Multicriteria Tools for the Implementation of Historic Urban Landscape

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ABSTRACT

Purpose: The aim of this paper is to provide an overview and critical outlook of current evaluation tools for the implementation of the UNESCO Historic Urban Landscape (HUL) approach, focusing on the need of multidimensional / multistakeholder evaluation and impact assessment to turn heritage / landscape into a driver of sustainable development.

Methodology/Approach: We analyse the definition of Historic Urban Landscape comparing the thoretical mandate to current tools / practices. Based on literature review and critical analysis of recent experiences, we identify indicators categories and evaluation methods that can be applied for a reacher cost-benefit analysis.

Findings: Indicators and evaluation methods for multidmensional impact assessment of conservation / regeneration are not applied in HUL recent initiatives and guidelines. Evaluation tools can be developed and tested to inform decision-making processes and to turn the cultural value of heritage / landscape into a resource able to attract investments. A framework for HUL impact assessment can be structured including wellbeing indicators and stakeholders analysis.

Research Limitation/implication: New hybrid tools are proposed, providing a possible toolkit for evaluation. However, it needs further testing and implementation.

Originality/Value of paper: This paper contributes to bridging the gap between the theoretical approach of the Historic Urban Landscape and its operative practice. The HUL approach has been generally acquired in the theoretical research, but its implementation is still sporadic, and unframed into urban regeneration policies. Evaluation tools are not incorporated in the HUL practices.

This paper aims to advance the existing knowledge on evaluation tools to make operational the HUL approach.

Category: Research paper

Keywords: Historic Urban Landscape; evaluation tools; impact assessment; cost-benefit analysis; multidimensional indicators

1   INTRODUCTION

Urban heritage conservation in rapid transformation contexts is a great challenge for today's cities (Bandarin and Van Oers, 2012; Bandarin and Van Oers, 2014). There is an urgent need of adequate services and infrastructure for millions of people expected to migrate to urban areas in the next decades.

Cities can be engines of economic growth of regions and countries, but also places of poverty, social segregation and fragmentation of relationships, diseconomies and pollution (Fusco Girard, 2014a). Recent outcomes of international meetings and working groups on urban sustainable development highlight the role that cultural heritage can play in enhancing living conditions, social cohesion and cultural diversity in cities, thus contributing significantly to wellbeing and prosperity (European Commission, 2014; United Nations, 2015; UNESCO, 2015). Conservation and regeneration of urban heritage could be considered a key investment for sustainable local development (Licciardi and Amirtahmasebi, 2012; Van Balen and Vandesande, 2016), but sound methods and tools for the evaluation of the economic and social / environmental impacts of heritage-led urban regeneration are still lacking (Ginsburgh and Throsby, 2014; Throsby, 2016).

The 2011 UNESCO Recommendation on the Historic Urban Landscape (UNESCO, 2011) recognize the need of supporting the protection of cultural and natural heritage in rapid and uncontrolled urbanization contexts, integrating the notion and value of transformation in heritage integrated conservation strategies.

The definition of Historic Urban Landscape (HUL) considers the "historic layering of cultural and natural values and attributes, extending beyond the notion of 'historic centre' or 'ensemble' to include the broader urban context and its geographical setting" (Art. 8). It includes "perceptions and visual relationships", "social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity" (Art. 9). The intangible social and cultural dimension of urban heritage/landscape, the "atmosphere" and sense of place as perceived and created by local communities (past and present ones) contribute to the productivity of cities in a broad and multidimensional sense.

The HUL approach aims at "preserving the quality of the human environment, enhancing the productive and sustainable use of urban spaces, while recognizing their dynamic character, and promoting social and functional diversity" (Art. 11).

It introduces a paradigm shift from conservation as a "value in itself", to conservation as a "tool" for managing change while preserving cultural values. HUL advocates the development of tools to "manage physical and social transformations and to ensure that contemporary interventions are harmoniously integrated with heritage in a historic setting" (Art. 12): innovative civic engagement, knowledge and planning tools, financial tools and regulatory systems (Art. 24).

The assessment of multidimensional impacts of HUL conservation / regeneration on city productivity is fundamental to demonstrate the effectiveness of proposed tools, to inform policy design and leverage private and public investments.

The objective of this paper is to provide an overview and critical outlook of current evaluation tools for the implementation of the UNESCO Historic Urban Landscape approach, towards a comprehensive framework for impact assessment of HUL conservation / regeneration. Section 2 provides a critical overview of existing tools, briefly analysing recent experiences of HUL implementation. In Section 3 we identify indicators categories and evaluation tools for multidimensional / multistakeholder impact assessment. Section 4 provides a critical discussion and open questions, proposing a possible framework for HUL impact assessment.

2   EVALUATION TOOLS: THE NEED OF SPECIFIC APPROACHES

Cultural heritage can be an effective catalyst for stimulating local and regional economies, producing significant economic impacts (Nypan, 2006; Rypkema, 2008).

The recent HUL Guidebook highlights that "successful management of urban heritage in complex environments demands a robust and continually evolving toolkit" (UNESCO, 2016, p.14). The guidelines identify specific tools based on the 2011 Recommendations: community engagement tools (Planning, GIS, Big data, Morphology, Impact / vulnerability assessment, Policy assessment), knowledge and planning tools (Publicity, Dialogue and consultation, Community empowerment, Cultural mapping), regulatory systems (Laws and regulations, Traditional custom, Policies and Plans), financial tools (Economics, Grants, Public-private cooperation).

Evaluation tools are not included between these tools. Evaluation processes should be considered in this framework as an additional fundamental category of management tools, currently almost unexplored in the field of HUL regeneration. They are necessary to manage the complex balance of conservation and development needs in Historic Urban Landscapes.

Tab. 1 shows six critical steps to facilitate the implementation of the HUL approach, highlighting the need of possible evaluation tools in each stage.

Sectorial tools have been recently developed for heritage assessment, such as the ICOMOS Guidance for Heritage Impact Assessment (HIA) (ICOMOS, 2011), which provides a framework for the assessment of the impacts of urban transformations "on" the cultural value of properties.

The HIA Guidance has been applied in many cases (Pereira Roders and Van Oers, 2012) but it excludes the economic and social dimension of heritage regeneration. The HIA remains a sectorial framework unable to address the complex challenges of integrated impact assessment (Morrison-Saunders, et al., 2014; Pope, et al., 2013; Fusco Girard, et al., 2015).

Fig. 1 shows two possible approaches to impact assessment: impacts "on" the cultural value and the impacts "of" HUL for the enhancement of city productivity.

Table 1 – Six steps for making operational the Historic Urban Landscape approach - adapted from the HUL Guidebook (Source: UNESCO (2016))

| Phases	Activities	Possible proposed evaluation tools
1. Identify Resources	Mapping and survey of cultural and natural resources	Spatial evaluation tools, surveys, community involvement tools
2. Identify Attributes and Values	Involve stakeholders and experts in the identification of attributes and values of cultural and natural heritage	Multistakeholder and multidimensional tools / approaches (through Living Lab processes)
3. Understand vulnerability	Assess vulnerability of heritage to socio-economic stresses and climate change	Multicriteria evaluation tools
4. Planning and design for conservation / regeneration	Identify heritage sensitivity areas and develop regeneration projects	Spatial evaluation tools Evaluation approaches for the assessment of attractiveness
5. Prioritize	Identify and prioritize actions for conservation and development	Multidimensional, multicriteria and multistakeholder evaluation tools, cost-effectiveness and benefit analysis
6. Realize	Establish partnerships and local management frameworks for each project	Monitoring tools Financial tools Cost-benefit analysis New management / economic / business models
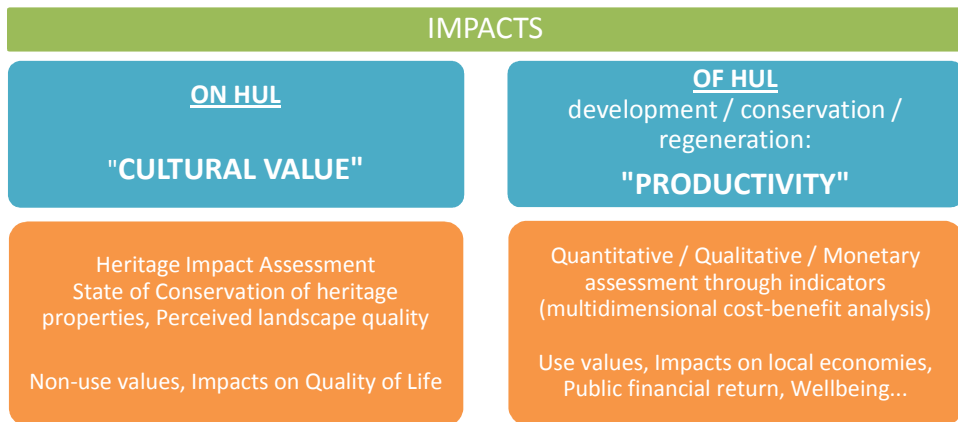
Figure 1 – Impacts of HUL conservation / regeneration on cultural value and overall city productivity

A similar approach has been adopted by UNESCO State of Conservation reports, which identify major threats to World Heritage properties (UNESCO, 2014). Buildings and development, social/cultural uses of heritage (such as tourism pressure) and transportation infrastructures represent threats to World Heritage properties. However, housing and public space enhancement, compatible heritage use and infrastructure can represent also key factors of sustainable development: it is only through the "project" that potential threats can be turned into social, cultural, environmental and economic benefits for communities, exploiting the full potential of HUL as a driver for sustainable growth, taking into account stakeholder and end-users needs/preferences. Adaptive re-use projects, new management and business models can enhance city productivity through HUL regeneration.

2.1 Historic Urban Landscape evaluation: recent experiences

The HUL Guidebook includes 8 case studies and best practice of HUL implementation: Ballarat, Australia; Shanghai, China; Suzhou, China; Cuenca, Ecuador; Rawalpindi, Pakistan; Zanzibar, Tanzania; Naples, Italy; Amsterdam, Netherlands. Only in few cases (Cuenca, Rawalpindi, Amsterdam) assessment methods has been proposed and experimented.

In the case of Cuenca, urban landscape units have been identified based on participative landscape quality assessment. Cultural values, heritage resources, recommendations and necessities of each unit has been the main output of the methodology.

In Rawalpindi, a vulnerability assessment has been carried out based on the outcomes of participative meetings and seminars and street level consultation. The result has been an understanding of the values of the historic city and the attributes which need to be safeguarded. Assessment of the vulnerability of these

attributes to socio-economic pressures has been carried out focusing on built heritage, traditional occupations and bazaar resilience, cultural diversity and the religious landscape.

In Amsterdam, a more sophisticated taxonomy-based (classification) policy analysis tool has been applied to understand how urban policies in Amsterdam are being applied and used in relation to HUL. The tool has four taxonomy dimensions: attributes (what), values (why), actors (who), process (how). A matrix of "cross-relating taxonomy" has been used to analyse the different approaches of workshops' participants, mainly heritage and urban officers, to heritage regeneration.

These experiences have been focused on the assessment of characters and values of historic urban landscape, involving local communities and specific groups of stakeholder for vulnerability assessment and proposal of strategic action. In all these cases, the impacts of conservation / regeneration have not been addressed.

3   TOWARDS A FRAMEWORK FOR MULTIDIMENSIONAL IMPACT ASSESSMENT OF HISTORIC URBAN LANDSCAPE

Multicriteria, multidimensional and multistakeholder evaluation methods and sophisticated quantitative-qualitative indicators are needed to hybridize in a creative way tradition and modernity, memory and current action, conservation and transformation, turning the cultural value into a resource of city productivity.

Cost-benefit analysis can provide critical evidence base of the benefits of conservations vs. development, but multidimensional categories of costs and benefits should be introduced. Economic matrix is necessary, but not sufficient to assess the impacts of projects and investments in multiple dimensions. New tools for integrated cost-benefit analysis should be implemented to make operational the HUL approach (Ost, 2013; Fusco Girard, 2014b; De Rosa and Nocca, 2015; Garcia Vélez, et al., 2016).

Fusco Girard, et al. (2015) identify six categories of impact to assess the "productivity" of HUL conservation / regeneration, and thus the multidimensional benefits produced: Tourism and recreation, Creative and innovative activities, Typical local productions, Environment and Natural Capital, Community and social cohesion, Real estate. The cultural value of properties / landscape is introduced as a complex indicator based on the Heritage Impact Assessment matrix.

These comprehensive impact categories can be further integrated considering two key aspects of HUL regeneration: (1) the enhancement of wellbeing / welfare of communities and (2) financial returns of public investments.

A set of synthetic, measurable indicators is necessary to structure a comprehensive framework for a robust and richer cost-benefit / effectiveness analysis. The aim is to produce practical evidence of the cultural, economic,

social and environmental benefits of HUL conservation / regeneration, assessing the economic, environmental and social return on investments based on quanti-qualitative and economic analysis.

Evaluation tools for cultural heritage have undergone vast improvement in recent years (Rypkema, 2008; Ginsburgh and Throsby, 2014; Throsby, 2016). However, multidimensional cost-benefit analysis still have to be developed and tested. Sound methodology and good data are needed to assess the impacts generated by heritage conservation, considering market and non-market values (Vernieres, et al., 2012). To achieve this and promote evidence base for informed policies and investments in Historic Urban Landscape regeneration, existing barriers between disciplines must be overcome and integrated approaches developed.

Tab. 2 shows a proposal of indicator categories related to the multidimensional impacts identified.

Table 2 – Categories of impact of HUL conservation / regeneration and categories of indicators (Source: Adapted from Fusco Girard, et al. (2015))

CATEGORY of IMPACTS	CATEGORIES of INDICATORS
Tourism and Recreation (cultural events and resident's use of heritage)	Tourism demand / supply (direct use of heritage)
	Residents demand (direct use of heritage)
	Cultural facilities, services and events demand / supply
	Tourism facitilies, retail and services demand / supply
	Employment in tourism sector
Creative and cultural / innovative activities	Growth of Creative Industries
	Employment in the Creative Economy
Typical food&beverage local productions	Market value of typical food&beverage products
	Growth of food&beverage companies
	Employment in the typical food&beverage industry
Environment and Natural Capital (natural heritage, cultural landscapes)	Green areas and facitilies use / supply
	Economic value of Ecosystem / Landscape Services (direct use values: provisioning services)
	Energy savings
	Ecosystem preservation - Economic value of Ecosystem / Landscape Services (indirect use values: support services, regulating and maintenance services)
Community and Social Cohesion	Sharing / Collaborative economy
	Donations for heritage conservation
	Social care
	Social cohesion
Real estate	Real estate values
	Urban growth (infrastructure, land use change, public space enhancement)
	Urban renewal (restoration, adaptation of historic buildings, reduction of vacancy rates)
	Employment in real estate sector

CATEGORY of IMPACTS	CATEGORIES of INDICATORS
Welfare / wellbeing	Poverty alleviation
	Sanitation
	Crime reduction
	Improved public safety (perceived)
	Improved wellbeing (perceived)
	Improved cultural benefit (perceived)
	Landscape quality (perceived)
Public financial return	Fiscal revenues
	Attraction of private investments
Cultural value of properties / landscape	State of conservation
	HIA synthetic indicator (1 to 5 value)
	Intrinsic value
	Economic value of Ecosystem / Landscape Services (cultural services – non use values)

Indicators for the assessment of tourism and real estate impacts have been implemented in many experiences, while indicators of environment and natural capital, community and social cohesion, public financial return, welfare/wellbeing still need further research and case study testing. We focus here on wellbeing indicators recently developed and tested in Italy.

Stakeholders' analysis should be integrated in the framework. We analyse the method of Community Impact Evaluation towards a comprehensive framework that takes into account costs and benefits for all stakeholder groups in the perspective of effective HUL management.

3.1 BES indicators of Sustainable and Equitable Wellbeing

The indicators of "Sustainable and Equitable Wellbeing" (BES) have been developed by the Italian National Institute for Statistics providing annual reports at the national and city level (ISTAT, 2015a; ISTAT, 2015b). The BES framework identifies 12 domains of wellbeing and 134 indicators, monitored on an annual base using nationally aggregated data as well as local data. The BES project links with the international debate on "GDP and beyond" (Stiglitz, Sen and Fitoussi, 2009; Costanza, et al., 2009; European Commission, 2009; Bartelmus, 2014), the central idea is that economic parameters alone are inadequate to evaluate the progress of societies and should be complemented by social and environmental information and by measures of inequality and sustainability. The 12 domains of wellbeing are showed in Tab. 3.

Table 3 – BES Wellbeing domains (Source: Adapted from ISTAT (2015a))

The individual sphere	
1. Environment	5. Work - life balance
2. Health	6. Social relationships
3. Economic well-being	7. Safety
4. Education and training	8. Subjective well-being
The context	
9. Landscape and cultural heritage	11. Quality of services
10. Research and innovation	12. Policies and institutions

The BES framework explicitly includes the domain of "Landscape and cultural heritage" in the contextual indicators of wellbeing, an innovative approach compared to other well-established indexes developed worldwide such as: the Canadian Index of Wellbeing, Capability Index, the EU Set of Sustainable Development Indicators, European Benchmark Indicators, Genuine Progress Indicator, Happy Planet Index, Human Development Index, Index of Living Conditions, JFS Sustainability Vision and Indicators, MDG Dashboard of Sustainability, Millennium Development Goals Index, Sustainable National Income, World Happiness index, National Accounts of Well-Being (European Commission, 2016).

Tab. 4 reports the indicators used in the BES for the measurement of landscape and cultural heritage component of wellbeing. These include subjective and objective indicators, which data are collected through annual national surveys.

Table 4 – BES Landscape and cultural heritage indicators (Source: Adapted from ISTAT (2015a))

BES Domain 9. Landscape and cultural heritage indicators	
Objective indicators	Endowment of cultural heritage items
	Current expenditure of municipalities for the management of cultural heritage
	Illegal building rate
	Urbanization rate of areas subject to building restrictions by virtue of the Italian laws on landscape protection
	Erosion of farmland from urban sprawl
	Erosion of farmland from abandonment
	Presence of historic rural landscapes
	Presence of Historic Parks/Gardens and other Urban Parks recognized of significant public interest
	Conservation of historic urban fabric

BES Domain 9. Landscape and cultural heritage indicators	
Expert assessment	Quality assessment of regional programmes for rural development (PSRs), with regard to the landscape protection
Subjective indicators	People who are not satisfied with the quality of landscape of the place where they live
	Concern about landscape deterioration

The BES (national level), UrBES (city level) and Provincial BES experiences demonstrate how local-national data and subjective-objective indicators can be used in a comprehensive framework for the monitoring of multiple benefits of HUL regeneration.

3.2 Towards a Community Impact Evaluation (CIE) revised approach

The Community Impact Evaluation (CIE) has been proposed by Lichfield to allow for quantitative-qualitative impact evaluation of projects/programmes, considering costs and benefits to directly and indirectly involved stakeholder groups (Fusco Girard and Nijkamp, 1997; Lichfield, 2005). A revised CIE approach (Fusco Girard, et al., 2016) can be applied for the assessment of HUL regeneration projects, using matrices that include stakeholders categories and objectives / criteria / indicators related to project scenarios, integrating quantitative monetary and non-monetary data (hard data) with qualitative / perceptual data (soft data). Stakeholder analysis should include the categories of promoters and producers/operators (policy-makers, local authorities, private companies, workers, associations, project related businesses), as well as consumers/users (residents, visitors, local businesses). Ost (2012) identifies four main categories of stakeholders involved in heritage regeneration: residents; visitors; population at large; business, shops and services. Tab. 5 proposes a classification of stakeholders involved in HUL regeneration projects

Table 5 - Stakeholders categories involved in HUL regeneration projects (Source: Adapted from Ost (2012) and Lichfield (2005))

Category	Group
Promoters, Producers/Operators	Local authorities
	Developers/Financiers
	Conservation employees
	Construction industry employees
	Cultural associations
	Foundations
	Craftmen/farmers
	Tourism-related businesses
Consumers/Users	Local businesses / shops / street vendors
	Local owners

Category	Group
	Local residents / occupiers
	New residents
	Users of heritage
	Visitors / tourists
	Passers-by
	Heritage community
	Local community
	Community at large

The costs and benefits for each stakeholders group (other groups can be added based on the specific project/programme) should be assessed to process a comprehensive evaluation of development versus conservation/regeneration projects, in order to find possible balances between conflicting interests.

4 DISCUSSION AND CONCLUSIONS

Though some evaluation tools have been applied in institutional and academic contexts, more research has to be carried out to test effective evaluation tools to manage historic urban landscapes.

Community involvement, vulnerability assessment and mapping tools are necessary, but not sufficient to promote more informed decision making and investments in HUL conservation / regeneration. The experiences analysed show how cultural value can be assessed, but this value should be turned into a resource for economic, social and environmental local development.

Cost-benefit analysis has been processed in the case of World Bank heritage regeneration projects (Licciardi and Amirtahmasebi, 2012; Ginsburgh and Throsby, 2014; Throsby, 2016), UNESCO properties and other cases of investment in historic centres and cultural landscapes regeneration (Rypkema, 2008; De Rosa and Nocca, 2015; Ost, 2012; Gravagnuolo, 2015; Fusco Girard, et al., 2015). These experiences demonstrate the potential of HUL as a driver of sustainable development. However, a structured process for integrated impact assessment, community impact assessment and multidimensional cost-benefit analysis and has still to be implemented.

Fig. 2 shows how a comprehensive framework for impact assessment can be developed, considering the cultural value of HUL, the multidimensional categories of impact, BES indicators and the CIE methodology. The aim is to provide a knowledge base and empirical evidence for informed, effective and wise management of historic urban landscapes.
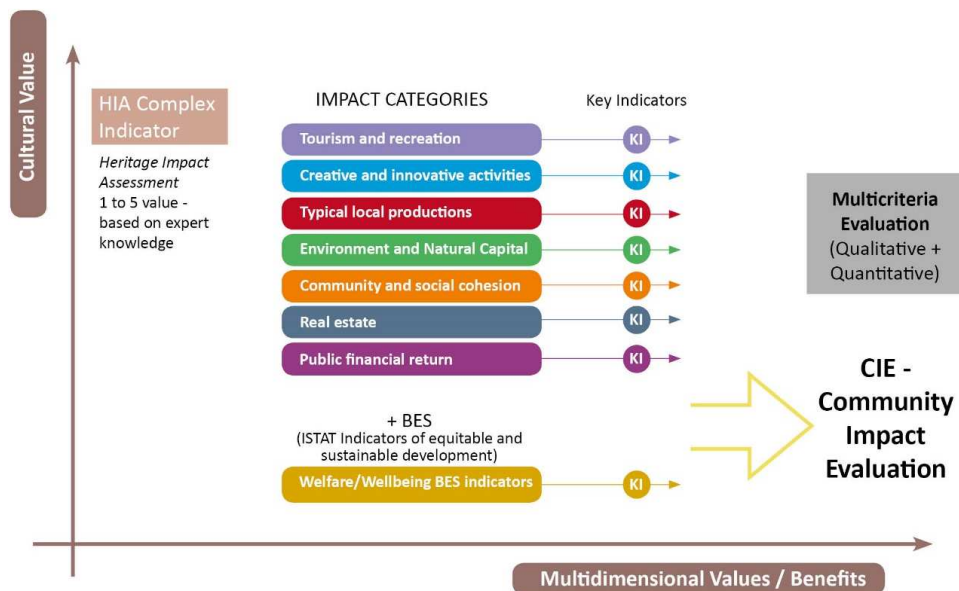
Figure 2 – Towards a comprehensive framework for impact evaluation of HUL conservation / regeneration (Source: Adapted from Fusco Girard, et al. (2015))

Effective, measurable and comparable indicators for HUL assessment should be developed, considering many open research questions:

1) the assessment of costs and benefits and assessment methods for each category of impact;

2) the need of objective, but also subjective indicators, which should be comparable throughout different countries and cultures;

3) the integration of quantitative and qualitative indicators, to assess the sustainability of the benefits produced;

4) the possibility to assess monetary values of non-economic indicators;

5) measurability and reliable / dynamic data sources at the national and regional / city level, and how to aggregate data;

6) stakeholders analysis and involvement in the evaluation process.

Evidence based, wise management of change should be supported by appropriate evaluation methods to promote urban planning and local development strategies that are cultural heritage-led, which enrich the ancient city in a way consistent with the vision of "good city" for all: that is a prosperous city, a "beauty" city, a city of fairness. This is a key dimension of sustainability, and is the way to achieve inclusion, safety, resilience.

The impact categories and methods proposed can represent a starting point for an integrated assessment framework to make operational the Historic Urban

Landscape approach producing evidence base on the contribution of cultural heritage to sustainable development and wellbeing.

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