

Understanding the Concept of Industrial Tourism: A Systematic Review of the Literature

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Abstract: Industrial Tourism can be seen as a type of tourism that includes visits to industrial sites of the present, past or future, therefore including sites that are no longer active in their industrial function, industrial companies currently in operation, sites of future industrial facilities and places whose theme is related to industry (namely industrial technology centers, museums, industrial tourist routes, schools, and industrial laboratories). Thus, Industrial Tourism can include all kinds of tourist activities whose main reason for the visit is related to industrial knowledge, material and/or immaterial heritage. However, there is still a lack of conceptual clarity in the literature that may preclude the affirmation of this research topic that has received a reduced, but increasing, attention from the tourism studies community. The paper aims to contribute to a better understanding of the concept of Industrial Tourism and how it has evolved over time. For that it performs a systematic literature review considering 86 papers published in journals indexed in the two major bibliographic bases - Scopus and Web of Science, between 1996 and 2021. The analysis shows the heterogeneity of definition and approaches to this type of tourism. It also identifies two main approaches to the study of Industrial Tourism. The first sees the tourism phenomenon through the use of elements from the industrial past; The second, addresses it through the visit to active industries, which will allow tourists to experience firsthand the production processes of the products they consume.

Keywords: industrial tourism, concept, literature review, active industry, industrial heritage

1. Introduction

Industrial Tourism is based on the tourist exploitation of industrial heritage (Abad, 2017), and can take place in deactivated productive units (e.g., company museums) or in working productive units, which become educational and tourist attractions due to their specificity (Moral-Moral & Fernandez-Alles, 2019). Studies on industrial tourism are still quite scarce, although growing slowly, and usually focus on the first type of industrial tourism (deactivated productive units). The last type of industrial tourism has been relatively underexplored, and analyses that adopt the perspective of the industrial company that is opening its doors to visitors are particularly scarce (Montenegro, 2020, Montenegro & Sousa, 2021).

In order to better understand the phenomenon and its impacts it is of utmost importance to clarify the concept of Industrial Tourism. In fact, the existing studies have been adopting different concepts and approaches. This conceptual blurriness can hinder the development of empirical research on the topic and make it difficult to compare results achieved in different contexts.

This paper aims to contribute to the scarce literature on industrial tourism in operating production units, by analysing the evolution of the concept over time and unveiling the different perspectives present in the literature. Therefore, it maps the literature on Industrial Tourism, analyzing the evolution of the concept of Industrial Tourism and the type of studies that have been developed. The article uses a Systematic Literature Review methodology. The literature was collected from the two main bibliometric databases: "Web of Science" and "Scopus". Eighty-six articles were identified, covering a 25-year period of research. The analysis includes: i) bibliometrics to allow a description of the studies in terms of their publication date, authors, and number of citations, ii) content analysis to identify the definitions and methodological approaches used by the authors and to classify the papers according to their objectives and main conclusions.

2. Methodology

The Systematic Literature Review (SLR) is a specific methodology to locate studies already conducted in a given area of knowledge, select and assess contributions, analyze and synthesize data, ending with an evidence report that allows drawing reasonably clear conclusions about what is known and what is not known about a given topic or area of knowledge (Denyer & Tranfield, 2009). Through the literature review on the concept of Industrial Tourism, the evolution of the various definitions of Industrial Tourism, presented over the years, is explored.

Performing an SLR, in the theme addressed in this paper, is particularly challenging, given the fragmented nature of the area. We chose to follow the model proposed by Denyer and Tranfield (2009) that considers that SLR includes five essential steps for its elaboration in the business sciences:

- 1. formulation of the research question
- 2. location of the studies to be included
- 3. selection and evaluation of the selected studies
- 4. analysis and synthesis of the selected information
- 5. describe and use the results obtained in the previous steps.

The research question that guided the SLR is: what is Industrial Tourism about? What activities does it include?

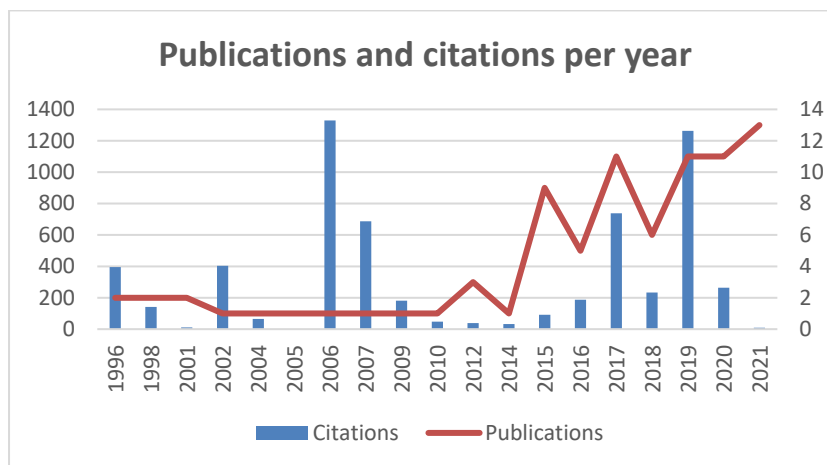
Regarding the location of the studies to be included, this study conducts a literature search on the two scientific databases frequently used in academia: "Scopus" and "Web of Science". The search was conducted on December 6, 2021.

The selection of the studies was conducted using keywords and Boolean operators in the following search query: "industrial tourism" OR "industrial heritage tourism" OR "factory tourism". The results were filtered by: i) the type of publication, retaining only journal papers, ii) the research field, retaining only journals in the field of "Social Sciences / Business, Management and Accounting, Economics, Econometrics and Finance", and iii) the language, retaining only paper written in English, Spanish or Portuguese. This procedure has enabled to identify 86 articles published between 1996 and 2021, that were analysed. The list of articles analyzed (Appendix 1) represents the catalog of studies considered most relevant to the theme, according to the defined search criteria. The analysis was performed in two steps. The first step intends to briefly map the literature, resorting to bibliometrics. The second step performs a content analysis of the 86 papers, based on their in-depth reading. The content analysis was performed manually, considering the definition of industrial tourism proposed / used by the author(s) in each study. The content analysis enables to map the conceptual diversity and to organize the papers in terms of common definitions and perspectives.

3. Results

3.1 Bibliometrics

The articles selected for this analysis were published between 1996 and 2021 (25 years). Figure 1 shows the number of articles published by year, reflecting the increasing trend over the years. Although there was a first publication in 1996, in the following decade there was a reduced number of publications. The interest in this theme began to be more noticeable from 2015 onward, with the year with the most publications being 2021. However, 2006 is the year with the higher number of citations, even though only one article was published in this year.

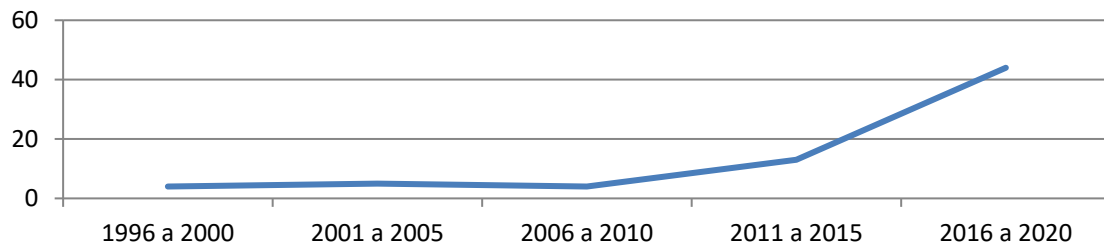


Source: Authors' own elaboration

Figure 1: Distribution of publications and citations by year

The growing interest of researchers is also demonstrated by the constant evolution of the number of publications over the last decade (Figure 2). The year 2021 has 13 publications, which strengthens the idea of a growth of publications on this theme in the coming years.

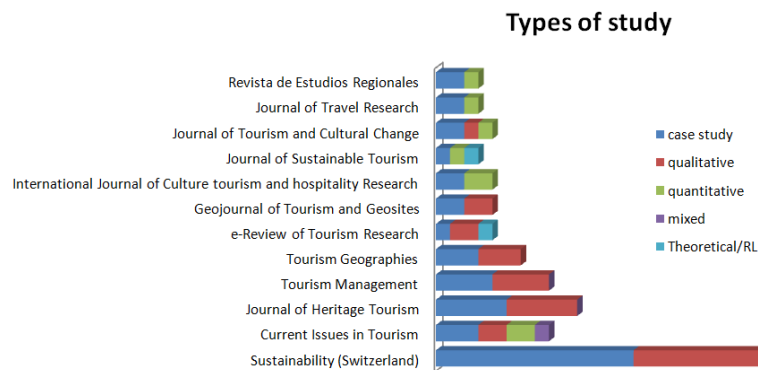
Publications - 5-year periods



Source: Authors' own elaboration

Figure 2: Distribution of publications by 5-year periods

The analyzed articles are published in 49 different journals. Figure 3 shows the journals with more papers, considering also the type of studies that were published.



Source: Authors' own elaboration

Figure 3: Journals and type of studies

In general, the selected articles are spread over journals from different areas, Tourism and Hospitality, Culture, Regional Studies, Economics and Management, Law, Geography, Archeology, Marketing, and Social Sciences, which shows the rather fragmented nature of this theme.

3.2 Defining the concept of Industrial Tourism

This section presents the results of the content analysis considering the definitions of Industrial Tourism provided in the literature.

One of the most widespread definitions of industrial tourism, cited in several papers, is that given by Edwards and Llundés in 1996, who stated that industrial tourism is "the development of tourism activities and industries in human-made sites, buildings, and landscapes that originate from industrial processes of times past" (Edwards & Llundés, 1996).

However, according to a literature study performed in Rodriguez-Zulaica (2017), more recent studies define Industrial Tourism as any tourism activity developed in industrial sites and buildings, active or of our past, provided that its main activity is not or has not been tourism. This second, more updated definition is in line with the current commercial reality of Industrial Tourism. It is reflected in the definition provided in several studies, presented by Rodriguez-Zulaica (2017), namely:

- Industrial Tourism "consists in visits to deactivated industrial sites, to industrial complexes in operation, and in the implementation of specific industrial routes that complement other traditional historical-artistic routes (Presa, 2004),

- "Industrial Tourism, understood as a form of cultural tourism, has as its main objective the dissemination of industrial heritage - old and new - that is closely linked to technology and work and that represents one of the features that have most characterized our way of being, our history and our culture" (Diputació de Barcelona, 2009),

- "set of tourist practices whose motivations for travel involve the discovery of the "world of work", past, present or future, that is, the set of places, techniques, organizations and cultures linked to work" (Álvarez, 2007).

This broad definition of industrial tourism leads to its association to other types of tourism, (Ionica et al., 2020). This is the case of *farm tourism* (Veeck et al., 2010), *farm stays* (Shinners, Lewis, & Parker, 2019), *working exhibitions*, *workplace tourism*, *factory tourism*, *sideline tourism* (Ionica et al., 2020), and *wine tourism* (Salvado, 2016). Although these other types of tourism can be related and can integrate the concept of industrial tourism, it is important to affirm industrial tourism as a more specific concept. For example, in the case of wine tourism, if the tourism proposal of a certain wine farm is to present the industrial process of wine production, it will fit in the concept of Industrial Tourism, in the case of just tasting and selling wine, it does not fit in the concept of Industrial Tourism.

Still, according to Rodríguez-Zulaica (2017), Industrial Tourism in the English literature is associated with the recovery and enhancement of the industrial past of a city or region, using the term "industrial heritage tourism". Accordingly, the frequent translation of Industrial Tourism to Spanish and French appears in many documents as "Industrial Heritage Tourism", a term that is considered a category of "Heritage Tourism", defined as including tourism activities linked to heritage, essentially cultural heritage. In this direction Rudd and Davis (1998) note that "Industrial Tourism is a popular subsection of Industrial Heritage Tourism", while Givental et al. (2019) consider that Industrial Tourism has become an important part of cultural tourism in the West, arguing that industrial heritage is a part of culture and as such reflects national character and national history. According to Perfetto & Presenza (2017) the literature on industrial tourism heritage management seems disjointed and lacks a clear understanding of the main aspects and issues related to it, highlighting the existence of three main themes: tourism demand, local development and destination governance.

Rodríguez-Zulaica (2017) also refers to the existence of other terms related to Industrial Tourism, such, Scientific Tourism, Technological Tourism, Productive Tourism and Tecnotourism. For example, Savia (2007), considers Tecnotourism as a branch of Industrial Tourism, focused on tourist visits to factories and active production centers, with the main objective of knowing their production processes.

According to Rodríguez-Zulaica (2017) industrial tourism was born in the United States and England in the 1960s, and gradually spread to other countries. Zhang et al., (2020) analyze the research conducted in Western Europe and China on this topic. The authors report that the research content in China focuses mainly on the issues of urban renewal, industrial heritage tourism, and creative industries, while Western countries are dominated by industrial heritage and community building, the exploitation of tourism and the protection of industrial sites, post-industrial heritage protection and the use of new technologies. They conclude that China's industrial heritage research is driven by national policy priorities, while research in Western Europe is driven by factual development seeking to solve the problems faced by the transformation of resource-worn cities, especially in restoring the ecological environment of their abandoned industrial sites.

In line with Rodríguez-Zulaica (2017) it is possible to distinguish three perfectly delimited concepts (see Figure 4): the concept of Industrial Tourism that is used to refer to any tourist activity that links tourists to different local industries, whether they are in operation or not, according to their industrial activity, the concept of active Industrial Tourism that refers to the visit of tourists to active companies, with the main objective of learning about their production processes, and the concept of Industrial Heritage Tourism that refers to visits to disused industrial buildings and facilities, with the main objective of learning about the "know-how" of past industry. This distinction is also stressed by Pardo Abad (2004), who distinguishes between two main categories of industrial tourism: i) industrial heritage tourism or "historical tourism" (museums and ecomuseums, factories and industrial sites, industrial routes and interpretation centers), and ii) factory tourism, also known as production tourism, refers to planned visits to active factories and industrial facilities.



Source: Authors' own elaboration based on Rodriguez-Zulaica (2017)

Figure 4: Different concepts of Industrial Tourism

However, some confusion persists regarding its definition, including both visits to active factories and companies and visits to vestiges of a city or region's industrial past, although there are major differences between the two activities (Rodriguez-Zulaica, 2017). As it will be shown in the next sections, some authors identify Industrial Heritage Tourism as being different from Industrial Tourism, other authors consider them synonymous, others still consider that despite not meaning the same thing they complement each other as a tourism offer.

3.3 Defining industrial tourism as visits to inactive industry (industrial heritage)

This section focuses on the studies that adopt the industrial heritage perspective of industrial tourism. Authors consider that industrial tourism is concerned with the development of tourism activities and industries in man-made sites, buildings and landscapes that originated in industrial processes of earlier periods (Edwards & Lluide's I Coit, 1996). It encompasses the industrial heritage, the remain materials of previously existing industry (Xie, 2006). According to this perspective, Guzmán et al. (2014) referred that industrial heritage is made up of tangible and intangible elements that structure in an interconnected way the industrial activity, reinforcing Moral-Moral & Fernandez-Alles(2019) that these tangible and intangible elements would be composed of movable goods (machinery, tools, archives, etc.), real estate (production areas, production facilities, etc.), and real estate (production areas, housing, etc.), the workers' way of life, as well as the know-how of the industrial production processes.

Industrial heritage is the youngest of all heritages because it comprises a collection of structures, parts and machines that were used, in many cases, until very recently (Rodrigues, 2019), including sites, structures, complexes, areas and landscapes, as well as machinery, objects and documents that evidence a past or ongoing industrial process (Moral-Moral & Fernandez-Alles, 2019). The first step to the creation of industrial heritage is disuse: while factories and mines remain active, industrial complexes are not considered heritage, they are fixed assets (Somoza-Medina & Monteserín-Abella, 2021).

According to this perspective, we can consider that industrial tourism emerges to enhance industrial heritage, without forgetting that material heritage issues include the material remains of industry (Prat Forga & Cànoves Valiente, 2017).

3.4 Defining industrial tourism as visits to active industry

Some authors advocate the concept of Industrial tourism as visits to active companies. In this perspective, industrial tourism involves visits by tourists to operational industrial sites where the main activity of the site is non-tourism (Frew, 2000). Tourist go to factories and companies, with the aim of seeing how their products are manufactured, as tourism (Frew, 2000), considers that former industrial sites represent the central attraction of industrial heritage tourism which differs from industrial tourism that focuses on visiting operational industrial sites.

Otgaar (2010), cited by Lee (2015) considers that all visits to private and public companies for leisure and/or to learn more about the company and its production process (education-oriented) fit into the broad definition of industrial tourism, highlighting that terms such as "company visits", "factory visits", "technical visits" and "industrial tourism visits" are often used as a synonym for industrial tourism. He defines industrial tourism as

site visits, where residents and tourists are able to become familiar with the operation of a company in the region, taking a relatively broad approach, allowing visitors to see the workers and production processes, experience or buy finished products, and learn about the history of the company considering also that industrial tourism comprises not only company visits, but also visits to company museums and brand parks. In a more recent paper, Otgaar (2012) considers the possibility that industrial heritage is not included in the definition of industrial tourism, stating that it will only be part of industrial tourism if it requires the participation of operating companies.

3.5 Industrial tourism and industrial heritage tourism as two faces of the same coin

Some authors relate the two concepts, Industrial Heritage and Industrial Tourism, making an approximation of the concepts, considering them as complements.

Jonsen-Verbeke (1999), considered industrial tourism as both the visit to working facilities, and a way to support the sustainable development of old industrial areas, with closed areas and abandoned factories and related infrastructure, thus linking industrial heritage to living industry.

On the other hand Mitchell & Mitchell (2001) include visits to production plants, company museums and company visitor centers as industrial heritage tourism also known as production tourism, industrial attractions and industrial tourism.

Industrial tourism is referred to as a type of tourism that involves tourists visiting sites to learn about past, present, and future economic activities (Otgaar, et al., 2010), in line with Rodríguez-Zulaica (2017) in that stating that industrial tourism can be defined as any tourism activity that relates tourists to different local industries, whether they are in operation or not, according to their industrial activity.

Moral-Moral & Fernandez-Alles (2019) consider that industrial tourism represents a new type of tourism with a remarkable potential for growth and development, referring to Industrial Tourism as tourist visits to industrial or production centers, both disused and active, such as factories, warehouses, workshops, areas of processing and obtaining natural resources, etc., with the aim of transmitting to tourists and society the activities and processes developed. In many cases, it involves the recovery of old, underused or abandoned infrastructure or resources. These same authors refer that the industrial heritage is the central element of industrial tourism that, thanks to its conservation, maintenance and enhancement, becomes a key element for the development of industrial tourism.

In the same line of reasoning, Pardo Abad (2004) considers that industrial tourism is based both on the use of ancient and current industrial heritage for tourism purposes.

On the other hand, Andrade-Suárez & Caamaño-Franco (2020) refer the importance of three different types of resources (pre-industrial heritage, industrial revolution heritage, living industry) that are included in two groups: industrial archaeological heritage and living industry. Another categorization of resources is presented by Hospers (2002), who distinguishes three categories of resources around which industrial tourism is developed: industrial resources in the field of production and work processes, such as mines, production facilities, etc., transport-related resources: roads, railways, bridges, canals, etc., socio-cultural attractions linked to the industrial past of a region, such as workers' housing, among others.

4. Discussion and concluding remarks

The study allowed to realize that the concepts of Industrial Tourism and Industrial Heritage Tourism have been used in different contexts, so it is noted over time some confusion in the delimitation of these concepts, a view also shared by Otgaar (2012) who states that "scholars seem to have different and sometimes contradictory views on the definition of industrial tourism".

For some authors Industrial Tourism also includes the concept of Industrial Heritage Tourism. Other authors differentiate Industrial Tourism as living industry and Industrial Heritage Tourism as industry of the past, which is no longer operational.

In short, the term Industrial Tourism encompasses two different realities: on the one hand, the visit and tourist use of elements of the industrial past and, on the other hand, the visit to active industries, which will allow tourists to experience firsthand the production processes of the products they consume.

For example, Abad (2004) starts from the concept of general Industrial Tourism, for a division into two types: Production-type Industrial Tourism and Industrial Heritage Tourism or "historical tourism". In contrast to Otgaar (2012), consider that industrial heritage sites should be included in the definition of Industrial Tourism, whether they have or not the participation of operating companies. We consider that the concept Industrial Tourism should have a general scope, including all the potential that industry has as an asset for tourism.

From our point of view, there are active companies that have an extraordinary industrial heritage (material and/or immaterial), so the simple fact of the company being active or not, should not delimit the concept. Thus, we consider the concept of Industrial Tourism in line with the definition presented by Abad (2004), where the development of Industrial Tourism is based on the use of the old and current Industrial Heritage, as well as with Rudd & Davis (1998) being Industrial Tourism any tourist activity that relates tourists with different local industries, whether they are in operation or not.

In this context, we can understand Industrial Tourism as a type of tourism that includes visits to present, past or future industrial sites, considering sites that are no longer active in their industrial function, industrial companies in operation and sites of future industrial installations, as well as visits to other sites whose theme is related to industry (industrial technology centers, museums, industrial tourist routes, schools, and industrial laboratories and other similar). We consider that the concept of Industrial Tourism includes all kinds of tourist activities whose main reason for the visit is related to industrial knowledge, material and / or immaterial heritage.

This study has as limitations the fact that the analysis is carried out on articles published in scientific journals written in English, Spanish or Portuguese, not contemplating articles in other languages, as well as documents in other formats (e.g., books, brochures, etc.).

As a suggestion for future work we consider interesting a broader approach that relates the concept to other themes, such as: the impact of Industrial Tourism for the active companies (on the motivation and productivity of factory workers and as a source of innovation) and its role in the protection of living industrial heritage.

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ANNEXES

Authors	Title	Year
Edwards, J.A., Lluurdés I Coit, J.C.	Mines and quarries: Industrial Heritage Tourism	1996
McBoyle, G.	Green tourism and Scottish distilleries	1996
Kerstetter, D., Confer, J., Bricker, K.	Industrial heritage attractions: Types and tourists	1998
Rudd, M.A., Davis, J.A.	Industrial heritage tourism at the Bingham Canyon copper mine	1998
COIT, J.C.L.I.	Heritage tourism and textile "model villages": The case of River Park, Barcelona, Spain	2001
Mitchell, M., Mitchell, S.	Showing off what you do (and how you do it)	2001
Hospers, G.-J.	Industrial heritage tourism and regional restructuring in the European union	2002
Cole, D.	Exploring the sustainability of mining heritage tourism	2004
Geranczyk, W.	The role of industry in formation of functional structure of torun	2005
Xie, P.F.	Developing industrial heritage tourism: A case study of the proposed jeep museum in Toledo, Ohio	2006
Ballesteros, E.R., Ramírez, M.H.	Identity and community - Reflections on the development of mining heritage tourism in Southern Spain	2007
Vargas-Sanchez, A; Plaza-Mejía, MD; Porras-Bueno, N	Understanding Residents' Attitudes toward the Development of Industrial Tourism in a Former Mining Community	2009
Alonso, A.D., O'Neill, M.A., Kim, K.	In search of authenticity: A case examination of the transformation of alabama's langdale cotton mill into an industrial heritage tourism attraction	2010
Nielsen, N.C.	Industrial Tourism: Opportunities for City and Enterprise	2012
Otgaard, A.	Towards a common agenda for the development of industrial tourism	2012
Prat, J.M., Valiente, G.C.	Industrial heritage as a boost for the country: The case of eco-museum the Farinera, in Castelló d'Empúries (Catalunya) [El patrimonio industrial como dinamizador del territorio. el caso del ecomuseo la Farinera, en Castelló d'Empúries (Cataluña)]	2012
Pardo Abad, C.J.	Indicators of touristic sustainability applied to the industrial and mining heritage: Evaluation of results in some case studies [Indicadores de sostenibilidad turística aplicados al patrimonio industrial y minero: Evaluación de resultados en algunos casos de estudio]	2014
?opi?, S., Tumari?, A.	Possibilities of industrial heritage reuse as tourist attractions - A case study of City of Zrenjanin (Vojvodina, Serbia)	2015
Bujok, P., Klempa, M., Jelínek, J., Porzer, M., Rodríguez Gonzalez, M.A.G.	Industrial tourism in the context of the industrial heritage	2015
Endo, Y., Kurata, Y.	Customer communication facilities with tourism: A comparison between German and Japanese automobile companies	2015
Klempa, M; Bujok, P; Jelínek, J; Porzer, M; Pavlus, J	Reconstruction of former industrial complexes and their utilisation in tourism - case study	2015
Lee, CF	Tourist satisfaction with factory tour experience	2015
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