and vertical measurements may be taken from the model if accurate ground coordinate information (x,y,z for at least three image-defined object points) is appended to the virtual geometry.</p>	<p>D. Myers, Y. Avramides, and A. Dalgity, "Changing The Heritage Inventory Paradigm The Arches Open Source System," <i>CONSERVATION PERSPECTIVES HERITAGE INVENTORIES</i>, vol. 28, pp. 4–10, 2013.</p>
Aerial photography or imagery	<p>Refers to the activity of taking photographs from aircraft.</p> <p>The term may also be used to refer to any photography from the air, including photographs obtained by cameras mounted on aircraft, rockets, or Earth-orbiting satellites and other spacecraft. The purpose of photography from airborne or space-borne vehicles is generally to provide information on ground features for military and other reconnaissance, or to record the dimensional disposition of such features for surveying or mapmaking. Aerial photography include any form of photography taken from the air, including aircraft, spacecraft, satellites, balloons,</p>	<p>F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html.</p>

	<p>or drones with mounted cameras. It is an efficient and effective means of quickly documenting the condition of a large site or a collection of sites via a ‘bird’s eye view’.</p> <p>Useful for surveying and mapmaking – sometimes used as a substitute entirely. Often used for aerial photogrammetry.</p>	
Altar	<p>A raised structure, often a table or stone slab, upon which offerings are made to a god and religious rites are performed. Used in many ancient cultures for making sacrifices.</p>	<p>Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.</p>
Ambulatory	<p>A roofed passageway. In a church, refers to the continuation of the aisled spaces on either side of the central part of the church to form a continuous semicircular processional path.</p>	<p>Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.</p>
Amortizement	<p>The sloped upper portion of a buttress or projecting pier. Slopes away from the building or structure face to encourage water shedding and drainage.</p>	<p>Merriam-Webster Dictionary.</p>
Analysis	<p>The interpretation of research and investigation results to improve understanding of cultural heritage places. Also: the examination of an object, action, material, or concept in detail by separating it into its fundamental elements or component parts.</p>	<p>F. LeBlanc, “Heritage conservation terminology.” [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html.</p>

Ananda	The infinite, the endless. Ultimate joy. Also the name of a first cousin and disciple of Guatama Buddha. It is thought that most of what is known about the Sutras in Tripitaka comes from Ananda's memory.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Anthropology	Within the category of the social science, concerning society and the relationships among individual within a society, anthropology deals with the analyses different ways people understand their lives and lifestyles. The term anthropology derives from the Greek ἄνθρωπος anthrōpos, "human being" and λογία-logia, "study." This discipline is frequently used in interdisciplinary approaches within the architectural field.	Ray, L. 2016. Research Methods for Architecture. London: Laurence Kind Publishing.
Aperture	An opening, such as a hole, gap, or slit. Small windows in brick structures.	Author.
Arcade	A series of arches supported by columns or piers. May be freestanding or used to decorate the wall of a building.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Arch	A construction of stones, bricks or other materials that spans an opening and does not use a lintel. There are numerous types.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
ArchiCAD	An architectural BIM CAD software for Macintosh and Windows. It was developed by the Hungarian company Graphisoft. ArchiCAD offers computer aided solutions	Graphisoft ArchiCAD http://www.graphisoft.com/archicad/

	for handling common aspects of aesthetics and engineering during the design process of the built environment, buildings, interiors, urban areas, etc.	
Architrave	A horizontal lintel that rests upon and spans the distance between two columns or piers. May also refer to a molded frame that surrounds a door, window, or other opening.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Archivolt	An architrave above a curved opening. Tends to refer to a series of concentric ornamental arch moldings.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Arcuated	Describes a building whose structure depends on a series of arches rather than on beams and lintels (trebeated form).	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Arimaddanapura	The classical Pali name for Bagan. Translates literally to ‘City of Enemy Crusher’ or ‘The City that Tramples on Enemies’. Sometimes written as Arimaddana Pura or just Arimaddana.	Malalasekera, G.P. 2007. Dictionary of Pali Proper Names, Vol 1. Motilal Banarsidass Publishers Private Ltd.
Artifact or Artefact	A human-made physical object that gives information about the culture, history, beliefs, and lifestyle of the society that created the object.	Author
Asana	The sitting posture of a Buddha or Bodhisattva.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.

Assessment	The formulation of a new set of general results through the combination and interpretation of existing and newly collected information.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Atrium	An inner court that is sometimes entirely covered but usually left open in the middle. Provides light and ventilation to the interior.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Attic	A space or room within the roof of a building or house.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Automated monitoring systems	A grouping of different sensors and devices that collect a wide range of data measurements. They include, but are not limited to, inclinometers to measure the degree of inclination; level-meters to measure differential settlement; weather stations to measure wind speed and direction as well as ambient temperature; and strain gauges to measure crack propagation. Usually these systems are connected to computers to provide continuous data to engineers.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Avant-corps	A section of a building that projects from the main part. Translates literally to 'in front of body' or 'before body' from French.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.

Ayeyarwaddy River	The longest and most important river in Myanmar, flowing from north to south and into the Andaman Sea. Much of the raw materials of Bagan buildings' construction, such as bricks and mortar, are directly connected to the river. (i.e. are delivered via the waterway).	Author
Bagan Art-Wall or Mural Painting	A type of painting inside temples – often depicting 'jatakas', stories telling the multiple lives of Buddha. Meant to educate the surrounding community, monks, and future generations. The paintings were generally done as 'Fresco', using charcoal and natural animal or plant material for water-soluble pigments with a lime plaster wash.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Balcony	A platform projecting from the wall of a building. It has a railing or balustrade around its outer edge. Accessed usually via a door or window.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Bamar	The name of the major ethnic group in Myanmar. Formally: Burman. Adjective was Burmese.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Barrel Vault	A series of uniform and typically semi-circular arches lined up in series to form structural support. Also known as a 'tunnel vault'.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.

Base map	A scaled graphic (or photographic) record of the basic physical configuration of the heritage asset. Used by conservation professionals as the base layer over which to illustrate (or map) investigation and treatment related data. Also called a 'base drawing'.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Bas-relief	A low-relief (shallow) carving that protrudes slightly from the background.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Bodhi Tree	The Buddhist sacred fig tree. An important religious symbol representing the tree under which Buddha sat to meditate. Bodhi refers to wisdom, awakening, or enlightenment. Bodhi Tree imagery is often used as decoration in Bagan temples. Also known as the Bo or Peepal Tree.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Bodhisattvas	Individuals who have passed through the spiritual perfection, but out of compassion to other beings choose to delay their entry to Nirvana. They work to help other sentient beings discover the right paths to Nirvana.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Boss	An ornamental projection, usually at joints for ribs of vaults or beams in a ceiling.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Bracket molding	A type of molding that projects from a wall or column, usually to carry weight or strengthen an angle. It is an	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.

	intermediate piece that fixes two structural members to each other. May be ornamental.	
Broken pediment	A pediment that has its simple triangular shape broken at either the apex (top) or base.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Buddha	Literally means ‘Enlightened One’. Usually refers to Guatama Siddhartha Buddha but also includes the other four past Buddhas.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Buddhism	A religion that originated from India and spread throughout Asia when Siddhartha Gotama (Buddha) attained enlightenment around 5th century BCE. It focuses on teaching Dharma (truth) and provides a way of life to lead to true happiness.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Built environment	The collection of man-made structures and surfaces that constitute a city or site. Includes buildings, streetscapes, neighbourhoods, bridges, infrastructure, and monuments. Does not include the natural environment.	F. LeBlanc, “Heritage conservation terminology.” [Online]. http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Built heritage Asset	This term is used in this report to refer in general to immovable cultural heritage resources, such as archaeological sites, single monuments, groups of buildings, historic towns, or cultural landscapes.	F. Letellier, R. Schmid, W. LeBlanc, Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places. Los Angeles: The Getty Conservation Institute, 2007.

Built structure	Build structure indicates any building or structure, including roads, bridges, gun emplacements, walls, mines, etc. over 30 years old.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Buttress	A mass of stonework or brickwork built against, or projecting from a wall to give additional strength.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Calibration	A predefined process to correct the measurements taken from a measuring device. Calibration is required to guarantee consistent results in measurements. A controlled test usually involving a calibrated reference artefact. The internal parameters of the scanning system will usually be optimized as a consequence of the calibration result.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Catalogue	A complete list of the items in a collection or at a museum, usually containing the object names, descriptions, and additional provenance information. A catalogue may be illustrated if relevant imagery is available (as is common in digital catalogues).	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Character-defining element or feature	The materials, forms, locations, spatial configurations, uses, and cultural associations or meanings that contribute to the heritage value of a historic place, which have been selected as relevant to be retained to preserve its heritage	Standards and Guidelines for the Conservation of Historic Places in Canada, 2010. F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .

	value. Character-defining elements or features contribute to the heritage value of a historic place, and which must be retained in order to preserve its heritage value. They are prominent or distinctive aspects, qualities or characteristics of a cultural resource that contributes significantly to its physical character.	ology/doc_terminology_e.html.
Chattravali	The top portion of a sikhara or stupa above a harmika. A series of stone chattras (umbrella-like disks) stacked upon each other and decreasing in size towards the top.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Cloister Vault	A domelike vault having a square or polygonal base from which curved segments rise to a central point. Often the result of two barrel-vaults crossing at a right angle.	http://www.thefreedictionary.com/cloister+vault
Column	A freestanding vertical pillar, usually a form of support. Consists of a base, shaft, and capital; often square or round in cross-section. May be erected as a free-standing monument or as a decorative member.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Community	Any group sharing cultural or social characteristics, interests, and perceived continuity through time, and which distinguishes itself in some respect from other groups. Some of the characteristics, interests, needs and perceptions that define the distinctiveness of a community are directly linked to heritage.	F. Letellier, R. Schmid, W. LeBlanc, Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places. Los Angeles: The Getty Conservation Institute, 2007.

Computer Aided Design (CAD)	Computer-aided design (CAD) is the use of computer systems to aid in the creation, modification, analysis, or optimization of a design. CAD is flexible enough to allow the user to produce quick, basic sketches as well as drawings of great precision and detail. Serving as a common platform for printing and sharing data among specialists, CAD images can be imported and data added manually or input directly from survey instruments. Data can be displayed in different ways, including two-dimensional orthographic projections or three-dimensional isometric, or perspective, views. Information can be divided using multiple layers, or views, which can then be recombined in various ways.	Author (or use same ref from "CAD") F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Condition assessment	A record of the state of the critical aspects of a site or place at a given time. A condition assessment must include the character defining elements. This is useful to develop options for future preservation actions and as a timestamped record of the site's history.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Condition reporting	Formalized reporting on the condition of an object by a conservator. The report contains information about the object's material, geometry, damage, and provenance. Part of the documentation process for object treatment.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.

Conservation	<p>The means by which the physical structure and intangible meanings of an object or site are preserved through repairing existing damage and preventing, or at least limiting, future change. Conservation can also be defined as the set of actions taken to understand a heritage property or element, know, reflect upon and communicate its history and meaning, facilitate its safeguard, and manage change in ways that will best sustain its heritage values for present and future generations. The conservator or restorer executes the diagnosis, documentation and the treatment process. Conservation can also be intended as all that actions or processes aimed at safeguarding the character-defining elements of a cultural resource so as to maintain its heritage value and extend its physical life.</p> <p>This may involve Preservation, Rehabilitation, and Restoration, or a combination of these actions.</p>	<p>Mona Valerie Micaela Hess, PhD thesis, University College London (UCL), 2015.</p> <p>F. Letellier, R. Schmid, W. LeBlanc, Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places. Los Angeles: The Getty Conservation Institute, 2007.</p> <p><i>'Standards and Guidelines for the Conservation of Historic Places in Canada'</i> by Parks Canada http://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf</p>
Conservation plan	<p>Outlines and documents the sequence of steps taken during the conservation process. It states what has been established as significant for a place, and which policies, methodologies, and materials are appropriate to maintain the significant features in the site's future use and development.</p>	<p>F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html.</p>

Conservation process	The informed decision-making process, which ensures that conservation at all levels will respect and maintain the values and significance of the cultural heritage place. See conservation.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Conserve (verb)	The act of conservation. Used as a general term in the place of rehabilitation, restoration or repair as they pertain to the actions taken to protect a heritage object, building, or site. The effort to prevent the wasteful use of a built resource or heritage landscape using a carefully planned approach.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Consolidation	Stabilization of deteriorated or weakened areas by introducing or attaching additional materials. Pertains to the structural integrity of the subject. Traditional materials and trade work are preferred. Consolidation interventions should attempt to be reversible – brick repointing, for example.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html . Heritage BC Website. http://www.heritagebc.ca/resources/guides-tips-1/terms-definitions
Consultation	Part of the practice of conservation. Discussions between those proposing a course of action (conservation intervention) and those who will be affected by the action (i.e. conservators and local stakeholders).	Author.
Corbel	A projecting bracket, usually made of stone, that supports a beam and is often decorated.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.

Cornice	The decorative top edge of a building or column that extends past the building face. Also refers to horizontal decorative moldings at the top of other elements, i.e. above a door or window, or along the top of an interior wall. Cornices are functional too – they allow for water drainage clear from the building face. The term is comes from the Italian word ‘cornice’, meaning ‘ledge’.	Merriam Webster Dictionary
Crenellation	A sort of parapet or stone wall around the top of a building with repeated gaps or notches at regular intervals.	Author. Glossary of Architectural Terms. Trust for Architectural Easements. Web: https://architecturaltrust.org/outreach/education/glossary-of-architectural-terms/
Crest	An ornamental ridge along the top of a wall or building.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Cross vault	Formed by two barrel vaults of identical size intersecting at right angles. Also called a ‘groin vault. Similar to a cloister vault but differs in the way that the barrel vaults intersect.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Cross-domed	Refers to churches built in the shape of a cross, with a large dome over the centre.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.

Cultural heritage	<p>Expressions of the value systems and lifestyles developed by a human community of interest. According to the UNESCO definition, the term cultural heritage encompasses several main categories of heritage including:</p> <ul style="list-style-type: none"> ▪ Tangible cultural heritage: movable cultural heritage (paintings, sculptures, coins, manuscripts), immovable cultural heritage (monuments, archaeological sites, urban contexts, cultural landscapes, etc.) underwater cultural heritage (shipwrecks, underwater ruins and cities); ▪ Intangible cultural heritage: oral traditions, performing arts, rituals. 	<p>http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of-cultural-property/unesco-database-of-national-cultural-heritage-laws/frequently-asked-questions/definition-of-the-cultural-heritage/ Accessed: on October 31, 2015.</p>
Cupola	A small dome, usually crowning a turret or a larger dome.	<p>Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.</p>
Data acquisition	<p>The process of measuring a real world object through imaging and scanning sensors to replicate the real physical model as virtual dataset. The process include the use of tools to collect measurements, imagery, condition information and cultural information of a real world object or site to represent the subject as a reference</p>	<p>V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.</p>

	dataset. This information may then be entered into a database.	
Database	Try: Any collection of data or information organized for rapid search and retrieval via computer. Facilitates the easy storage, retrieval, modification, processing and deletion of data. May include a multimedia collection, containing images, sketches and measurements, condition assessments and location information. Individual data entries are separated into sets, themes and fields with unique identifiers for proper indexing. Databases can help to connect information from separate data entries together based on their common identifiers.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html .
Debris	Scattered pieces of waste or remains. Ruins, rubble; pieces that have toppled or broken off of a main structure.	Author.
Dentil	A small block used as a repeating ornament in a cornice or pediment base	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Dhamma, Dharma	The Truth, the teaching of Buddha. The righteousness. Opposite is 'Adhamma'; the injustice, unfairness.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Dhyanamudra	The gesture and posture of meditation. Position of sitting with hands folded in lap.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon

		Technical University.
Diaphragm arch	An arch that subtends or divides a space between two walls or vaults. An intermediate support at mid-height of a structure to relieve some of the load from the upper roof arches.	Author.
Digital Heritage Recording	All forms of digital data acquisition as they pertain to heritage sites. Includes but is not limited to digital photography, rectified imagery, photogrammetry, total station measurements, 3D laser scanning, audio and video recording, and CAD and 3D models. See: heritage recording	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.
Digital photography	Photography captured using a digital camera rather than with a film camera. Digital cameras store photographs as a collection of colored ‘pixels’ in a virtual image file that may be manipulated in real-time with a computer. Digital photography imaging systems use opto-electronic sensors for image acquisition instead of photographic emulsion.	V. M. Mona, “A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts,” University College London (UCL), 2015.
Digital preservation/ Digital (information) curation	Management of digital information over time, in order to ensure accessibility of ‘digital-born’ information – that is, content that has no hard-copy origin or archive (only exists on a hard-drive or on the internet).	V. M. Mona, “A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts,” University College London (UCL), 2015.

Documentation	The act of systematic collection and archiving of records in order to preserve them for future reference. New documentation is created from archaeological measurements, photography, film, socio-political research, and the interpretation of these media. It can also be defined as the already existing stock of written, visual, audio and electronic information about a place. Tends to include a site's condition across a number of different dates.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places.</i> Los Angeles: The Getty Conservation Institute, 2007.
Drone	An Unmanned aircraft controlled by a remote, which is able to capture photographs and video. This tool can also be employed in recording of heritage sites. See Aerial Photography.	Author
Elevation	The flat, vertical face or side of a building. May also refer to a technical drawing observing the projected vertical face of a building.	Cole, Emily. 2002. <i>The Grammar of Architecture.</i> First United States Edition. The Ivy Press Limited.
Entresol	A low story between the first and second floors of a building; a mezzanine floor.	Merriam-Webster Dictionary.
Epigraphy	The study and interpretation of inscriptions, especially of ancient origin.	Merriam-Webster Dictionary.
Error	The arithmetic difference between a measurement and the measured object's true metric value. Accumulated error occurs when a measurement is done by a series of parts.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University

		College London (UCL), 2015.
Evaluation	A test of the performance of a scanning system, under specified measurement conditions.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Façade	An exterior face of a building, usually referring to the front. One type of elevation.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Facing	Finish applied to the exterior of a building. Materials such as wood, glass, or stone that are put onto the outer surface of a building. Cladding.	Jones, Frederic H. 1990. The Concise Dictionary of Architecture. Crisp Publications, Inc. California.
Fired Brick	Brick that has been burned in a kiln to increase its desired physical properties, such as strength and durability.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Flat Arch	A horizontal (not curved) arch constructed of mutually supporting 'voussoirs' (wedge-shaped elements). Used to span openings or give structural support, especially where a squared-off appearance is desired.	Merriam-Webster Dictionary.
Frieze	A continuous horizontal band that may be painted or decorated with moldings or bas-reliefs. The wide, central part of an entablature.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Gargoyle	A water spout in the shape of a grotesque figure. Extends outwards from a roof, ledge, or wall.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.

Geographic information system (GIS)	<p>Computerized geographic databases, combining spatial information in graphic form with tabular location data.</p> <p>Useful for mapping and assessing sites at the macro scale.</p> <p>Typically, a GIS consists of three major components:</p> <ol style="list-style-type: none"> 1) A database of geospatial information; 2) The capability to spatially model and analyze the database; 3) The ability to graphically display the manipulation of geospatial data. <p>GIS are effective descriptive, analytical and communication tools to map and assess sites and prioritize necessary work. GIS are geographic database combining spatial information in graphic form with tabular data.</p>	<p>F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology_e.html.</p>
Global Positioning System (GPS)	<p>A satellite-based navigation system made up of a network of 30 satellites placed into orbit by the U.S. Department of Defense. GPS was originally intended for military applications, but in the 1980s, the government made the system available for civilian use. GPS allows the rapid acquisition of location data with good accuracy, depending on the two types of GPS radio receivers:</p> <ol style="list-style-type: none"> 1) Survey-grade GPS receivers can attain an accuracy within several centimeters if they are corrected with a 	<p>F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology</p>

	<p>second supplementary signal from ground-based radio stations or transmitters.</p> <p>2) Non-survey grade or handheld GPS devices are usually not corrected by a ground-based station and range between 5 and 15 meters accuracy.</p>	
Gotama	An alternate spelling for Gautama. Refers to Siddhartha Guatama Buddha.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Groin vault	See: cross vault	
Gu	Literally means ‘cave’. Refers now to all temples or pagodas with accessible interior space	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Harmika	The element on top of a stupa, placed between egg-shaped andha (or the dome of a stupa) and chattravali.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Heritage Asset	Used in this report to refer in general to immovable cultural heritage, such as archaeological sites, single monuments, groups of buildings, historic towns, or cultural landscapes.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.

Heritage Assets controlled vocabulary	An organized arrangement of words and phrases used to index and/or retrieve content through browsing or searching. Typically includes preferred and variant terms and has a defined scope or describes a specific domain”, “the purpose of controlled vocabularies is to organize information and to provide terminology to catalogue and retrieve information” (GRI, 2010). The application of this controlled vocabulary ensures consistency and accuracy in the terminology used to characterize heritage assets.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.
Heritage information	The integrated activities of recording, documentation, and information management for heritage sites.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.
Heritage protection	Rewritten: The means of taking care of a heritage asset by preventing interventions or changes that are unconcerned with or uninformed about the heritage values and character defining elements of the asset. Heritage protection takes place within legislation, policies, and management frameworks.	F. LeBlanc, “Heritage conservation terminology.” [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology
Heritage record	A technical dossier or ready-to-publish information package about a cultural heritage place prepared by	F. LeBlanc, “Heritage conservation terminology.” [Online]. Available: http://ip51.icomos.org/~fleblanc/d

	heritage recorders. The dossier includes measured drawings, photographs and technical analysis of the condition of the site and its components. Heritage records are the necessary first step for any heritage conservation project and are instrumental in evaluating the evolution of a heritage place over time. Heritage records are often released as public archives.	ocuments/terminology/doc_terminology
Heritage recorder	An expert in measured survey and photographic techniques applied to heritage places to produce heritage records and documentation. Often will work in a team.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology
Heritage recording	The metric, graphic or photographic capturing of information describing the physical configuration, evolution, and condition of a heritage site at known points in time. Includes both digital and analogue methods for data acquisition.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.
Heritage resource	It refers to an artifact, building, site, or other feature that has heritage value or character. See: heritage asset	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology
Heritage Value	The aesthetic, historic, scientific, cultural, social or spiritual importance or significance of a heritage place or object for past, present and future generations. The	Standards and Guidelines for the Conservation of Historic Places in Canada, 2010.

	heritage value of an historic place is embodied in its materials, forms, location, spatial configurations, uses and cultural associations or meanings. See: character defining elements.	
Historic Place	A structure, building, group of buildings, district, landscape, archaeological site or other place that has been formally recognized as having heritage value.	Standards and Guidelines for the Conservation of Historic Places in Canada, 2010.
Historic Preservation	A synonym (US) for ‘Heritage Conservation’ (CAN) or ‘Heritage Preservation’ (UK). An endeavour that seeks to preserve, conserve, or protect buildings, objects, landscapes or other artifacts of historical significance. Tends to refer to preservation of the built environment. See: conservation.	Author
Hti	The top portion of a pagoda. Literally means ‘umbrella’.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
ICOMOS	The International Council on Monuments and Sites. A global non-government organization dedicated to the conservation and protection of cultural heritage places.	http://www.icomos.org/en/
Information management	The process of finding, cataloguing, storing, and sharing information by making it accessible to potential users now and in the future.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage</i>

		<i>Places.</i> Los Angeles: The Getty Conservation Institute, 2007.
Information sources	All physical, written, oral, and figurative sources that contribute to the understanding and appreciation of the nature, specificities, meaning, and transmission of a piece of cultural heritage and the collective memory it embodies.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places.</i> Los Angeles: The Getty Conservation Institute, 2007.
Inscription	Records of the thoughts and beliefs of ancient people in writing. Chiselled, carved, or cast into hard surfaces like stone or stucco. May also be written on delicate surfaces like papyrus or paper scrolls.	Author.
Intervention	Any action, other than demolition or destruction, that results in a physical change to an element of a historic place. See: consolidation	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology
Jatakas	Birth stories and fables of Guatama Buddha's previous lives, taking both human and animal form. There are approximately 550 in number, with the last 10 the most important as he his born into his final life as Prince Guatama Siddhartha.	Myanmar book
Karma	The quality of one's current and future life as determined by that person's actions in their current and previous lives. Actions determining the future state.	Lat, Kyaw. 2010. <i>Art and Architecture of Bagan and Historical Background</i> , First Edition. Yangon Technical University.

Keystone	The central stone at the apex (top) of a semicircular arch.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Lintel	Horizontal structural members made of wood or stone. Tend to span openings such as windows or doors, or between two columns.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Loka, Lawka	The universe.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Loka-Nanda	The endlessness of the universe.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Maintenance	Repeated, non-destructive actions of care and upkeep aimed to slow or combat deterioration agents of historic places.	Author
Management	Management of a place involves making conscious choices about what happens to the place and taking action to make those things happen. Management includes the widest possible range of actions and decisions, such as: <ul style="list-style-type: none"> ▪ establishing the appropriate decision-making group and processes; ▪ assessing significance; 	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology

	<ul style="list-style-type: none"> ▪ deciding to open or not open a site to visitor engagement; ▪ approving site work and conservation interventions; ▪ setting up decision-making structures to implement strategies; ▪ arranging access rights or means to attain access (such as transport); ▪ deciding to take no action. 	
Mandala	In Indian architecture, a geometric diagram used as a plan for a Hindu or Jain temple. An ancient Hindu and Buddhist spiritual graphic symbol representing the universe. Represents the cosmos, metaphysically or symbolically.	Cole, Emily. 2002. <i>The Grammar of Architecture</i> . First United States Edition. The Ivy Press Limited.
Masharabiya	A wooden screen or grille (ie latticework) for windows. Common in houses in Islamic countries. Allow for continuous airflow while providing shading.	Cole, Emily. 2002. <i>The Grammar of Architecture</i> . First United States Edition. The Ivy Press Limited.
Metadata / Digital Provenance	Embedded textual information about the content of a piece of data. Tends to include the date, method or tool, location, operator, and various other parameters that were in place when the recording was developed. For example, provenance data for a set of total station measurements should include the operator's name, the date and time that the measurements were captured, the total station model	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.

	name, the filters or targets that were used, the visibility conditions, and the level of accuracy that was being used in the total station settings.	
Mon	The name of the state in the southeast of Myanmar. Also the name of the corresponding ethnic group.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Monastery	Buddhist religious architecture; served as dwelling and meditation places secluded from the outside world for Buddhist monks.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Monitoring	Repeated measurements based on defined standards, which allow for the evaluation of changes occurring to a heritage asset. In conservation used especially for the observation of damage propagation and material changes.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.
Mudéjar	A Spanish style of architecture that includes Islamic elements in the design of Christian buildings.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Mudra	Gesture or position, when referring to Buddha.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.

<p>Multi-image Photogrammetry</p>	<p>This term that sometimes is used interchangeably with ‘Structure from Motion Photogrammetry’, describes a recently developed approach to photogrammetry, where larger datasets of overlapping digital images of a feature taken from different positions can be loaded in a single batch into software capable of automatic camera calibration, feature matching and reconstruction of complex dense 3-Dimensional models, with minimal manual input.. With the right combination of hardware and software, multi-image photogrammetry can produce highly detailed and accurate models of both topography and discrete objects or monuments. It is also capable of modelling more complex objects and it is not necessary to maintain a known distance from the subject. The range of multi-image photogrammetry software packages is broad: from free open-source programs to professional-grade packages. Regardless of which software package has been chosen, the transformation of 2D digital images into 3D digital models is generally carried out in a similar way. The first step is to acquire a set of images of the subject of interest. These images must have a large amount of overlap with each part of the surface to be modelled visible in at least three images. Almost any</p>	<p>J.McCarthy,“Multi-image photogrammetry as a practical tool for cultural heritage survey and community engagement,” <i>J. Archaeol. Sci.</i>, vol. 43, pp. 175–185, 2014.</p>
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	<p>camera can be used although better results are more likely with a high end camera such as a Single Lens Reflex (SLR). The second step is to load the images into the software for analysis and automatic detection of matching correlated features at various scales between images. Most of the multi-image photogrammetry packages currently available use an algorithm known as Scale-Invariant Feature Transform (SIFT) that match features despite changes in the scale or orientation of the images.</p>	
Naga	<p>Mythological creature, sea serpent. Normally understood as living under the sea, however sometimes meant to mean large snake.</p>	<p>Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.</p>
Nara Grid	<p>A method for determining the historical value of a place, developed by Koen Van Balen (R.Lemaire International Centre for Conservation, University of Leuven) based on ICOMOS' Nara Authenticity Document (1994).</p>	<p>http://orcp.hustoj.com/wp-content/uploads/2016/01/2008-The-Nara-Grid-An-Evaluation-Scheme-Based-on-the-Nara-Document-on-Authenticity.pdf</p>
Nat	<p>Spirit in the Theravada Bhuddism religion.</p>	<p>Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.</p>
Natural Hazards	<p>Severe geo-physical or climatic events, including earthquakes, volcanic eruptions, landslides, droughts,</p>	<p>S. Lewis, "Remote sensing for natural disasters: Facts and figures." [Online]. Available:</p>

	floods, cyclones and fire that threaten people and/or properties.	http://www.scidev.net/global/earth-science/feature/remote-sensing-for-natural-disasters-facts-and-figures.html . [Accessed: 11-Nov-2009].
Niche	A concave recess in a wall, usually arched and housing statuary, an urn, or other forms of decoration.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Nirvana	Spiritual liberation. The attainment of freedom from worldly things; the end of the birth-rebirth cycle in the Theravada sense.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Noise (data)	‘Noisy’ data can occur due to the specified parameters of a scanner or camera, a result of a measurement 'error' of the system. A photograph with noticeable and exaggerated grain is a form of noisy data.	V. M. Mona, “A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts,” University College London (UCL), 2015.
Open Archival Information System (OAIS)	Brian Lavoie, associate research scientist at the Online Computer Library Center OCLC Office of Research, defines the Open Archival Information System (OAIS) reference model as “a conceptual framework for an archival system dedicated to preserve and maintain access to digital information over the long term”. The purpose of this reference model consists in increasing awareness and understanding of key concepts in archiving digital objects. The OAIS model defines terminology and	http://www.oclc.org/research/publications/library/2000/lavoie-oais.html

	concepts to describe and compare data models and archival structures. It provides principles to preserve and access digital information and develop a framework to guide the identification and development of standards.	
Open-source software	A computer program whose source code may be used, modified, or altered. Developers of proprietary software usually do not allow modification by others. Open-source software is developed as a public collaboration and made freely available.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology
Pagan	Another way of spelling Bagan.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Pagoda	A Hindu or Buddhist temple, tower, or place of worship, typically characterized by many levels. Each storey must be slightly smaller than the one below and have its own roof and balcony. Originated from stupas. Pagodas are one type of religious architecture found throughout Myanmar.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Pahto	Myanmar word for pagodas with inner space, i.e. temples	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.

Parami	Gained and accumulated actions, thoughts, skills, and experiences from previous existences.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Parapet	A low protective wall or barrier along the edge of a roof, bridge, walkway, or balcony.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Paya or Hpayaya	Persons of a higher rank. A term used to address higher rank persons like kings or rulers. Also: the Myanmar word for stupa or pagoda.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Pediment	An ornamental piece, usually triangular in shape, resting above a doorway, portico, or entrance.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Pendant	An elongated boss that hangs down from a vaulted roof or ceiling.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Photogrammetric survey	Producing heritage records by means of photogrammetry.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology
Photogrammetry	In simple terms, photogrammetry is the process of making measurements of features through analysis of overlapping photographs, and is fundamentally based on trigonometry. Photogrammetry can be defined as "the art,	Benjamin Wolf, Paul Dewitt, Bon Wilkinson, Elements of Photogrammetry with Application in GIS. New York, McGraw-Hill Education, 2014. J.McCarthy, "Multi-image

	<p>science, and technology of obtaining reliable information about physical objects and the environment through the processes of recording, measuring, and interpreting photographic images.” (Wolf, Dewitt, & Wilkinson, 2014). This technique can obtain measurements of objects, buildings, sites or earth surfaces. The process includes the recording of convergent images with a calibrated camera, targets around and on the object and subsequent computational intersection and mathematical intersection of the images to create a <i>pointcloud</i> or polygon mesh.</p>	<p>photogrammetry as a practical tool for cultural heritage survey and community engagement,” <i>J. Archaeol. Sci.</i>, vol. 43, pp. 175–185, 2014.</p>
Picturesque	<p>Visually attractive, especially as it relates to landscapes and buildings. A scene that would strike the imagination of an observer as if it were a painting. An aesthetic ideal.</p>	<p>Cole, Emily. 2002. <i>The Grammar of Architecture</i>. First United States Edition. The Ivy Press Limited.</p>
Pier	<p>A solid vertical support, often rectangular in shape. Sometimes has a capital and base, similar to a column.</p>	<p>Cole, Emily. 2002. <i>The Grammar of Architecture</i>. First United States Edition. The Ivy Press Limited.</p>
Pilaster	<p>A column attached to a wall that is used for decoration or support. Usually rectangular. Sometimes called an attached or engaged column.</p>	<p>Merriam Webster Dictionary</p>
Pillar	<p>See: pier, or column.</p>	<p>Cole, Emily. 2002. <i>The Grammar of Architecture</i>. First United States Edition. The Ivy Press Limited.</p>

Pinnacle	A small, usually ornamental construction at the top of a spire, buttress, or some other part of a building. Turrets, for example.	Cole, Emily. 2002. <i>The Grammar of Architecture</i> . First United States Edition. The Ivy Press Limited.
Pixel	A word invented from "picture element"; the basic unit of programmable color on a computer display or in a computer image. It is a logical - rather than a physical - unit. In digital imaging a pixel (or picture element) is a single point in a raster image. Digital Photography creates images with a collection of millions of pixels.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Plinth	A block, usually square, that is the bottommost section of a column or wall base.	Cole, Emily. 2002. <i>The Grammar of Architecture</i> . First United States Edition. The Ivy Press Limited.
Pointcloud	A three-dimensional model with which it is possible to interact and get metric information. These numerical models are a mathematical description of the reality they represent. This entails a simplification of the recorded object (through photogrammetry and 3D scanning) transforming them into a finite set of points.	C. Bianchini, <i>Documentation of Mediterranean ancient theatres. Athen's activities in Merida</i> . Roma: Gangemi Editore, 2013., 2013. V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Porch	A low structure, usually with a roof, at the entrance to a building.	Cole, Emily. 2002. <i>The Grammar of Architecture</i> . First United States Edition. The Ivy Press Limited.

Portal	An impressive entrance, gateway, or doorway. Often heavily decorated.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Portico	An open space with a roof supported by columns. At the entrance to a building such as a house, temple, or church.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Precinct	An area or built complex with a fixed boundary, often in the form of a wall.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Preservation	The action or process of protecting, maintaining, and/or stabilizing the existing materials, form and integrity of a historic place or of an individual component, while protecting its heritage value. This is often used as a synonym of conservation; many people use the word in an all-encompassing sense, including also issues related to the broader administrative, economic, legal, political and social context in which conservation takes place (e.g. legal protection, policies, public awareness).	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology
Preventive conservation	Includes all measures and actions aimed at avoiding and minimizing future deterioration or loss by the features in the immediate vicinity of a heritage asset. They are carried out within the context of or on the surroundings of an item. These measures and actions are indirect – they	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology

	do not interfere with the materials and structures of the items. They do not modify their appearance.	
Processing	The processes carried out on data. For point clouds, this includes alignment, meshing, hole filling, and decimation. For digital photography, this includes color correction and cropping.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Protection	The act or process of applying measures designed to affect the physical condition of a property by defending or guarding it from deterioration, loss or attack, or to cover or shield the property from danger or injury. For built structures, treatments tend to be temporary, anticipating further preservation treatments in the future.	F. LeBlanc, "Heritage conservation terminology." [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology
Quatrefoil Motif	A stylistic ornamentation with four petals around a centre, which is found in both Eastern and Western architecture.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Raking light	Light that strikes a surface from a small incident angle, i.e. nearly parallel to the surface. Used to exaggerate contrast in the features and geometry of a surface – useful and necessary for shallow inscriptions or carvings. Similar effects can be obtained in 3D modelling software by using a virtual light at a small incident angle.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Reconstruction	The re-creation of a once-existing building on its original site. An informed approach that uses literary, graphic and	F. LeBlanc, "Heritage conservation terminology." [Online]. Available:

	archaeological historical evidence and documentation. The reconstruction may be a contemporary expression of the building using modern materials and practices or a replica using traditional materials and trades.	http://ip51.icomons.org/~fleblanc/documents/terminology/doc_terminology
Recording	Used in this thesis in a broad sense, referring to the acquisition of any new information derived from all activities to do with a heritage asset. It includes heritage recording, research and investigation, conservation, use and management, as well as maintenance and monitoring.	F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i> . Los Angeles: The Getty Conservation Institute, 2007.
Reference data	A surface or dataset against which the measured 3D dataset, the actual data, can be compared. The surface is often a technical drawing (CAD) model, part of a CAD model or a geometric feature such as a plane.	V. M. Mona, "A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts," University College London (UCL), 2015.
Relieving arch	An arch built over a lintel or span to relieve or distribute the weight of the structure above. Also called a 'discharging arch'.	Merriam-Webster Dictionary.
Religious Architecture	Sacred architecture that is designed and specially created for the praise, learning, and worship of a religion.	Author
Remote sensing	The science of acquiring information about the Earth using high-flying remote instruments, such as satellites, or drones.	S. Lewis, "Remote sensing for natural disasters: Facts and figures." [Online]. Available: http://www.scidev.net/global/earth

		- science/feature/remote-sensing-for-natural-disasters-facts-and-figures.html. [Accessed: 11-Nov-2009].
Repeatability	<p>The ability of an entire experiment, measurement, or series of measurements to be repeated, yielding equivalent values within a specified tolerance. That is to say, using the same instrument to measure the same item, under the same conditions after some time interval to obtain the same values as the initial test or measurement. Repeatability gives a measure of the stability and certainty of a measurement method over time. Also called ‘test-retest reliability’.</p>	<p>V. M. Mona, “A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts,” University College London (UCL), 2015. Bryan, P., Blake, B., Bedford, J., Mills, J., 2009. Metric Survey Specifications for Cultural Heritage (English Heritage), 2nd ed. English Heritage, Swindon, UK.</p>
Research and investigation	<p>Used to describe in general the variety of activities aimed at the acquisition of information pertinent to increasing knowledge of a cultural heritage place. While research refers more to off-site surveys (e.g., archival research), investigation corresponds to the direct acquisition of information using the heritage place as a primary source. Carefully indexed recording is an essential component of research and investigation at every step of the conservation process.</p>	<p>F. Letellier, R. Schmid, W. LeBlanc, <i>Guiding Principles Recording, Documentation, and Information Management for the Conservation of Heritage Places</i>. Los Angeles: The Getty Conservation Institute, 2007.</p>
Resolution	<p>It is the separation of something into its constituent parts. In this research it mainly refers to the smallest</p>	<p>V. M. Mona, “A metric test object informed by user requirements for better 3D recording of cultural heritage</p>

	<p>measureable and meaningfully distinguishable distance between single coordinates describing a pointcloud generated from laser scanning and photogrammetry techniques. It is an effectively parameter to measure the precision of a pointcloud.</p>	<p>artefacts,” University College London (UCL), 2015. Author.</p>
Sangha	Buddhist Monk (in Theravada Buddhism).	<p>Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.</p>
Section	<p>The surface or view obtained by a cut made through a part of, or an entire structure. Tends to reveal the composition of walls or structural assemblies. Reveals interior detail.</p> <p>In scale technical drawings, a section represents an imaginary vertical cut made through a structure. Horizontal cuts are used to make plan drawings.</p>	<p>Jones, Frederic H. 1990. The Concise Dictionary of Architecture. Crisp Publications, Inc. California.</p>
Secular Architecture	Non-religious architecture.	Author
Shaft	The main vertical part of a column, between the base (bottom) and capital (topping)	<p>Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.</p>
Shrine	A container or building in which sacred relics have been placed. Also: a site associated with a sacred person; may include the person’s tomb. A place of worship. It is	<p>Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.</p>

	common for Buddhists to burn incense, offer food, and offer flowers at a shrine, in addition praying.	
Shwe-Zigon	A pagoda (Buddhist temple) located near Bagan, Myanmar.	Author.
Siddhartha	The name of the prince who later became Buddha. Siddhartha Guatama Buddha.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Sikhara	Spire or tower on top of temples. Tends to be beehive-shaped in Myanmar.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Spire	A tall, slender structure that tapers to a point, built upon a roof or tower.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Splay-foot spire	A spire that is square at its base but octagonal in cross-section for most of its height.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Squinch	A small, repeated arch or lintel positioned around a square or polygonal structure (usually an opening) to create the appearance of roundness.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Squint	An obliquely cut small opening in an interior or exterior wall of a church that allows the altar to be viewed from places where it may not otherwise be seen.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.

Stakeholders	A person, group or organization who has a particular interest in a heritage building, site, or artifact on the basis of special associations, meanings and/or legal and economic interests and who can affect or be affected by decisions regarding the heritage.	Authors and “Stakeholder definition.” [Online]. Available: http://www.oxforddictionaries.com/it/de-finizione/inglese-americano/stakeholder . [Accessed: 11-Oct-2015].
Standards	Accepted practices for the respectful conservation of historic places.	F. LeBlanc, “Heritage conservation terminology.” [Online]. Available: http://ip51.icomos.org/~fleblanc/documents/terminology/doc_terminology <i>‘Standards and Guidelines for the Conservation of Historic Places in Canada’</i> by Parks Canada
Stucco	A type of fine plaster used for decoration, ornamentation, or as a cover over an exterior/interior wall. It is plaster made of gypsum, lime, and sand, for external cover. Also, a finer plaster used for interior decoration and ornamentation.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Stupa	Buddhist religious architecture; a structure with hemispheric form to enshrine relics or mark an important Buddhist site. Stupas are a monumental structure used to commemorate the Buddha or his memorable deeds. The bell shape is common for larger stupas. Originally created	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO. Good source on Stupas (has its own glossary too): Khanjanusthiti, Pinraj. 1996. Buddhist Architecture: Meaning and Conservation in the Context of Thailand. University of

	<p>by piling up ashes from cremations and covering them with earth or stones, creating a hemispheric mound.</p> <p>Buddhist religious architecture. A structure with hemispheric form to enshrine the relics of a holy person or mark an important Buddhist site. Meant to commemorate the Buddha or his memorable deeds. Originally created by piling up ashes from cremations and covering them with earth or stones, creating a hemispheric mound; over time, this has developed into the tall, bell-shaped and spired monuments seen throughout Myanmar. Stupa is called Zedi in Myanmar language.</p>	<p>York. King's Manor (UK)</p> <p>http://etheses.whiterose.ac.uk/9785/1/297134.pdf</p>
Stupika	A small stupa. Sometimes tops a gateway to a Buddhist or Hindu temple complex. May refer to the topmost part of a temple.	<p>Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.</p>
Tangible Cultural Heritage	Heritage that exists in a concrete, physical sense. This includes buildings, monuments, artifacts, objects, and natural or built landscapes.	<p>http://en.unesco.org/</p>
Temple	In Buddhist religious architecture temples are used as places of worship, devotion, and meditation which are accessible to the public.	<p>Author</p>

Terrace, Terraced	A level walkway or platform attached or next to a building; a series of attached levels rising one above another.	Jones, Frederic H. 1990. The Concise Dictionary of Architecture. Crisp Publications, Inc. California.
The Venice Charter	One of the most influential documents for internationally accepted standards of conservation of architecture and sites, with special attention paid to ‘authenticity’ and harmonious interventions. Specifies that the conservation of a building must serve some socially useful purpose, but doing so should not cause changes to the layout or decoration of the building. New construction, demolition, or modifications shall also not be allowed to alter the existing relation of mass and color. Adopted by ICOMOS in 1965.	http://www.icomos.org/charters/venice_e.pdf
Therevada	The form of Buddhism practiced in Sri Lanka, Myanmar, Thailand, Laos and Cambodia. Normally understood as Southern Buddhism. Therevada is derived from ‘Thera-Vada’, ‘The Path of the Elders’.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Tie beam	The main horizontal transverse beam in a roof.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Tope	See: stupa.	Author.
Total station	A survey device that consists of a powerful telescope and EDM (electronic distance measurement) sensor mounted	F. LeBlanc, “Heritage conservation terminology.” [Online]. Available: http://ip51.icomo

	<p>on a base that rotates both horizontally and vertically. An operator can measure distances as well as horizontal and vertical angles by locating points through the scope and ‘shooting’ them with the EDM sensor. Trigonometric calculations are performed by the onboard computer, combining horizontal and vertical angles to yield a coordinate point in 3-dimensional space (XYZ). A series of coordinates may be combined to form lines and planes, representing the object being recorded. Often post-processed with a CAD software.</p>	s.org/~fleblanc/documents/terminology/doc_terminology
<p>Tripitaka or Tri Pitaka</p>	<p>Literally means ‘three baskets’ or ‘three volumes’. Refers to the sacred 3-section canon of Theravada Buddhism, written in the Pali and Sanskrit languages.</p> <p>Literally means ‘three baskets’ or ‘three volumes’. Refers to the sacred 3-sections canon of Theravada Buddhism, written in the Pali and Sanskrit languages. It consists of:</p> <ol style="list-style-type: none"> 1) Vinaya: The Discipline – the monastic and ethical code for Sanghas; 2) Sutra: The Discourse – narratives about the origins and circumstances from which the rules for Sanghas were adopted; 	<p>Oxford living dictionary, https://en.oxforddictionaries.com/definition/tripitaka</p>

	3) Abhidhamma: The Higher Doctrine – beyond Dhamma. The analytical texts of the teaching of the Buddha.	
Turret	A small tower, often projecting from the corner of a building or wall.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Tympanum	The recessed face of a pediment within the frame made by the base and angled cornices of the pediment. Usually triangular and decorated.	Merriam-Webster Dictionary.
UNESCO	United Nations Educational, Scientific, and Cultural Organization (UNESCO): an organization aiming to create holistic policies that are capable of addressing social, environmental, and economic dimensions of sustainable development; it is known as the “intellectual” agency of the United Nations.	http://en.unesco.org/
UNISDR	The United Nations (UN) General Assembly adopted the International Strategy for Disaster Reduction in December 1999 and established UNISDR, the secretariat to ensure its implementation. Its mandate was expanded in 2001 to serve as the focal point in the United Nations system to ensure coordination between the United Nations disaster risk reduction system and regional	http://www.unisdr.org/who-we-are/mandate (last accessed: Oct 19, 2015)

	organizations and activities in socio-economic and humanitarian fields.	
United Nations (UN)	The United Nations is an international organization comprising 193 (in 2011) sovereign states. It was founded after the Second World War to maintain international peace and security, develop friendly relations among nations and promote social progress, better living standards and human rights.	“United Nations-Member States.” [Online]. Available: http://www.un.org/en/members/growth.shtml . [Accessed: 11-Nov-2015].
Urn	An ornamental vase or vessel, usually with a closed top. Used for various purposes, such as preserving the ashes of the deceased, after cremation.	Merriam-Webster Dictionary.
User Interface	Graphic surface on the computer or mobile devices where 'user meets the program'. Enables the user to give commands and get information from a computer program or a database in a visual way.	V. M. Mona, “A metric test object informed by user requirements for better 3D recording of cultural heritage artefacts,” University College London (UCL), 2015.
Vault	An arched roof or ceiling of stone or brick.	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.
Vestibule	An entrance room/area between the exterior and interior of a building.	Pichard, Pierre. 1992. Inventory of Monuments at Pagan. Paris: UNESCO.
Vitarkamudra	The mudra of Buddha using both hands in the gesture of teaching.0	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.

World Heritage Site (UNESCO)	A natural or man-made site, area, or structure recognized as being of outstanding international importance and therefore as deserving special protection. Sites are nominated to and designated by the World Heritage Convention (an organization of UNESCO).	http://en.unesco.org/
Yakha	Human beings with rough character, normally translated into ‘ogre’. Unlike the European idea of ogres, southeast Asian ogres are not giants. Called ‘Bilu’ in Myanmar.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Zedi	Myanmar word for stupa.	Lat, Kyaw. 2010. Art and Architecture of Bagan and Historical Background, First Edition. Yangon Technical University.
Ziggurat	A form of religious architecture built in Sumer, Babylon, and other Middle Eastern civilizations between 3000-600 BCE. Rectangular in base and constructed as a solid ‘truncated, stepped pyramid with rectangular or square tiers’. A series of ramps led to the shrine at the top. (Ancient Mesopotamia)	Cole, Emily. 2002. The Grammar of Architecture. First United States Edition. The Ivy Press Limited.

Appendix B Biography of the main cited authors

Aziliz Vandesande

Aziliz Vandesande was a Doctoral Researcher at the Raymond Lemaire International Centre for Conservation (RLICC), at the KU Leuven. Her expertise in on the preventive conservation strategy for the built heritage stock (Raymond Lemaire International Centre for Conservation, n.d.).

Bernard Feilden

Sir Bernard Feilden was a conservation architect and UNESCO consultant. Director of the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) in 1977, since 1968 fellow of the Royal Institute of British Architects and from 1972 until 1977 he sat on the institute's council. He received several awards including the Aga Khan Award for Architecture, he was appointed OBE in 1969, CBE in 1976 and knighted as a Knight Bachelor in 1985 (The Telegraph, 2008).

Caroline Bruzelius

Caroline Bruzelius is a Professor at the Duke University, Durham, United States. Her expertise is medieval architecture and urbanism. She is a member of the American Academy of Arts and Sciences, and a Fellow of the Society of Antiquaries, London, and the Medieval Academy of America. She was awarded with a Ph.D. at Yale University. In 2016 she received the leadership of the the Wired! Lab at Duke. In the Lab she is focusing on how to integrate digital technologies with Humanities teaching strategies and research approaches. From

1994-1998, she served as the Director of the American Academy in Rome (Tamborrino, 2014).

Clay Shriky

Clay Shriky is an internationally recognized expert of the social and economic effects of Internet technologies. On this subject he published several books including: *Here Comes Everybody: The Power of Organizing Without Organizations* (2008), *Cognitive Surplus: Creativity and Generosity in a Connected Age* (2010) and *Little Rice: Smartphones, Xiaomi, and the Chinese Dream* (2015) (Shirky, n.d.). Clay Shriky stresses the rising usefulness of networks and new technologies and how they “are enabling new kinds of cooperative structures to flourish as a way of getting things done in business, science, the arts and elsewhere, as an alternative to centralized and institutional structures, which he sees as self-limiting” (TED conferences, n.d.).

Donatella Calabi

Donatella Calabi is a Professor of Urban History at the IUAV University of Venice, Italy. She is also visiting Professor in several academic institutions and former president of the European Association of Urban Historians (EAUH) and of the Italian Association of Urban History (AISU) (Tamborrino, 2014).

Frank Matero

Frank Matero is a Professor at University of Pennsylvania, School of Design. His expertise is in historic building technology with a particular focus on the conservation of building

materials and issues related to “preservation and appropriate technology for traditional societies and places” (University of Pennsylvania School of Design, n.d.).

Ernst Bloch

Ernst Bloch (Ludwigshafen 1885 - Tubinga 1977) was a German Marxist philosopher who asserted the importance of link the utopia to the potentialities of the nature and the material/substance. (Enciclopedia Treccani, n.d.-a).

Giovanni Scepi

Giovanni Scepi is Assistant Programme Specialist within the Programme Implementation Unit of the Secretariat of the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage. He is in charge of periodic reports submitted by States Parties on the implementation of the Convention and of nominations to the Convention’s Lists. Within the Section he is Regional Officer responsible for Europe and North America (since May 2011), as well as Asia-Pacific States (since January 2013).

Horst Bredekamp

Horst Bredekamp is a Professor of Art History at the Humboldt University in Berlin. A part for Iconoclasm, sculpture Romanesque, Renaissance art and mannerism and Political Iconography, his expertise focus on art and tech Iconography, his expertise focus on art and

technology as well as new media (Institut für Kunst- und Bildgeschichte, n.d.).nology as well as new media (Institut für Kunst- und Bildgeschichte, n.d.).

João Campos

João Campos, is an Architect and Urbanist, member of the bureau of CIVVIH/ICOMOS. He was also Professor of “History of Architecture and Urbanism” and of “Project” at Escola Superior Artística do Porto, from 1986 to 1998. He worked as consultant and author of several projects of the rehabilitation of patrimony of Portuguese origin outside Portugal (Campos, n.d.).

Joanna Sanetra-Szeliga

Joanna Sanetra-Szeliga is a chief specialist at the Research Institute for European Heritage of the ICC and coordinator of the Anna Lindh Euro-Mediterranean Foundation for the Dialogue between Cultures in Poland. Authors of several publications on EU cultural policies and financing, investigating the role of culture in regional development and intercultural dialogue. Sanetra-Szeliga is also a Ph.D. candidate at the Krakow University of Economics and university lecturer(Van Balen, 2016), Sanetra-Szeliga is also a Ph.D. candidate at the Krakow University of Economics and university lecturer(Van Balen, 2016), p. 321.p. 321

Joel Taylor

Joel Taylor is a Researcher and lecturer in heritage. He worked as researched at the Norwegian Institute for Cultural Heritage Research (NIKU). He is currently project specialist at the Getty Conservation Institute (GCI).

Koen Van Balen

Koen Van Balen is a full professor of the Faculty of Engineering Science at the KU Leuven, in Leuven, Belgium. He is also the head of the Heritage @ KU Leuven and Director of the Raymond Lemaire International Centre for Conservation. Van Balen's research expertise are related to conservation techniques for ancient constructions, structural analysis and repair of ancient structures, heritage research for conservation and sustainable construction technology, building lime and its influence on masonry behaviour, carbonation and durability of lime and of hydrated or hydraulic lime based mortar (KU Leuven, n.d Koen Van Balen is a full professor of the Faculty of Engineering Science at the KU Leuven, in Leuven, Belgium. He is also the head of the Heritage @ KU Leuven and Director of the Raymond Lemaire International Centre for Conservation. Van Balen's research expertise are related to conservation techniques for ancient constructions, structural analysis and repair of ancient structures, heritage research for conservation and sustainable construction

technology, building lime and its influence on masonry behaviour, carbonation and durability of lime and of hydrated or hydraulic lime based mortar (KU Leuven, n.d.).).

Luciana Mariotti

Luciana Mariotti an Italian ethno anthropologist. From 2006 to 2012, she was the responsible for the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage within the Italian Ministry of Cultural Heritage and Tourism.

Martin Heidegger

Martin Heidegger (Messkirch, Baden, 1889 - ivi 1976) was a German philosopher who asserted the importance of the art as tool to reach the truth (Enciclopedia Treccani, n.d.-b).

Maurice Murphy

Dr. Maurice Murphy, is a lecturer and researcher in built heritage documentation and computer graphics in the new School of Surveying in the College of Engineering and Built Environment at the Dublin Institute of Technology (DIT). At the he DIT, he leads a research group specialized in the application of new technology for digital surveying and modelling of historic buildings and environments in order to support the conservation of these heritage assets. He is currently lead supervisor for Ph.D. and M.Phil. students. In the last three decades he developed a high experienced profile in building surveying and conservation. He also led and participated in several EU programs in the area of Cultural Heritage. He completed his Ph.D. in 2012 at the Department of Civil, Structural & Environmental Engineering, School of Engineering at the Trinity College Dublin. He worked as a consultant to National

Monuments (OPW) for a number of years developing new technology based education and training programs for architectural heritage conservation. Murphy has several publications in the areas of heritage documentation (Academia.edu, n.d.).

Maurizio Ferraris

Maurizio Ferraris is a Professor of Theoretical Philosophy at the University of Turin where he runs the Ontology Lab (LabOnt) and the Inter-University Centre for Theoretical and Applied Ontology (CTAO).

Olimpia Niglio

Architect, professor at the Universidad de Ibagué, Carrera, Colombia and visitor professor in many universities including 'Universidad Tecnológica de Bolívar de Cartagena de Indias in Colombia, the Western Galilee College of Akko in Israel, the Kanto Gakuin University di Yokohama, Yokohama, the Kyoto University, Kyoto, the Universidad Jorge Tadeo Lozano, Bogotá, the Universidad de Concepción, Concepción. She is also member of ICOMOS Italia, of the Forum UNESCO University Heritage and of the ICOMOS International Scientific Committee for Theory and Philosophy of Conservation and Restoration. She is author of more than 200 publications in the architectural conservation field (Aracne editrice, 2012).

Peter Stabel

Peter Stabel is a Professor of Medieval History at the History department of the University of Antwerp in Belgium. His research expertise is in urban history and economic culture in the Middle Ages and the Early Modern Period (Tamborrino, 2014).

Randall F. Mason

Randall F. Mason is an Associate Professor of City & Regional Planning at the University of Pennsylvania School of Design, Philadelphia, United States of America. He is also Chair at the Graduate Program in Historic Preservation at the same university. His research expertise focuses on historic preservation planning, urban conservation, history, and cultural landscape studies. Mason's research interests include theory and methods of preservation planning, cultural policy, the economics of preservation, historic site management, the history and design of memorials, and the history of historic preservation. He is also the director of the Center for Research on Preservation and Society. The Center undertakes applied research projects on site management and on social, economic and political aspects of historic preservation (University of Pennsylvania School of Design, n.d.).

Richard Sennet

Richard Sennet is a professor at the New York University and London School of Economics. His expertise is in sociology with a focus on urban environments. He wrote several books analyzing the connection among cities, labor and culture (Sennett, 2017).

Sidney Colvin

Sir Sidney Colvin (1845-1927), was the first director of the Fitzwilliam Museum in Cambridge University; British Museum Keeper of Prints and Drawings. As a boy he knew John Ruskin, whose work he emulated. He entered Trinity College, Cambridge where he was fellow appointed as fellow. He entered the circle of Dante Gabrielle Rossetti from 1868 to

1872. In 1873 he was elected Slade professor of fine art at Cambridge. Archaeology and especially sculpture captured Colvin's interest (Dictionary of Art Historians, n.d.).

Tim Ingold

Tim Ingold is a Professor of Social Anthropology at the University of Aberdeen, United Kingdom. His researches include, among the others, the relations between perception, creativity and skills as well as the relation between the “practice of academic inquiry in the human sciences” and the knowledge deriving from it (The University of Aberdeen, n.d.).

Yusuf Arayici

Dr Yusuf Arayici is a Reader in the School of the Built Environment (SOBE) at the University of Salford, Manchester, UK. He lectures in Computer Aided Design, Building Information Modelling and urban regeneration. He is currently leading interoperability specification development in the Design4Energy Project (2013-2017), aiming to develop a BIM based integrated platform for energy efficient design and retrofit, particularly researching into the development of an IDM based interoperability specification development for collaborative BIM based design practice at level 2 and level 3 BIM use for the energy efficient building design and optimisation. He also plays a leading role for scenario development in the Multidisciplinary approach to plan smart specialisation strategies for local economic development (MAPS-LED) project (2015-2019). He is author of more than 60 publications and two books on BIM titled: "Building Information Modelling" published in 2015 and “Requirements Engineering for Computer Integrated Environments In Construction”,

providing technical guidance for BIM development and implementation, published in 2010 (Salford, n.d.).