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Mind the diversity: defining intervention concepts of built heritage in international doctrinal documents

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Abstract

Purpose Interventions are essential for the management of built heritage because they extend the lifespan of buildings and enable them to be enjoyed by multiple generations. International organisations and institutions, such as UNESCO and ICOMOS, have adopted doctrinal documents over time, stimulating best practices in built heritage management worldwide. Although these documents are often referenced in academic work, they are seldom systematically researched. Which interventions are referenced or omitted? Are they defined? What trends are noted in the understanding of best practices as interventions?

Design/methodology/approach This research consists of a systematic content analysis of nine international doctrinal documents, which were selected from nearly seventy international doctrinal documents—mainly adopted by UNESCO and ICOMOS. The main aim is to reveal and compare the concepts used for reference interventions and further use the definitions to reveal and discuss the relationships between them. The trends of these interventions being used were determined based on the frequency of mentions per intervention term in the selected documents.

Findings Regarding the definition of the intervention concepts, there are three main findings. First, instead of being treated as a single concept, 'conservation' has been presented as an umbrella concept for other interventions and thus has been the most popular concept since the first version (1992) of the New Zealand Charter was implemented. In contrast, 'preservation' remains a single concept, among the highest scales, to maintain the integrity of built heritage, including use. Second, 'repair' was found to play a paradoxical role between 'restoration' and 'reconstruction', which created divergent opinions in the documents. Third, since the notions of 'use' have expanded from the functions of monuments (International Charter for the Conservation and Restoration of Monuments and Sites: The Venice Charter, 1964) to the 'associations of places' (The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, with associated Guidelines and Code on the Ethics of Co-existence, 1999; The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013), which include activities, traditional habits, accessibility, etc., the complexity of mentioning different forms of 'use' has led to some (re)interventions, such as 'adaptation', 'adaptive reuse', and 'rehabilitation', being put into grey areas and used interchangeably.

Originality This research advances the current understanding of intervention concepts and their relationships, as well as differences and similarities in definitions.

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1 Introduction

Interventions are essential for the management of built heritage because they expand the lifespan of buildings and enable their (re)use by multiple generations. In addition to the challenge of finding solutions to continue expanding the durability of materials and technologies, interventions may vary. They may even involve the risk of demolishing and/or replacing the elements that led to these buildings being listed as built heritage originally. Countries around the world share this concern and have been using intergovernmental organisations as a platform to build common ground and exchange experiences. This platform has evolved over time, with great diversity not only in intervention terms but also in their definitions when defined.

To ensure that this paper can be clearly understood, the key terminology used within the context of the paper—intervention—needs to be clarified. While intervention has different connotations across various fields, such as political science, economics, international law, sociology, and medicine, this paper specifically addresses intervention in the context of built heritage or environment, as defined in international doctrinal documents: 'Intervention within the built environment may occur at many levels (from preservation to redevelopment), at many scales (from individual building elements to entire sites), and will be characterized by one or more activities, ranging from maintenance to addition' (ICOMOS Canada 1983). Scholars such as Feilden (1982) have also emphasised that interventions inevitably involve some loss of cultural property 'value' but are justified because they ensure the preservation of objects for the future.

Occurring at many levels according to different situations, interventions can be categorised into multiple intervention concepts. For example, the definitions of preservation, reconstruction, restoration, and renovation often overlap in practice (Petzet 2004). Due to the imprecise understanding of these concepts, the unawareness and misinterpretation of intervention concepts has often caused conservation projects to fall short of their goal and even led to the destruction of built heritage, which raises questions about the recommended 'best practices' (Petzet 2004). As this paper does not cover the field of linguistics or anthropology, debates about whether 'conservation' and 'preservation' are synonymous in some parts of the world, particularly North America (notably the U.S.), will not be discussed. In support of the practice of intervention in built heritage, intergovernmental organisations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Council of Europe (CoE), as well as non-governmental organisations such as the International Council on Monuments and Sites (ICOMOS), have been developing doctrinal documents for more than half a century. These documents have 'the fundamental role of offering statements or principles and guidelines for the conservation and management of places of cultural significance' (Taylor 2004) and therefore can be seen as having a professional ethics role in guiding the conduct of heritage conservation practice (Taylor 2004; Lin et al. 2023).

Many researchers have focused on international doctrinal documents. Specifically, they have noted the lack of understanding of the concepts and definitions in these documents, although they were not only focusing on addressing intervention (Pereira Roders 2007; Veldpaus 2015; Castriota and Marçal 2021; Vecco 2010; Rosetti et al. 2022; Albert et al. 2022; Rodwell 2022; Zerrudo 2022). Some scholars have also stated that international doctrinal documents have evolved over time, and this evolution could be seen as a reflection of practice (Jokilehto 2007). Through ratifications, these documents elaborate on definitions and broaden concepts (Jokilehto 2007; LeBlanc 2008; Rodwell 2022), benefit future identification (LeBlanc 2008), provide important practical experiences (Silberman 2009), and generate new knowledge and insights (Vecco 2010; Rosetti et al. 2022).

However, since these documents are meant to be applicable to different contexts, they tend to be universally applied (Vecco 2010; Al-Sakkaf et al. 2020b) to bridge all countries, cultures and priorities (of experts) involved in their drafting as well as to support future adoption at the national level (Francioni 2003; Al-Sakkaf et al. 2020a, b). Thus, this generalisation might limit intervention concepts and definitions and cause them to overlap (Pereira Roders 2007; Silberman 2009; Khalaf 2015; Castriota and Marçal 2021).

Intervention concepts and definitions can vary over time, so comparing them is difficult. In recent decades, international doctrinal documents have defined intervention concepts with different levels, scales, and activities (ICOMOS Canada 23). Moreover, scholars have researched and categorised the level/degree/scale of intervention for more than a century to further the understanding of intervention concepts and definitions (Dobby 1978; Feilden 1982; Woodcock 1988; Douglas 2006; Pereira Roders 2007). However, the categories and

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definitions of intervention within the scope of international doctrinal documents have not yet been discussed comparatively and systematically.

One of the first scholars to theorise intervention concepts and their relationships, albeit with a planning perspective, Dobby (1978) presented a table of terms used in conservation and implied their degree of change—none, some, much, and total. From Dobby's perspective, 'conservation' was presented as an intervention that made no changes to total changes. Other interventions, such as 'repair' and 'preservation', were considered to make no changes, while 'enhancement', 'restoration', 'reconstruction', and 'demolition' made changes ranging from some to total changes.

With more detailed categorisations, Feilden (1982) presented seven ascending degrees of intervention, ranging from (1) prevention of deterioration (indirect conservation); (2) preservation of the existing state; (3) consolidation (direct conservation); (4) restoration; (5) rehabilitation; and (6) reproduction to (7) reconstruction. In his work, Feilden defined that 'interventions practically always involve some loss of value in cultural property but are justified in order to preserve the objects for the future' (Feilden 1982; p.8). Additionally, Feilden's categorisation implies that interventions started not only from the action of 'retaining' but also from the earlier 'indirect' and 'control' of the historic environment.

From the perspective of performance management, Henket (1992) distinguished between 'maintenance' and 'adaptation'. 'Adaptation' was then further divided into three categories, and within each of these categories, another third hierarchy of categories was created: 'change to same/other use' under 'change in functions', lateral/vertical extensions under 'change in capacity', and refurbishment and rehabilitation/renovation and restoration under 'change in performance'.

Woodcock (1988) created a table in which the terms from Preservation News in the American context were scoped. His table not only presented four main categories—'keep, change, destroy, and return'—which included 35 terms—but also displayed the various actions that can be taken towards historic resources, along with his subjective evaluation of whether a particular action is positive (+), neutral (0), or questionable (-) (Woodcock 1988, p.5). According to Woodcock's perspective, 'change' means something different from 'keep', 'destroy', and 'return', and it does not necessarily mean negative, as it includes all three kinds of actions. Woodcock's categorisation implied connotations in each action.

Douglas (2006) presented profound research on 'adaptation' based on Henket's theory (1992). In the context of his book, Douglas mentioned that unlike the traditional way of using 'adaptation' as a narrow term that only suggests some form of change, he used 'adaptation' to describe the full range of work—any intervention to adjust, reuse, or upgrade a building to suit new conditions or requirements—to property that goes beyond maintenance. A figure of 'the range of interventions' has been created, which shows the relationship between the level of intervention and the risk of obsolescence and deterioration. These include eight interventions: (1) preservation (arrest decay), (2) conservation (preserve purposely), (3) refurbishment (facelift or makeover), (4) rehabilitation (modernise), (5) renovation (upgrade), (6) remodelling (improve/extend), (7) restoration (bring back), and (8) demolition (remove). There are also four other interventions—maintenance, stabilisation, consolidation, and reconstruction—presented according to the scale of adaptation—small, medium, and large—as well as their degrees of change—low key, substantial, and drastic—respectively.

Pereira Roders (2007) went a step further, summarising from both international organisations and the aforementioned scholars, and created a scale of interventions that includes categorised seven main categories that each have their own two subcategories, 'passive' and 'active'. This scale ranges from (1) deprivation: abandon and vandalism, (2) preservation: inventory and prevention, (3) conservation: maintenance and safeguard, (4) restoration: restitution and reconstitution, (5) rehabilitation: reuse and conversion, and (6) reconstruction: rebuilding and building new to (7) demolition: reduce and waste. Within this theoretical framework, other aspects such as 'reality', 'use', 'aim', 'built', and 'impact' were also discussed. Intervention concepts and definitions have evolved in both academia and practice over the years.

However, although international doctrinal documents are often referenced, targeting more diverse heritage types and facing various stakeholders, they are seldom researched comparatively and systematically. This paper will focus on the following questions: What interventions are referenced or omitted? Are they defined? In the context of international doctrinal documents, what trends are noted in the understanding of best practices as interventions?

2 Research methodology
2.1 International doctrinal documents
In this study, a systematic content analysis of nine international doctrinal documents was conducted to uncover and compare the concepts utilised to reference interventions; then, the definitions were employed to elucidate and discuss their interrelations. The trends in the use of interventions were discerned based on the frequency of mentions per intervention term in the selected documents.

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The dataset selection process consisted of two stages. In the initial stage, nearly seventy international doctrinal documents spanning various periods and geographical regions, renowned for their exemplar status in built heritage practices and endorsed by esteemed entities such as the Council of Europe (CoE), UNESCO, and ICOMOS between 1877 and 2021, were collected. These documents were sourced from the official websites of the CoE, ICOMOS, UNESCO digital library, and Getty Conservation Institute utilising a comprehensive set of keywords, including 'intervention', 'definition', 'glossary', 'built heritage', 'built cultural heritage', 'built environment', 'conservation', 'preservation', 'restoration', 'maintenance', 'repair', 'reconstruction', 'rehabilitation', 'adaptive reuse', 'renovation', and 'relocation'. Additionally, seminal documents predating the establishment of the aforementioned organisations, such as the Manifesto of The Society for the Protection of Ancient Buildings (SPAB) and the Charter of Athens by Congress Internationaux d'Architecture moderne (CIAM), were included due to their acknowledged doctrinal significance within the conservation field.

In the second stage of the selection, documents that lacked intervention definitions or terminology explanations within the 'definition', 'glossary', or other sections were excluded from the dataset. Moreover, documents that solely referenced a single terminology, such as conservation, without delineating the interrelation between intervention concepts concerning the 'level of interventions' within the same document were also excluded. During this phase, all 20 CoE documents, nine UNESCO documents, and 30 ICOMOS documents were excluded. Ultimately, nine documents spanning diverse geographic regions—Europe, North America, Asia, and the Pan-Pacific—and a temporal scope of nearly 60 years (1964 to 2021) were chosen for further comparative analysis and discussion.

These documents encompass various iterations of the same document, exemplified by the 1979, 1999, and 2013 versions of the Burra Charter, as well as the 1992 and 2010 versions of the New Zealand Charter. They have been incorporated into this paper for comparison and analysis, owing to their citation in subsequent documents. For example, despite its earlier iterations, the Burra Charter underwent its most significant revision in 1999, as outlined in the introduction of the revision history. Consequently, alongside the first (1979) and most recent (2013) versions, the 1999 version was included. Similarly, the first version of the New Zealand Charter (1992) is included due to its reference to the Hoi An Protocol (UNESCO Bangkok 2009). Although the Hoi An Protocol (UNESCO Bangkok 2009) is a regional document, it endeavours to establish rigorous standards of conservation practice and enjoys widespread citation by scholars and local authorities, particularly in Asia and the Pan-Pacific region. Its inclusion in this paper is deemed essential for enhancing the discourse on the diversity of definitions.

2.2 Intervention concepts

As many intervention concepts were identified during the selection process, concepts were excluded or included for the following reasons.

On the one hand, given that the documents did not provide definitions or explanations in the glossary, articles, or sections to enable their comparison, 21 other intervention concepts were excluded. The excluded intervention concepts were, in alphabetical order, as follows: 'alternation', 'change', 'clearing', 'consolidation', 'demolition', 'dislodge', 'dismantling', 'dismemberment', 'integration', 'modernisation', 'modification', 'rearrangement', 'recreation', 'recycle', 'redecoration', 'refurbishment', 'renewal', 'replacement', 'reproduction', 'safeguard', and 'transformation'. On the other hand, intervention concepts such as 'change function/use', 'conserving use', and 'reintroducing use' were included because these concepts were considered earlier forms of the idea of 'use-related' concepts. Following the same logic, 'retaining associations and meanings' concerning intangible perspectives other than 'use' were also included.

Consequently, 30 intervention concepts were chosen from the selected documents and further analysed in this research. To support the understanding of the development of the concepts evolving between the documents, the order of the concepts in Fig. 1 of Sect. 3.1 is presented according to the chronological order of the international doctrinal documents (from 1964 to 2015).

3 Findings
3.1 The trends of intervention concepts evolving across documents

The results confirmed that the intervention concepts evolved across the doctrinal documents over time and place (see Fig. 1).

Overall, 30 concepts with defined or undefined content were identified in the selected documents. On average, each document had 18 identified concepts; however, only 60% of them were clearly defined. The highest rate of having 16 defined concepts (80%) was found in the New Zealand Charter (revised 2010), while the lowest percentage was found in the Venice Charter, with only three defined concepts (30%) (Fig. 1). Although they appear to fluctuate, the trends in the number of defined concepts have grown since the first version (1979) of the Burra Charter. Particularly in New Zealand Charters, although the number of identified concepts remained the same in the
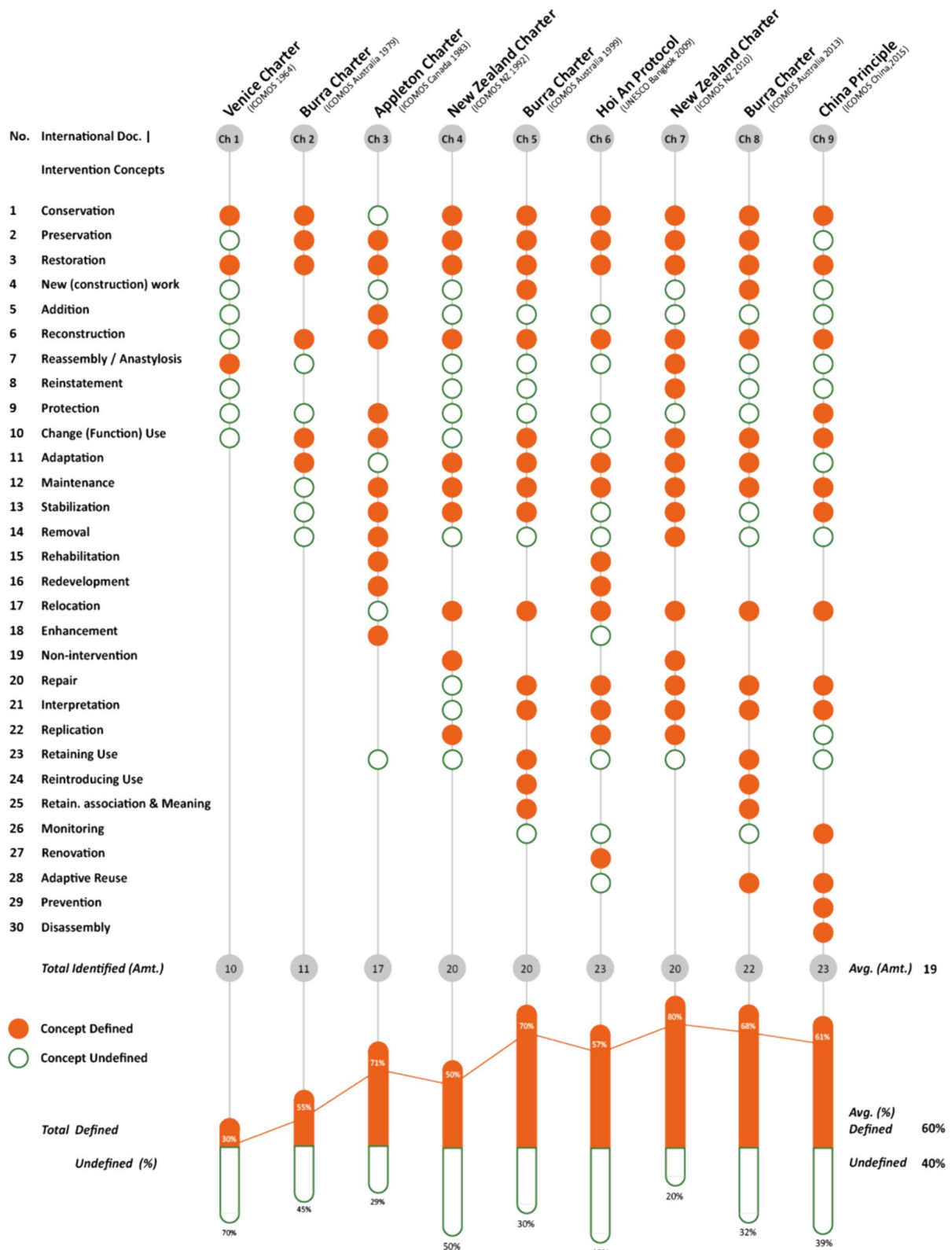
Fig. 1 The intervention concepts that have been defined (CD), or identified but undefined (CU), and with no concepts (NC) found in the selected documents (upper part), and the trend of their defined/undefined situation (bottom part)

versions of 1992 and 2010, more profound definitions were provided after the revision, meaning that more attention was given to the definition of the intervention concepts over the years.

Notably, while different versions of the Burra Charter showed growth in the numbers of referenced concepts—from 11 (1979), 20 (1999), and 22 (2010)—the percentage of definitions fluctuated, from 55% in the first version (1979), growing dramatically and reaching 70% in the 1999 version, and slightly decreasing to 68% in the latest version (2013).

New intervention concepts have been identified over the years. 'Adaptation' was introduced to signal the 'allowance for changes' (ICOMOS Australia 1979), and its high frequency of reference was only lower than 'conservation'. This attitude was further revealed when another new concept—'adaptive reuse'—appeared, as identified in the latest version (ICOMOS Australia 2013). Generic concepts such as 'intervention', used in the versions of 1979 and 1999, have been replaced by 'change' in the latest version of the Burra Charter (ICOMOS Australia 2013). This also reflected the promotion of a more positive attitude towards 'change', which was addressed in the document 'do as much as necessary to care for the place and to make it usable, but otherwise change it as little as possible so that its cultural significance is retained'.

The documents also had similar patterns of identification of the intervention concepts. Similar definitions could be found among the charters, such as The New Zealand Charter (1999/2010), the Burra Charter (1979/1999/2013), and the China Principle (ICOMOS China 2015). Although in the earliest version, the Burra Charter exhibited some influence from the Venice Charter (1964), such as from Articles 8 to 10, in maintaining visual settings and relations, as well as returning to historical locations after temporary removal, Burra Charters paved a new path to develop their own definitions and philosophy.

The Appleton Charter (ICOMOS Canada 1983) demonstrates a unique level of intervention, which was later referenced by the Hoi An Protocol (UNESCO Bangkok 2009), including the use of two concepts: 'rehabilitation (C15)' and 'redevelopment (C16)'. However, in addition to the aforementioned charter, the Hoi An Protocol also references multiple documents, such as the Burra charters and New Zealand charters, creating some confusion—for example, between 'rehabilitation (C15)' and 'adaptive reuse (C28)'.

Among the 30 concepts, seven concepts were identified with definitions in only one document—for example, 'renovation' in the Hoi An Protocol—or directly referenced from previous versions or another document with subtle alterations, such a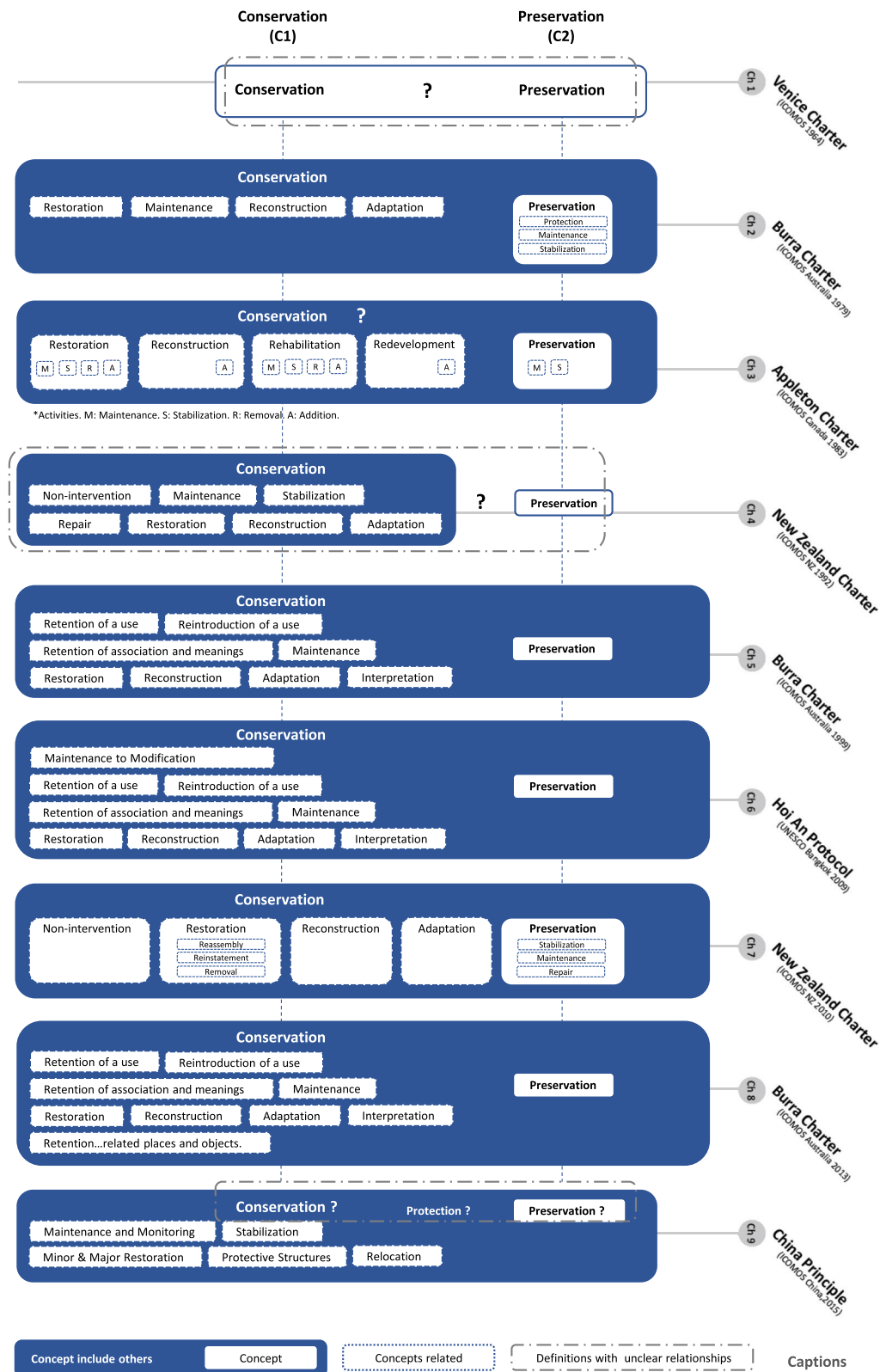s 'non-intervention', in different versions of the New Zealand Charter. These concepts were 'reinstatement' (C8), 'redevelopment' (C16), 'enhancement' (C18), 'non-intervention' (C19), 'retaining association and meaning' (C25), 'monitoring' (C26), 'renovation' (27), 'prevention' (C29), and 'disassembly' (C30). Another seven concepts were found in multiple documents but had relatively consistent definitions compared to the concepts introduced in Sections 3.2 to 3.4. These seven concepts were 'new (construction) work' (C4), 'addition' (C5), 'protection' (C9), 'stabilisation' (C13), 'relocation' (C17), 'interpretation' (C21), and 'replication' (C22). For example, in different versions of the New Zealand Charter, 'replication' was defined as 'making a copy of an existing structure or place; or the construction of generalised representations of typical features or structures, which are not conservation processes and are outside the scope of this charter' (ICOMOS New Zealand 2010). In further detail, 'replication' was defined as the intervention for 'copying an existing structure in order to maintain aesthetic unity and harmony' (UNESCO Bangkok 2009).

In addition to the aforementioned concepts, the remaining fifteen concepts have been identified with notable differences in definitions, as they are often used interchangeably and have complex relationships with each other. These concepts will be further discussed in Sections 3.2 to 3.4.

3.2 'Conservation (C1)' versus 'preservation'

'Conservation' and 'preservation' were both identified as the earliest concepts that emerged and were defined in the majority of the documents. In the discourse surrounding the distinction between 'conservation' and 'preservation', multiple precedents for using these concepts and interpretations appeared in documents. Accordingly, the Venice Charter (ICOMOS 1964) was found to employ both concepts interchangeably. Although their relation was implied, as in the case of the Appleton Charter (ICOMOS Canada 1983), where 'conservation' was used in the title, in the content, only 'preservation' was found to be defined in the document. Conversely, 'preservation' was not defined in the China Principle (ICOMOS China 2015) but was used as a substitution for 'conservation' and 'protection' (see Fig. 2).

In the Venice Charter (1964), where historic monuments are described as 'living witnesses of age-old tradition' and 'historical evidence', the definition of 'conservation' was about safeguarding the attributes, particularly from a visual perspective. This encompassed the setting, layout, decoration, and relations of mass and colour, as well as items of sculpture and painting. 'Conservation' revealed itself as an intervention concept characterised by delimited actions; terms such as 'must not

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Conservation (C1)

Preservation (C2)

Conservation ? **Preservation**
Ch 1 — **Venice Charter** (ICOMOS 1964)

Conservation
Restoration | Maintenance | Reconstruction | Adaptation
Preservation
Protection
Maintenance
Stabilization
Ch 2 — **Burra Charter** (ICOMOS Australia 1979)

Conservation ?
Restoration [M][S][R][A] | Reconstruction [A] | Rehabilitation [M][S][R][A] | Redevelopment [A]
Preservation [M][S]
Ch 3 — **Appleton Charter** (ICOMOS Canada 1983)

*Activities. M: Maintenance. S: Stabilization. R: Removal. A: Addition.

Conservation
Non-intervention | Maintenance | Stabilization
Repair | Restoration | Reconstruction | Adaptation
? **Preservation**
Ch 4 — **New Zealand Charter** (ICOMOS NZ 1992)

Conservation
Retention of a use | Reintroduction of a use
Retention of association and meanings | Maintenance
Restoration | Reconstruction | Adaptation | Interpretation
Preservation
Ch 5 — **Burra Charter** (ICOMOS Australia 1999)

Conservation
Maintenance to Modification
Retention of a use | Reintroduction of a use
Retention of association and meanings | Maintenance
Restoration | Reconstruction | Adaptation | Interpretation
Preservation
Ch 6 — **Hoi An Protocol** (UNESCO Bangkok 2009)

Conservation
Non-intervention | Restoration (Reassembly / Reinstatement / Removal) | Reconstruction | Adaptation
Preservation (Stabilization / Maintenance / Repair)
Ch 7 — **New Zealand Charter** (ICOMOS NZ 2010)

Conservation
Retention of a use | Reintroduction of a use
Retention of association and meanings | Maintenance
Restoration | Reconstruction | Adaptation | Interpretation
Retention...related places and objects.
Preservation
Ch 8 — **Burra Charter** (ICOMOS Australia 2013)

Conservation ? **Protection ?** **Preservation ?**
Maintenance and Monitoring | Stabilization
Minor & Major Restoration | Protective Structures | Relocation
Ch 9 — **China Principle** (ICOMOS China 2015)

Concept include others | Concept | **Concepts related** | Definitions with unclear relationships | **Captions**

Fig. 2 The development of the relationships between conservation and preservation

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change', 'no new construction, demolition, or modification', or 'not allowed to remove' are recurrently employed in the texts. However, under exceptional circumstances, such as when national or international interests necessitate it or when on-site preservation is unattainable, 'conservation' may permit alteration (see Fig. 2).

In contrast, what has been clearer since the outset is that the Burra Charter (1979) and its subsequent revisions have delineated the differences between 'conservation' and 'preservation'. 'Conservation' was a general term and a process with the goal of 'looking after a place to retain its cultural significance'. Within this process, 'preservation' was treated as a subconcept sharing the same hierarchical level as other intervention concepts, such as 'restoration', 'maintenance', 'reconstruction', and 'adaptation'. Thus, 'preservation' was defined as the act of 'maintaining the fabric of a place in its existing state and retarding deterioration', with its scope limited to protecting, maintaining, and stabilising the existing fabric when necessary. Notably, in 'conservation', the use of 'modern techniques' was permitted when traditional methods proved inadequate. Furthermore, differences in the level of cultural significance were acknowledged (see Fig. 2). Departing from the poetic manner of defining the concepts in the aforementioned charters, the Appleton Charter (1983) presented more applicable guidelines, clearly illustrating the relationships between each concept and their associated activities and scales. 'Conservation' represented all intervention concepts, whereas 'preservation' was defined as the 'retention of the existing form, material', and more comprehensively, the 'integrity of site'. This included activities such as maintenance and stabilisation, ranging from scales of building elements to groups of buildings, settings, and sites (see Fig. 2).

Heavily influenced by the Burra Charter, the New Zealand Charter (1992) substituted the term 'cultural significance' with 'cultural heritage values', defining 'conservation' as 'the processes of caring for a place so as to safeguard its cultural heritage values'. Additionally, it expanded on the Venice Charter (1964), highlighting that conservation serves not only social purposes but also cultural and economic purposes. While 'preservation' was defined as 'maintaining a place with as little change as possible', 'conservation' was defined as 'the processes of caring for a place to safeguard its cultural heritage value'. However, their relationships remained unclear, as 'preservation' was notably absent from the conservation process (see Fig. 2).

Building upon its previous versions, the Burra Charter (1999) broadened the understanding of cultural significance by providing explicit details regarding fabric, use, association, and meaning. Notably, the definition of 'conservation' was expanded to include the following:

'Conservation may, according to circumstance, include the processes of retention or reintroduction of a use; retention of associations and meanings; maintenance, preservation, restoration, reconstruction, adaptation, and interpretation; and will commonly include a combination of more than one of these'. This implied that 'conservation' not only involves safeguarding but also entails managing the cultural significance of the place, which did not rule out changes. In contrast, the definition of 'preservation' remained unchanged from the previous versions and continues to signify the passive maintenance of the physical, existing state (see Fig. 2).

The Hoi An Protocol (UNESCO Bangkok 2009), in addition to referencing the Burra Charter (1999), also adopted the definition from Parks Canada (2003), which stated, 'Conservation encompasses the activities that are aimed at the safeguarding of a cultural resource to retain its historic value and extend its physical life…(Conservation) embraces one or more strategies that can be placed on a continuum that runs from least intervention to greatest; that is, from maintenance to modification of the cultural resource'. However, 'preservation' was defined as the 'retention of the greatest amount of historic fabric' and 'encompasses conservation activities that consolidate and maintain the existing form, material and integrity of a resource', including 'short-term protective measures as well as long-term actions to retard deterioration or prevent damage' (see Fig. 2).

In the latest version (revised 2010) of the New Zealand Charter, unlike the Burra Charter, which has substantial changes, a more in-depth definition of the 'degrees of interventions for conservation purposes' was presented. It addressed four main categories—preservation, restoration, reconstruction, and adaptation—along with their subcategories. Within this document, 'conservation' remained broadly defined, whereas 'preservation' was defined as a concept that 'involves as little intervention as possible, to ensure its long-term survival and the continuation of its cultural heritage value' (see Fig. 2).

In the latest version of the Burra Charter (2013), the definition of 'conservation' was further expanded, including 'retention of the contribution that related places and related objects make to the cultural significance of a place (2013)'. Additionally, 'conservation' also implied the potential absence of physical intervention towards the heritage itself. As stated, 'There may be circumstances where no action is required to achieve conservation'. This notion is in harmony with the definitions in the New Zealand Charter (1992) and (2010) that 'conservation' encompasses the concept of 'non-intervention'. In contrast to 'conservation', 'preservation' was defined as the protection of fabric 'without obscuring evidence of

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its construction and use' (ICOMOS Australia 2013) (see Fig. 2).

Informed by Australian experiences during the drafting of the documents, the China Principle (2015) showed influences from the Burra Charter in defining 'conservation' as 'a broad concept and conveys the meaning of protection, maintenance, technical intervention, and management'. Furthermore, 'conservation' was then elaborated as direct and indirect interventions to slow or arrest the process of deterioration. However, this also implied that the definitions of 'conservation' and 'preservation' overlapped with each other. Notably, in its glossary, after translation, 'conservation' was 'conserve + protect', and 'preservation' was 'conserve + keep' or 'conserve + protect', meaning that there were no differences in the Mainland Chinese context between these two concepts, both of which were translated into one single concept – 'Bao Hu' (保护) (see Fig. 2).

In summary, while the definition of 'conservation' has broadened, the definition of 'preservation' has become more stringent.

3.3 'Restoration (C3)', 'reconstruction (C6)', 'reassembly/anastylosis (C7)', 'maintenance (C12), 'removal (C14)' and 'repair (C20)'

In addition to the concepts identified in a single document, the concept of 'restoration (C3)' was the only one found in all of the selected documents and provided with definitions. There were slight differences in categorising 'period restoration' (ICOMOS Canada 1983; UNESCO Bangkok 2009) together with 'restoration'. However, 'restoration' was found to be related to other concepts such as 'reconstruction', 'reassembly/Anastylosis', 'maintenance', 'removal', and 'repair', involving different activities and situations across the documents (see Fig. 3).

The Venice Charter (1964) first mentioned 'restoration' as a highly specialised process in which material originality is pursued based on aesthetic, historical, and archaeological values. Meanwhile, this intervention should stop at the point where any conjecture occurs and leave a contemporary stamp if implemented. Modern techniques can be applied where traditional techniques are inadequate. The values of all periods should be respected; thus, restoration in pursuing the unity of style is not permitted. Exceptional circumstances for removal, in revealing the great historical, architectural, or aesthetic value of a certain period, can only be allowed after careful justification. With limited information, 'reconstruction' was mentioned in a strict manner as it 'should be ruled out as prior'. When objects still exist, it could be 'reassembly/anastylosis' or 'reinstatement' to the original situation. 'Anastylosis' means 'reassembling of existing but dismembered parts' (see Fig. 3).

Without being mentioned in the Venice Charter, the first version of the Burra Charter (1979) emphasised that 'restoration' aims to 'return' the existing fabric of a place to a known earlier state and slow deterioration. To achieve this 'return', the 'reassembling' of displaced components or the 'removal' of accretions with 'slight cultural significance' compared to 'much greater cultural significance' were allowed. Here, cultural significance is determined by hierarchies that affect decision-making, which is an elaboration of the idea of evaluating the importance of elements in the Venice Charter (1964). Additionally, 'restoration' was assigned a new function: to 'reveal new culturally significant aspects of the place'. Meanwhile, 'reconstruction' was defined as 'returning a place as close as possible to a known earlier state' and was distinguished by the introduction of materials (new or old) into the fabric. Furthermore, the reasons for considering 'reconstruction' and the proportion in which it should be implemented within a heritage place were explained. Most importantly, it is emphasised that 'reconstruction' should not be confused with either recreation or conjectural reconstruction (see Fig. 3).

The Appleton Charter (1983) introduced intervention concepts that involve the idea of 'time', such as 'period' and 'continual'; the former is defined as the main concepts, while the latter refers to activities. 'Period restoration' is defined as the 'recovery of an earlier form, material, and integrity of a site' and encompasses all activities – 'maintenance', 'stabilisation', 'removal', and 'addition'. Due to this layered relationship, it is important to understand the definition of 'maintenance', which is a 'continual activity to ensure the longevity of the resource without irreversible or damaging intervention'. At the same time, the definition of 'reconstruction' is the 'recreation of vanished or irreversibly deteriorated resources' and only involves the activity of 'addition'. This means that 'reconstruction' is completely new work for the site. All of these concepts apply to multiple scales, ranging from building elements to the entire site. Notably, the document provides a clear definition of 'removal', which is a 'periodic activity' that occurs only in 'restoration' and 'rehabilitation'. It refers to modifications involving the subtraction of surfaces, layers, volumes, and/or elements (see Fig. 3).

The New Zealand Charter (1992), on the one hand, defines 'restoration' as 'returning a place as nearly as possible to a known earlier state by 'reassembly', 'reinstatement', and/or the 'removal' of extraneous additions'. This concept should be 'based on respect for existing material and on the logical interpretation of all available evidence so that the place is consistent with its earlier form and meaning. It should only be carried out if the cultural heritage value of the place is recovered or
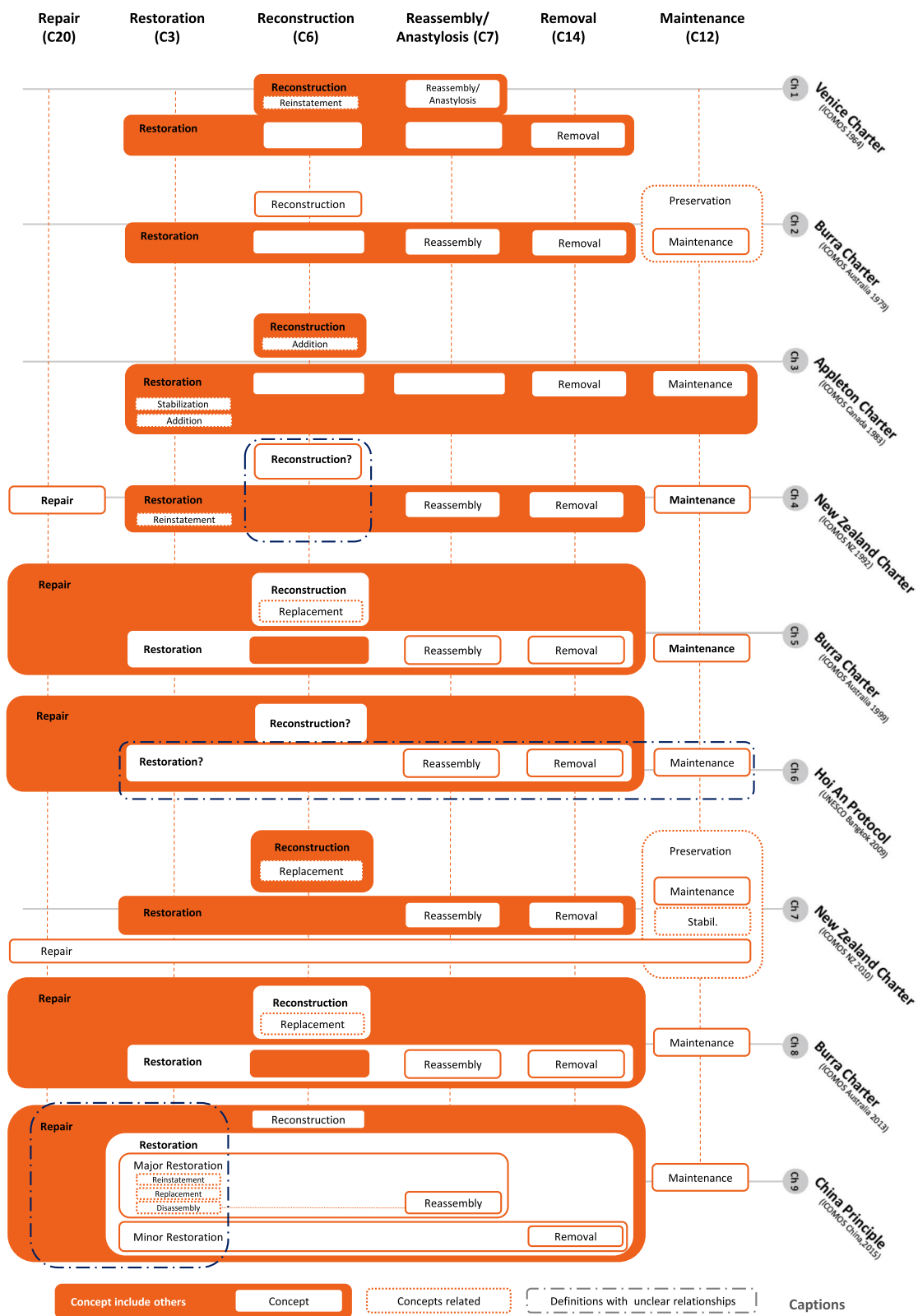
Fig. 3 The development of the relationships between repair, restoration, reconstruction, reassembly/anastylosis, removal and maintenance

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revealed by the process'. On the other hand, 'reconstruction may be appropriate if it is essential to the function or understanding of a place, if sufficient physical and documentary evidence exists to minimize conjecture, and if surviving heritage values are preserved'. Importantly, the New Zealand Charter (1992) hints at the distinction between 'restoration' and 'reconstruction', with the latter being distinguished from the former by 'the introduction of additional materials where loss has occurred'. However, later in the document, it becomes confusing as it again addresses that 'reconstruction means to build again in the original form using old or new material'. The relationships among the 'old material', 'new material' and 'additional material' in influencing the definition are not clear. In addition to defining the two aforementioned concepts, two additional concepts emerge, 'repair' and 'maintenance'. These two concepts differ; while 'maintenance' is defined as the regular and protective care of a place, 'repair' is a concept aimed at 'making good on decayed or damaged parts using original or similar materials, even new materials, when considering the cultural heritage value is not diminished.

Substantial changes were adopted in the 1999 version of the Burra Charter (ICOMOS Australia 1999), highlighting strong distinctions between 'restoration' and 'reconstruction', as well as 'repair' and 'maintenance'. Importantly, 'repair' encompassed both 'restoration' and 'reconstruction'. 'Restoration' was defined as 'returning the existing fabric of a place to a known earlier state by "removing" accretions or by "reassembling" existing components "without the introduction of new material"'. On the other hand, 'reconstruction' meant 'returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric'. 'Maintenance' was addressed as a fundamental concept of 'conservation' that aimed to retain cultural significance. It was defined as 'the continuous protective care of the fabric and setting of a place and is to be distinguished from repair'. Moreover, this charter also recognised that both 'restoration' and 'reconstruction' were 'acts of interpretation'. Particularly when implementing 'reconstruction', identifiable intervention with close inspection or additional interpretation is needed.

To define the concepts of 'restoration', 'reconstruction', 'repair', and 'maintenance', the Hoi An Protocol (2009) mainly referenced the Burra Charter (1999). The Burra Charter followed the logic of 'repair' as an overarching concept, which included both 'restoration' and 'reconstruction'. It also distinguished 'repair' from 'maintenance'. The Hoi An Protocol also referenced other documents, such as The Appleton Charter (1983) for the concept of 'reconstruction', Parks Canada (2003) and the Management Guidelines for World Cultural Heritage

Sites (Feilden and Jokilehto 1998) for the concept of 'restoration'. 'Restoration' was defined as 'the accurate recovery of an earlier form, fabric, and detailing of a site or structure, based on evidence from recording, research, and analysis, through the 'removal' of later additions and the replacement of missing or deteriorated elements of the earlier period. Depending on the intent and degree of intervention, period restoration may be a presentation rather than a conservation activity (Parks Canada)'. Additionally, 'restoration' is defined as 'to reveal the original state within the limits of existing material…to reveal cultural values and to improve the legibility of its original design' (Feilden and Jokilehto 1998).

Based on the previous version, certain contents of most of the concepts were revised in the New Zealand Charter (2010); more importantly, they were presented in hierarchies. In addition to 'reconstruction' with its own category, 'reassembly', 'reinstatement', and 'removal' were presented under 'restoration' (see Fig. 2). 'Repair', 'maintenance', and stabilisation were presented under 'preservation' (see Fig. 2). 'Reassembly/anastylosis' was closely related to 'reinstatement' and defined as 'uses existing material and, through the process of reinstatement, returns it to its former position. Reassembly is more likely to involve work on part of a place rather than the whole place'. Notably, the differences between 'restoration' and 'reconstruction' were emphasised by substituting 'additional material' with 'new material'. The document states that 'reconstruction is distinguished from restoration by the introduction of new material to replace material that has been lost'. However, the paragraphs of 'recreation meaning conjecture reconstruction…' were deleted and explained with 'reconstruction means to build again as closely as possible to a documented earlier form, using new materials'. In 'restoration', terms were revised and substituted with more plain words to avoid interpretations, such as '(restore)…as near as possible', '(restore)…on the logical interpretation' and '(removal) of …extraneous additions'. 'Restoration' was then revised as follows: 'to return a place to a known earlier form, by reassembly and reinstatement, and/or by the removal of elements that detracted from its cultural heritage value'. Within the category of 'restoration', 'removal' was seen as a subconcept under its category, defined as follows: 'Occasionally, existing fabric may need to be permanently removed from a place. This may be for reasons of advanced decay, loss of structural integrity, or because the particular fabric has been identified in a conservation plan as detracting from the cultural heritage value of the place'. However, the impact of 'removal' has also been emphasised: 'the removal or obscuring of any physical evidence of any period or activity should be minimised and should be explicitly justified where it does occur. The

fabric of a particular period or activity may be obscured or removed if (an) assessment shows that its removal would not diminish the cultural heritage value of the place'. Within a different category, 'preservation', in the aim of maintaining – to ensure its long-term survival and the continuation of its cultural heritage value – 'repair' was defined as utilising matching or similar materials to maintain the cultural heritage value. Additionally, when 'it is necessary to employ new materials, they should be distinguishable by experts and should be documented'. The aim of 'maintenance' was also further detailed by adding 'prevent deterioration'.

Based on the previous versions, the Burra Charter (2013) added only some additional explanations with local indigenous perspectives that went beyond the physical care of the heritage place. For example, in relation to 'maintenance', it mentioned that 'maintaining a place may be important to the fulfilment of traditional laws and customs in some Indigenous communities and other cultural groups'.

The China Principle (ICOMOS China 2015) presented two subcategories under 'restoration' – 'minor restoration' and 'major restoration' – which implied different actions, situations, and levels of significance. While 'minor restoration' focused on repairing damaged elements, 'major restoration' specifically addressed the 'repair or replacement' of key missing components. Although the former was called 'minor restoration', its actions involved 'rectifying' components and 'removing inappropriate additions' that could have an impact equal to that of the 'major' category. This document also mentioned that 'minor and major restoration may also be categorized as repair of a building'. Notably, 'major restoration' involved 'complete disassembly/reassembly', specifically for the treatment of wooden structures. Furthermore, 'disassembly' (C30) was the last concept identified and was only officially mentioned in the China Principle (ICOMOS China 2015) as a 'traditional method of restoring wooden buildings'. While other documents mentioned only 'reassembly' and omitted 'disassembly', the China Principle referenced 'disassembly' almost fifteen times more than 'reassembly'.

3.4 'Change use (C10)', 'adaptation (C11)', 'rehabilitation (C15)', 'retaining use (C23)', 'reintroducing use (C24)', 'adaptive reuse (C28)'

When 'adaptation', 'rehabilitation', 'adaptive reuse', or other intervention concepts related to 'use' have not been introduced in documents, the concept of 'use' has already been discussed in different forms (see Figs. 1 and 4). These forms include modifications required for a 'change (of function or) use (C10)' (ICOMOS 1964; ICOMOS Australia 1979, 1999, 2013; ICOMOS Canada 1983;

UNESCO Bangkok 2009; ICOMOS New Zealand 2010; ICOMOS China 2015). They also include modifications for 'retaining use (C23)' (ICOMOS Australia 1999, 2013), such as accommodating 'existing use' (ICOMOS Australia 1999, 2013; UNESCO Bangkok 2009), continuing 'original use' (ICOMOS China 2015), and maintaining 'originally intended use' (ICOMOS Canada 1983). Additionally, they include 'maintaining continued use' (ICOMOS New Zealand 1992, 2010; ICOMOS China 2015) when the use is no longer present on a site. In such cases, 'reintroducing use (C24)' (ICOMOS Australia 1999, 2013) may be an option.

The concept of 'change function use' (C10) was first mentioned in the Venice Charter (ICOMOS 1964). The document highlighted that one of the main aims of conservation was to utilise the built heritage, especially for social purposes. However, during the process of 'change of function', there are limitations in terms of altering the layout and decoration of the monument (see Fig. 4).

In the Burra Charter (1979), the concept of 'adaptation' was formally introduced in the initial version of the charter. It addressed the idea of modifying a place to accommodate new functions without compromising its cultural significance, particularly in cases where conservation of the place could not be achieved otherwise. Additionally, this document highlighted the importance of 'compatible use', which involved no changes, changes that were reversible, or changes that had minimal impact on the culturally significant aspects of the site. Only in exceptional cases, when the removal of significant material was unavoidable during the adaptation process, could it be securely preserved for future restoration purposes.

In the Appleton Charter (ICOMOS Canada 1983), the concept of 'rehabilitation' was identified alongside 'adaptation'. Although 'rehabilitation' was mentioned in various documents of the Council of Europe during the selection process, it was officially defined in the Appleton Charter as the modification of a resource to contemporary functional standards, which could include adaptation for new use. This document also suggested different levels of change in use, ranging from using the place for its original purpose to proposing a completely new use. However, the term 'used for its originally intended purpose' may also imply the reintroduction of previous uses, although this was not further explained.

In the New Zealand Charter (1992), 'adaptation' was defined as modifying a place to suit a compatible use while minimising the loss of cultural heritage value. Under certain circumstances, alterations and additions that were essential for continued use, culturally desirable, or necessary for the conservation of the place were deemed acceptable. Furthermore, the alterations should
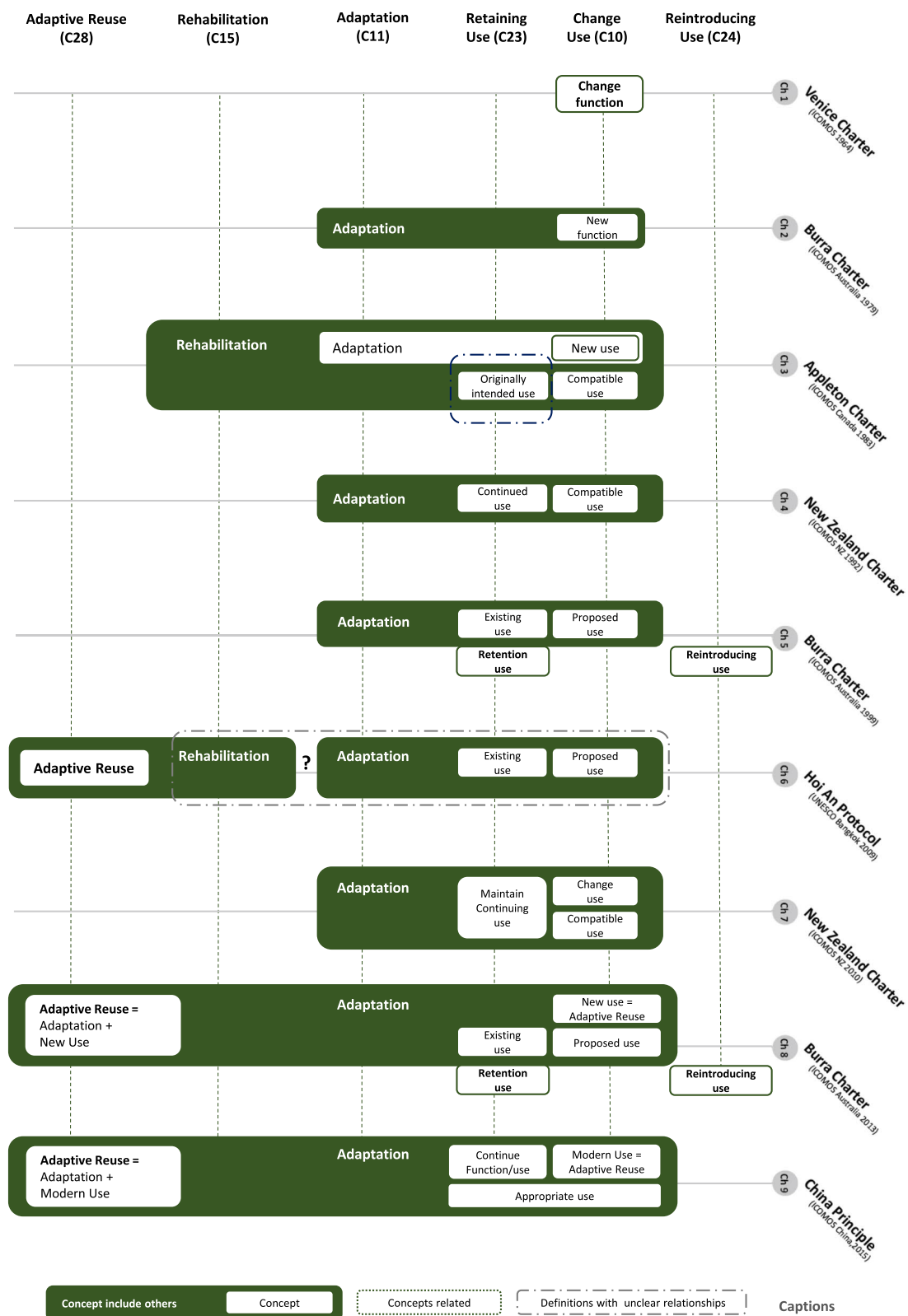
Fig. 4 The development of the relationships between adaptive reuse, rehabilitation, adaptation, retaining use, change use, and reintroducing use

be compatible with the original fabric but distinct enough to be recognised as new work.

In the Burra Charter (1999), the definition of 'adaptation' was changed significantly compared to the previous version. It was defined as modifying a place to suit the existing or proposed use, which could involve the introduction of new services, a new use, or changes to ensure the place's safeguarding. The document also highlighted that 'use' encompassed functions, activities, and practices that could occur at the site. Furthermore, it emphasised that 'use' itself could be a form of cultural significance or contribute to overall cultural significance when combined with other attributes such as fabric, associations, meanings, and related places and objects. Therefore, the impact on 'use' should be minimal to preserve its value.

Subsequently, the Hoi An Protocol (UNESCO Bangkok 2009) was influenced by the aforementioned charters, presenting both 'adaptation' and 'rehabilitation' together without explaining their differences and relationships. Nevertheless, based on the definition provided in the Appleton Charter (ICOMOS Canada 1983), this document further elaborated on the 'contemporary functional standards' in 'rehabilitation' with more details such as safety, property protection, and access, whereas 'adaptation for new use' has been substituted with a new concept – 'adaptive reuse' (C28) (see Fig. 4).

In the New Zealand Charter (2010), 'adaptation' was listed as one of the main concepts under the degree of intervention for conservation purposes, together with 'preservation', 'restoration', and 'reconstruction' (see Fig. 2). Following the idea that 'conservation is facilitated by serving a useful purpose', the proposals for 'adaptation' to a place 'may arise from maintaining its continuing use or from a proposed change of use' (see Fig. 4). These 'adaptation' processes include alteration and addition but with restrictions, as 'Any alterations or additions should be compatible with the original form and fabric of the place and should avoid inappropriate or incompatible contrasts of form, scale, mass, colour, and material'. Moreover, 'adaptation should not dominate or substantially obscure the original form and fabric and should not adversely affect the setting of a place of cultural heritage value. New work should complement the original form and fabric'.

In the latest version of the Burra Charter (revised 2013), 'adaptation' was defined as potentially involving 'additions' to the place, the introduction of new services, a new use, or changes to safeguard the place. Most importantly, in the Explanatory Note, 'adaptive reuse' was mentioned in reference to the 'adaptation' of a place for a 'new use' (see Fig. 4).

With the absence of 'rehabilitation' and without defining 'adaptation', the China Principle (2015) highlighted the importance of 'appropriate use' and 'adaptive reuse'. 'Appropriate use' includes the 'continuation of the original function' or 'adaptation for an appropriate modern use' when a site has lost its original function. Both could create social and economic benefits as well as bring the heritage place up to modern living standards. However, when implementing 'adaptation', if the new facilities added to a site were for the purpose of use, they must not negatively impact the identified values; they must not be overused and should be reversible in the future.

In summary, 'rehabilitation' was emphasised as a modification for meeting contemporary functional standards and requirements (ICOMOS Canada 1983; UNESCO Bangkok 2009), whereas 'adaptation' focused on a broad range of 'change' to not only suit use but also safeguard cultural significance. Paradoxically, the definitions of 'rehabilitation' and 'adaptation' still overlapped. Regarding common ground, it was found that 'adaptive reuse' was a subcategory of 'adaptation' or 'rehabilitation', which were related to 'new use'.

3.5 Summary of the definitions

According to the historical review and analysis of the selected concepts in Sections 3.3 to 3.5, the definitions of the concepts are then summarised and presented as follows:

> **Conservation (C1)** is a broader concept that includes all intervention concepts (as an umbrella concept), ranging from non-intervention, maintenance, preservation, restoration, adaptation, and reconstruction, including retaining, reintroducing, and changing use. Conservation manages changes and pursues a continuous balance between contemporary values and the layers of cultural significance and its attributes.
>
> **Preservation (C2)** is a concept that maintains all the attributes that convey cultural significance, aiming to maintain the maximum integrity of cultural significance. It is different from, and sometimes goes beyond, maintenance. Other interventions, such as repair and restoration, may be applied together to maintain the maximum integrity of cultural significance.
>
> **Restoration (C3)** occurs when the attributes conveying cultural significance are damaged but mostly recognisable. Restoration refers to bringing the attributes back to a previously known stage using the same material. Restoration involves not only pursuing unity in style but also ensuring the integrity of the attributes and the conveyed cultural significance. Restoration can also reveal 'preferred' values through the removal of earlier additions considered dissonant

with cultural significance. It could also be seen as a partial reconstruction.

Reconstruction (C6) occurs when cultural significance is lost due to either human or natural intervention. Reconstruction involves rebuilding the elements that convey cultural significance, returning them to their previously known state using new materials. Therefore, reconstruction is considered new construction work.

Reassembly/Anastylosis (C7) occurs when a building or elements have been dismantled due to a natural or human-induced disaster or a disassembly history according to the local tradition. The purpose of reassembly/anastylosis is to bring the existing separated building elements back together to restore the building to its previous state. This concept can be considered a subconcept of the restoration process.

Change (of) use (C10) refers to proposing a new and different purpose for a building than what was originally intended or currently in use. The change of use is a crucial subconcept of adaptive reuse.

Adaptation (C11) refers to all the changes that involve, on the one hand, the alteration of the physical aspect of the building and the preservation of its cultural significance through continued or reintroduced use and, on the other hand, change of use when it is not considered to have cultural significance. The relationships among adaptation, adaptive reuse, and rehabilitation are strong but need to be better understood and further clarified.

Maintenance (C12) is an essential aspect of all conservation projects involving the regular and ongoing care of buildings and the preservation of their cultural significance. This includes activities such as cleaning and preventive measures.

Removal (C14) refers to all the changes involving the subtraction of building elements or buildings while ensuring that the maximum cultural significance is preserved. The removed parts should be preserved for future reinstatement or reuse in the same or similar buildings.

Rehabilitation (C15) refers to all the changes that involve, on the one hand, the physical aspect of a place to preserve its cultural significance, including its continued or renewed use, and, on the other hand, change of use, when it is no longer considered culturally significant. Specifically, this refers to all the changes necessary to make a place habitable again. This may involve introducing new facilities or systems to meet contemporary living requirements. The relationships among adaptation, adaptive reuse, and rehabilitation are complex and still need to be better understood and further clarified.

Repair (C20) occurs when accidental events occur and aims to prevent further damage and return the system to a normal or functional state. Repair is distinct from maintenance because it involves removing and replacing broken parts with new materials that respect cultural significance and match the original design. In the case of timber structures, repair can be part of a regular cycle, occurring annually or seasonally. From an action perspective, repair can also be seen as restoration, involving the removal and addition of original materials, or as reconstruction, involving the addition of new materials.

Retaining use (C23) refers to maintaining and not changing existing use. This may include some physical modifications to fit contemporary functional requirements.

Reintroducing use (C24) refers to bringing back the use that was originally planned for the site but is no longer the same as the existing one or is gone. This may include some physical changes.

Adaptive reuse (C28) refers to the adaptation to change (removing and adding) for a new/different use, which was not originally proposed. The new/different uses may range from functions, accessibility, activities and association of place. There is a strong relationship among adaptation, adaptive reuse and rehabilitation, but this relationship has yet to be understood and clarified.

4 Discussion

According to the analysis in the previous sections, differences and commonalities in concepts have been revealed. In Section 3.2, the concepts of 'conservation' and 'preservation' were discussed and treated as two distinct concepts based on a historical review. While the definition of 'conservation' has been expanded, the definition of 'preservation' has become stricter. However, some differences were found. On the one hand, documents presented different ideas about the extent of intervention, encompassing various concepts, and sometimes treated them as subconcepts or activities within the conservation process. On the other hand, although cultural significance has gained importance, its criteria and how values or attributes are involved and influence decision-making in interventions are still unknown. Additionally, different documents also reflect various attitudes towards 'conservation' and other concepts. Notably, the Venice Charter defines 'conservation' as 'making use of' the monument, especially for social purposes, while maintaining the original layout and decoration, which could turn the monument into a museum-like entity and make it a 'mummified' monument. However, the Burra Charter (1979), which introduced the concept of 'adaptation'

and allowed for changes, expanded the notion of 'conservation' beyond its traditional linguistic meaning, which closely aligned with 'preservation'.

From the results of Section 3.3, 'restoration (C3)', 'reconstruction (C6)', 'reassembly/anastylosis (C7)', 'maintenance (C12)' and 'removal (C14) and 'repair (C20)' were found to have overlapping definitions. Notably, a distinction was identified between 'maintenance', which involves preserving the existing state, and 'repair', which involves returning to a previous state. 'Maintenance' was considered to have a closer relationship with 'preservation' than with 'repair'.

These results also revealed differences among 'restoration', 'reconstruction', and 'maintenance', particularly in relation to 'repair'. There is a significant difference between 'restoration' and 'reconstruction' regarding the introduction of new materials to built heritage. This difference is evident in both the Burra Charter (ICOMOS Australia 2013) and the New Zealand Charters (ICOMOS New Zealand 2010). If no new materials are introduced, it is considered 'restoration'. The introduction of new materials is considered 'reconstruction'.

Furthermore, the Burra Charter (2013) explains the relationships among 'maintenance', 'repair', 'restoration', and 'reconstruction'. This suggests that 'repair' is not only different from 'maintenance' but also broader than 'restoration' and 'reconstruction'. In contrast, in The New Zealand Charter (2010), 'repair' is considered a subcategory that shares the same hierarchy as 'maintenance', supporting the concept of 'preservation'. The paradox here is that in The New Zealand Charter, 'repair' is allowed to introduce new materials, which, according to the earlier logic, would make it the same as 'reconstruction'. This means that 'repair' is a concept that goes beyond mere 'preservation'.

In Section 3.4, definitions with significant overlap among 'adaptation (C11)', 'rehabilitation (C15)', and 'adaptive reuse (C28)' were identified, mainly due to the involvement of different levels of changing use, ranging from 'retaining use (C23)' to 'chang (ing) use (C10)' to 'reintroducing use (C24)'. These different levels of change can be seen as subconcepts and merged into 'rehabilitation', 'adaptation', and 'adaptive reuse'. Following the notion that 'use' has expanded from the functions of the monuments (ICOMOS 1964) to the 'associations of places' (ICOMOS Australia 1999, 2013), including activities, traditional habits, and accessibility, the complexity of mentioning different forms of 'use' has probably later become the reason why some (re)interventions were put into a grey area and used interchangeably. Although in this paper, the definitions of 'adaptation' and 'rehabilitation', as well as their relationships, are still unclear, the findings show that while the majority (five) of the documents mentioned 'adaptation' in relation to 'new use or change of use', two documents—the Burra Charter (1999) and (2013)—mentioned 'changes to safeguard the place'. This implies that 'adaptation' could also be related to the same use and involve physical changes. Thus, in the latest version (2013) of the Burra Charter, 'adaptation' has a more comprehensive meaning, which includes multiple situations ranging from retaining the existing use to reintroducing the use to proposing a new use. This finding resonates with the theory of Douglas (2006), as he noted that 'adaptation' has a broader meaning behind it.

In addition to the aforementioned concepts, one might think that some categories, such as 'retaining association and meanings', are unnecessary. However, since an intervention concept that solely focuses on preserving intangible aspects of heritage is still lacking, incorporating this concept could help us carefully reconsider how we intervene in built heritage and environments, particularly in diverse cultural contexts. According to the results, what we understand from its definition is that to 'retain association and meaning', various actions can be implemented, such as 'respect', 'retain', 'not obscure', 'continue', and 'revive'. Additionally, it is connected to the concepts of 'interpretation' and 'use', which encompass different values and cultural significance.

Since the Venice Charter was drafted in 1964 and adopted in 1965, the Burra Charter (1976) and other documents have been adopted for decades. Viewing them with a contemporary eye, these documents are still considered very forwards-thinking. Examples include addressing modern technologies and contemporary stamps in interventions (ICOMOS 1964) and encouraging 'adaptation' (ICOMOS Australia 1979). Nevertheless, concepts have evolved across documents, and when all the documents claimed to refer to the Venice Charter or others, those definitions were not exactly the same. Sometimes, this process resembled cherry-picking the definitions from others and interpreting them without consistency. This has created a dilemma, such as in the case of the Hoi An Protocol, which references different charters and documents simultaneously to select the most suitable references. This has caused confusion in terminology, let alone other conservation ideas. A possible solution could be to provide more customised and well-explained documents in addition to providing a general explanation of conservation principles and ethics. The example of the Burra Charter (ICOMOS Australia 2013), which provides additional explanatory notes alongside the main articles, is very helpful for understanding the concepts both in general and in the local context. Additionally, a longer paragraph should be dedicated to 'use-related concepts', ranging from 'adaptive reuse' to 'adaptation' and 'rehabilitation'.

The discussion on the definition of intervention concepts is not only a linguistic matter. Every discipline and field has its own ontology. In medicine and biology, there are unique Latin concepts that are further translated into local concepts. These ontologies help disciplines evolve by comparing different research over time and place, as well as research and practice. The results of this research, even if preliminary, are a step forwards, helping to avoid creating barriers and misunderstandings. The definition of intervention concepts cannot remain random. As international doctrinal documents are supposed to be understood and assist in implementation in different cultural contexts, their concepts should be defined. Over time, experts may gain more knowledge, and the definitions may evolve. However, it is important to have a common base to enable better continuity and integration.

5 Conclusion

Understanding the frequency with which concepts are used and their relationships can provide insights into the evolution of ideas and shifts in mentality in policies and conservation theories. This paper has identified three main findings. First, notable trends were found in signalling the allowance of 'adaptation' in the historic environment in the New Zealand Charter (1992), as well as preferences for using 'conservation' as a broader concept. Second, 'repair' was found to play a paradoxical role between 'restoration' and 'reconstruction', leading to divergent opinions in documents. Third, in the concepts related to 'use' – 'adaptation', 'adaptive reuse', and 'rehabilitation' – their definitions have become more complex due to the expanded notions of 'use' from the functions of the monuments (ICOMOS 1964) to the 'associations of places' (ICOMOS Australia 1999, 2013). This paper highlights the differences and commonalities in these concepts and provides a list of selected concepts with more diverse definitions that should be further researched.

Nevertheless, the definition of the intervention concepts cannot remain random, as revealed in some concepts in this research. Greater consistency in the concepts and definitions used can not only help experts build common ground but also foster cooperation among academics and practitioners. This paper highlights the 'uncommon' concepts used in international doctrinal documents. By understanding this uncommonness, educators and students in academia can avoid cherry-picking and instead refer to more suitable materials for educational purposes. Thus, in practice, discrepancies can be uncovered, and misunderstandings and misleading in future decision-making processes can be prevented. More specifically, a clear definition of interventions can facilitate the decision-making process, especially at the local project level. Effective guidance

from government policies and regulations can support professionals in selecting appropriate conservation categories, thus directing their efforts towards real projects. From a broader perspective, greater consistency also promotes cross-disciplinary cooperation. Although 'renovation' may not be emphasised in heritage protection documents, there is an ongoing wave of 'renovation' in energy-driven policies targeting built heritage in Europe. Essentially, while heritage protection documents may not prioritise 'renovation', energy-driven policies increasingly promote 'renovation' initiatives as part of efforts to conserve built heritage. The misalignment in language use and related criteria can create challenges, as it may lead to conflicting priorities and jeopardise the conservation of built heritage.

Further research involving new criteria, such as cultural values, attributes, and cultural significance, is suggested to assist in the process of defining the proposed concepts. Their definitions often overlap with each other. A possible approach is to cooperate with professionals from linguistics or anthropology to analyse the respective charters based on cultural distinctions in intervention concepts. This analysis should focus on distinctions in light of the cultural and historical context in which these concepts emerged.

Research investigating international doctrinal documents in multiple languages and cultural contexts is also suggested. This research should compare the changes and consistency of intervention concepts used in heritage management across different cultural and historical contexts. Specifically, the implementation of recommendations over time and space should be examined after these concepts are translated and interpreted in relation to the cultural significance adopted by the relevant local community. For example, the UNESCO Convention on World Heritage and the Recommendation on the Historic Urban Landscape should be examined.

Moreover, further research can also explore material perspectives, focusing on the use of concepts for specific building materials and technologies. For example, the different meanings of 'repair' between wooden, steel, and concrete structures can be investigated.

Finally, this paper aims not to denounce the function of the selected documents and find perfect or generalisable intervention concepts but to acknowledge the importance of these international doctrinal documents as evidence of evolving conservation theory and practice. Therefore, it is relevant to revisit these documents from time to time to understand the trends in how built heritage is recommended for management and intervention. The more one can explore the differences between cultures over time, the more creativity and diversity will be promoted for the built environment and its interventions.

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