Cultural sustainability and the construction of (in) commensurability: cultural heritage at the Roşia Montană mining site

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ABSTRACT

Accounting scholars have begun to pay increasing attention to commensuration, in other words the valuation of different objects with a common metric. There are also a few studies on a diametrically opposed process, namely incommensuration. However, what is missing from this prior research is a more nuanced examination of how (in)commensurability is socially constructed in relation to different approaches to value. Such an examination is important as it adds to our understanding about the interplay of those complex social processes and the associated moral reasoning. The purpose of this study is to examine forms of (in)commensuration work associated with different approaches to the value of cultural heritage. In empirical terms, we study a major controversy related to a Canadian mining company's plans to open a gold mine in the municipality of Roşia Montană, Western Romania. Our empirical data is gathered from a variety of sources: public documents released by the company, national and international non-governmental organisations, state agencies, and religious institutions; online archives of two major national newspapers from 2002 until 2021; and public consultation material from the project's Environmental Impact Assessment. Our study makes a twofold contribution. First, we add to the accounting literature on (in)commensuration work by developing and applying a framework that considers both commensuration work and incommensuration work and connects these two forms of work to different approaches to value as well as to the different ways of drawing boundaries around elements of cultural heritage. Second, we expand previous research on accounting and sustainability by focusing on the rarely explored theme of cultural sustainability.

1. Introduction

In the past two decades, accounting scholars have paid increasing attention to quantification, or the expression of things in numbers. Numbers carry an aura of objectivity and rationality (Porter, 1996) and can be helpful when designing performance indicators or discharging organizational accountability by reporting on the attainment of such performance targets. However, quantification can also "narrow our appraisal of value and relevance to what can be measured easily, at the expense of other ways of knowing" (Espeland & Stevens, 2008, 432). The socially most transformative form of quantification is commensuration, the valuation

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or measurement of different objects with a common metric (Espeland & Stevens, 1998, 408).[1] Commensuration enables comparison and is therefore useful for calculative practices such as cost-benefit calculations or benchmarking exercises, but at the same time it also requires the erasure of individual qualities and potentially incommensurable aspects of the entities subject to it (Espeland & Stevens, 2008).

Prior accounting research has studied commensuration in different contexts, such as in environmental accounts (Kolk, Levy & Pinkse, 2008; Lohmann 2009; MacKenzie 2009), rankings and their performative effects (Bialecki et al., 2017; Gerdin & Englund, 2019; Mehrpouya & Samiolo 2016), as well as in terms of how people may try to resist the constitutive elements of such devices (Gerdin & Englund, 2019; Rainelli-Weiss & Huault, 2016). Some have focused on commensuration work, in other words active attempts to make things the same (MacKenzie, 2009) in various arenas (Habran & Mouritsen, 2022; Järvinen et al., 2020; Plante, Free & Andon, 2021). Others, in turn, have explored how such work can be opposed by claims of incommensurability (see e.g., Chenhall, Hall & Smith, 2013; Espeland & Stevens, 1998; Samiolo, 2012). However, most of these studies have given in-depth attention to either commensuration or incommensuration work, while the examination of both in one and the same study are quite rare. This is somewhat curious considering that in situations where parties hold different understandings of value, incommensuration work and commensuration work are likely to take place at the same time. There is thus a need for a more symmetrical approach that takes into account both types of work and their interplay. Moreover, in line with Habran and Mouritsen (2022), we perceive a need to examine the complexities of (in)commensuration and the related moral reasoning (Huault & Rainelli-Weiss, 2011).

Hence, the purpose of this study is to examine (in)commensuration work undertaken in connection with different approaches to value in a conflictual situation. We study this phenomenon in the context of cultural sustainability and in particular cultural heritage, understood here as tangible or intangible cultural assets that are handed from one generation to the next (Throsby, 2008). Prior accounting research has touched upon the theme when debating the usefulness of monetary valuation of heritage assets for reporting purposes (Carnegie & Wolnizer, 1995; Micallef & Peirson, 1997; for reviews see Anessi-Pessina et al., 2020; Ferri et al., 2021). Our study differs from those prior works by focusing on a 'living' cultural heritage instead of asset collections held in museums or scientific institutions. Moreover, while the authors of those prior studies can be said to have engaged in (in)commensuration work themselves, by either championing or criticizing the monetary valuation of heritage assets, we instead observe such work as undertaken by the protagonists in the field.

Our theoretical framework is inspired by the following quote from Espeland and Stevens (1998, 328): "Just as commensuration is a considerable social accomplishment, the creation of incommensurables requires work. Some party must draw boundaries around the thing whose value is to be kept, or made, distinctive and then defend the boundaries from encroachment." While we agree with this statement, we feel that it needs to be complemented in order to arrive at a more nuanced picture of situations where commensurability is attempted by some and resisted by others at the same time. Hence, by way of abductive reasoning we develop an analytical framework in which commensuration work is seen as being informed by, and reinforcing, a fragmentary approach to value. Rooted in a neoliberal ideology, this approach considers it possible to compare the value of individual cultural heritage items, classifying them as most worthy, worthy or unworthy of being preserved. The fragmentary approach manifests in the drawing of boundaries around the items to be preserved while discarding others, ultimately resulting in the disintegration of the heritage. In contrast, incommensuration work is seen as being informed by, and reinforcing, an integrative approach to value that is rooted in a societal ideology. This approach views cultural heritage as an entirety that cannot be broken down into smaller parts for the purpose of comparing their values. The integrative approach therefore draws boundaries around the entire cultural heritage with the ultimate aim of maintaining its integrity.

In empirical terms, we study a major controversy related to a Canadian mining company's plans to open a gold mine in the municipality of Roşia Montană, Western Romania. The company in question is Roşia Montană Gold Corporation (henceforth RMGC or the Company). An especially contested aspect was the mining company's plan to relocate more than 2,000 residents and reconstruct some of their cultural artefacts, such as churches and graveyards, to a newly built suburb further away. The opponents dismissed these plans, arguing in various ways that the loss of the natural areas and cultural artefacts of Roşia Montană could not be compensated by building replicas elsewhere. The protracted dispute between the company and its numerous opponents took place from 1997 until 2015, when the project was halted and the company sought international arbitration. Our empirical data has been gathered from a variety of sources, including public documents released by the company and other societal actors; Romanian newspapers from 2002 until 2021; and the extensive material related to two processes of public consultation that were required for the gold mining project's Environmental Impact Assessment. These materials include the minutes of the public consultation meetings as well as written statements which were solicited from citizens and to which the RMGC was obliged to respond.

We believe our study to make a twofold contribution to prior literature. First, we add to the accounting literature on (in)commensuration work by developing and applying a framework that considers both commensuration work and incommensuration work and connects these two forms of work to different ideologies and associated approaches to value, ways of drawing boundaries around elements of cultural heritage, and the intended outcomes. As a second contribution, we expand previous research on accounting and sustainability as our study relates to the rarely explored dimension of cultural sustainability. While the body of knowledge on accounting and sustainability is quite sizable, the majority of such research deals with ecological or environmental aspects, while studies on social sustainability are still rather scarce and those addressing cultural sustainability are, at least to our

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[1] In more specific terms, commensuration refers to actions of quantifying and measuring objects of a dissimilar nature by the same unit of measurement. Entities that are subjected to commensuration processes become comparable according to the selected criteria. Practical examples include the conversion of different greenhouse gases into CO_2 equivalents (MacKenzie, 2009); rankings that compress the diverse qualities of, for instance, law schools (Espeland & Sauder, 2007) into a single number; and prices that enable the comparison of various products and services.

knowledge, practically non-existent. We believe our analytical framework can be fruitfully applied to other conflicts over cultural sustainability as well as to the study of ecological conflicts.

The rest of the paper proceeds in the following manner. Next, we review prior accounting literature on (in)commensuration and present the analytical framework we developed. We then elaborate on the notions of cultural sustainability and cultural heritage that form the context of our examination. This is followed by an explanation of our empirical case, our methods of data collection and analysis as well as the abductive fashion in which we developed the analytical framework. Subsequently, we present the findings from our empirical analysis, and then discuss these findings in relation to previous research. Lastly, we present the conclusions and implications of the study, discuss its limitations and present ideas for future research.

2. (In)commensuration and cultural sustainability

2.1. Theoretical framework: (in)commensurability and (in)commensuration work

Commensuration, generally defined as "the transformation of different qualities into a common metric" (Espeland & Stevens, 1998, 314), is widely studied in accounting (Habran & Mouritsen, 2022; Mennicken & Espeland, 2019). Studies focus on the use of various types of rankings and their performative effects (Bialecki et al., 2019; Gerdin & Englund, 2019; Mehrpouya & Samiolo, 2016), as well as how people may try to resist the constitutive elements of such tools (Gerdin & Englund, 2019; Espeland & Stevens, 1998). Commensuration is linked with rationality in decision making, and studies have focused on how societies and decision making are rationalized through commensuration processes: by commensurating and quantifying values into similarities we may make rational decisions based on objective numbers (Espeland, 2000; Samiolo, 2012).

Commensuration matters because it can radically transform the world by creating new interpretive frameworks (Espeland & Stevens, 1998). Commensuration is based on the idea that all value is relative and can be expressed in terms of its value in relation to something else. It assumes and creates sameness among things and forms relationships between disparate things, changing the meaning of old things (*ibid*, 324). Linked with categorization, it not only constitutes relations among things (same vs different) but also produces new entities ('what is', and to what extent one falls within the set entity boundaries). Commensuration has constitutive power in altering people, social relationships, and the places where it intrudes. It creates new categories, and once the categories are in place, it changes how people understand their worlds and act in them (for instance, how people follow rankings) (Bialecki et al., 2017; Mennicken & Espeland, 2019).

Within the broad theme of commensuration, we are particularly interested in the *incommensurable*; the underlying nature of objects perceived to have intrinsic value. Incommensurables are things that are socially unique: they cannot be fully expressed in terms of some other category of value (Espeland & Stevens, 1998). Incommensurability denies the possibility of comparison and commensuration, the possibility for reducing and excluding all differential features but the one that compares it to others. Commensuration work can be opposed by claims of incommensurability (see, e.g. Chenhall et al., 2013; Espeland & Stevens, 1998; Samiolo, 2012), and extant literature reveals that much work may be required to legitimize commensuration (Huault & Rainelli-Weiss, 2011; MacKenzie, 2009; Porter, 1996; Rainelli-Weiss & Huault, 2016).

Extending commensuration from the economic into other spheres of life, such as into elements of cultural heritage, may make incommensurables more meaningful and their defense more necessary (Espeland & Stevens, 1998). Indeed, incommensurability often occurs at the borderlands between institutional spheres, where different modes of valuing overlap and conflict (Samiolo, 2012). It is also possible to value within several realms simultaneously: valuing a specific cultural site may have historical as well as cultural components, social as well as economic components, and religious as well as moral components. However, values within these different realms have different modes of social and cultural reproduction. Our values are taught and learned within various spheres of family, society, and culture over time. While economic values are produced in market transactions, our cultural and moral values are produced and reproduced in cultural and social processes of experience and learning (Trainor, 2006, 11).

In such deeply cultural and social processes incommensurables can be expressions of core values and in many ways linked with our cultural roles and identities. The salience of the incommensurable categories depends on their centrality in defining our roles and identities, our relationships with others, and how passionately we feel about them. Such incommensurables are called constitutive incommensurables (Espeland & Stevens, 1998) as they have a role in defining how to be and act, establish relationships, and define how we understand ourselves in relation to others. The impersonality of the (economic) rationality of commensuration reduces the relevance of the context and commensuration sometimes transgresses deeply significant moral and cultural boundaries. Commensuration efforts may sometimes threaten people's identities that are closely linked to the incommensurable values, and thus claims about incommensurables are more likely in these situations. It is acknowledged that when faced with a choice involving such constitutive incommensurables, people often strongly oppose or even refuse to participate, drawing protective boundaries around the constitutive incommensurables (Espeland & Stevens, 1998; Järvelä, 2022; Samiolo, 2012).

Commensuration work attempts to maintain the legitimacy of the comparison of different entities through the same metrics, thus to homogenize entities or situations to enable comparison (Habran & Mouritsen, 2022). Incommensuration work, on the contrary, operates to make entities and situations unique, non-comparable. Commensuration and incommensuration work include boundary-setting, classifying entities and situations as same or different, commensurable or incommensurable. Incommensuration work targets at safeguarding the uniqueness of the entities in question, presenting their value as non-comparable (Espeland & Stevens, 1998; Mehrpouya & Samiolo, 2016). Previous research on (in)commensuration has focused on these two types of work separately, but we maintain that this needs to be complemented in order to arrive at a more nuanced picture of situations where commensurability is attempted by some and resisted by others at the same time. Hence, by way of abductive reasoning we developed an analytical

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framework to guide our analysis of commensuration and incommensuration work simultaneously.

Fig. 1 depicts the basic elements of our framework, which is based on the broad idea that (in)commensuration work involves setting and protecting boundaries on different levels, as follows.

First, regarding boundaries of cultural heritage, different parties argue for different kinds of boundaries, linked with the different understandings of the value of the cultural heritage. The *fragmentary approach* relies on drawing boundaries around specific, individual items, and claims that each of them can be valued individually, based on some comparable aspect of its value. Items outside these boundaries can be discarded as unworthy of preservation. Commensuration work is informed by, and reinforces, the fragmentary approach to value in line with the broader neoliberal ideology, and ultimately results in the disintegration of the cultural heritage. The *integrative approach* draws boundaries around the entire heritage and claims that to understand its value, one must understand the value as (more than) a sum of all the items in their specific place, including the surrounding natural environment, people and built environment, as well as their historical formations. Proponents of the integrative approach to valuing cultural heritage claim that individual items cannot be separated and valued alone, as their value is inherently linked with this entirety. Incommensuration work aims at opposing the relocation of the cultural heritage, and presenting the value of the heritage as integrated and incomparable, and relies on the broader societal ideology. A boundary is drawn around the entire cultural heritage with the ultimate aim of maintaining its integrity.

Second, incommensuration work and boundary setting involves building protective boundaries around the items not to be commensurated, while simultaneously commensuration work aims at attacking and breaking such protective boundaries. However, we do not aim at conducting a simplistic chronological analysis of the commensuration and incommensuration work as direct responses to each other, as the interplay between the two types of work is more fine-grained than that, and thus not directly observable.

2.2. Cultural sustainability and cultural heritage

As mentioned earlier, we study (in)commensuration work in the context of cultural sustainability and cultural heritage. Cultural sustainability is a challenging concept to define as both of its composite terms are broad, ambiguous, and contested (Dessein et al., 2015). To begin, culture is a notion spanning various disciplines and areas of life, resulting in numerous definitions of the term. In a classic piece, Williams (1976, 80) for instance distinguished between three historical meanings of the word culture: a process of intellectual, spiritual and aesthetic development; a way of life particular to a group, a people or a period of time; and the practices and products associated with especially artistic activity. More recently, Goody (1994) has suggested that culture can be understood in two somewhat distinct but related ways, as a structure that conditions and shapes human interactions or as something that is constantly shaped and reproduced through human activities. In this paper, we adopt a structural view of culture and define it in the words of Geertz (1973, 33) as "the framework of beliefs, expressive symbols, and values in terms of which individuals define their world, express their feelings, and make their judgements". In the case of Roşia Montană, the inhabitants draw on their beliefs and values when defining what the cultural artefacts and natural areas are (unique and irreplaceable) and how they feel about them (they constitute the inhabitants' and their ancestors' home and a source of identity).

Sustainability is also a contextual and value-laden notion (Hopwood, Mellor & O'Brien, 2005), a political concept "open to constant interrogation and re-interpretation" (Meadowcroft, 2007, 300). Although the three-pillar view of sustainable development (as consisting of the economic, social, and environmental dimensions) is certainly institutionalized, complementary dimensions have also been proposed, such as space and time (Seghezzo, 2009), animal welfare/rights (Vinnari & Vinnari, 2022) and, most importantly for the purpose of this paper, culture. More explicit consideration of the role of culture in relation to sustainability has attracted the interest of both policy-level actors[2] and scholars, spawning a rapidly expanding interdisciplinary stream of research (see Meireis & Rippl, 2018; Birkeland et al., 2018). Within this stream of literature, understandings of cultural sustainability are diverse. Soini and Birkeland (2014) have analyzed scientific discourses and identified seven storylines, which convey partially overlapping meanings given to the term cultural sustainability: cultural heritage, cultural vitality, economic viability, cultural diversity, locality, eco-cultural resilience, and eco-cultural civilization. The storyline that most closely resembles the case at hand is cultural heritage, which is underpinned by the general idea that cultural heritage consists of cultural assets, either tangible or intangible, that are handed from one generation to the next (Throsby, 2008). In this storyline, culture is perceived as temporally cumulative and spatially local, with cultural heritage constituting a source of place-based identity that legitimates the conservation of the heritage (Soini & Birkeland, 2014).

Heritage is often understood as impressive buildings or monuments, as in the famous United Nations World Heritage sites, but it can also be understood in a more everyday fashion in which it refers to the legacy left by past generations. As Auclair and Fairclough (2015) state, heritage can be conceived as transferring culture to future generations, whereby the present acts as a mediator between the past and the future. They also argue (ibid., p. 9) that heritage functions through the notions of place and landscape:

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[2] In the domain of policy-making, the Brundtland Report (WCED, 1987) acknowledges the relevance of local culture, yet does not include it as a fourth dimension of sustainability. Hawkes (2001) is often mentioned as the first to have explicitly advocated the addition of culture as the fourth pillar of sustainability. Hawkes' ideas have found resonance with non-governmental organisations, which campaigned (unsuccessfully) for the inclusion of culture as a standalone element in the United Nations' Sustainable Development Goals (SDGs). For a detailed description of these developments, see Gerber (2018) and Wiktor-Mach (2020).
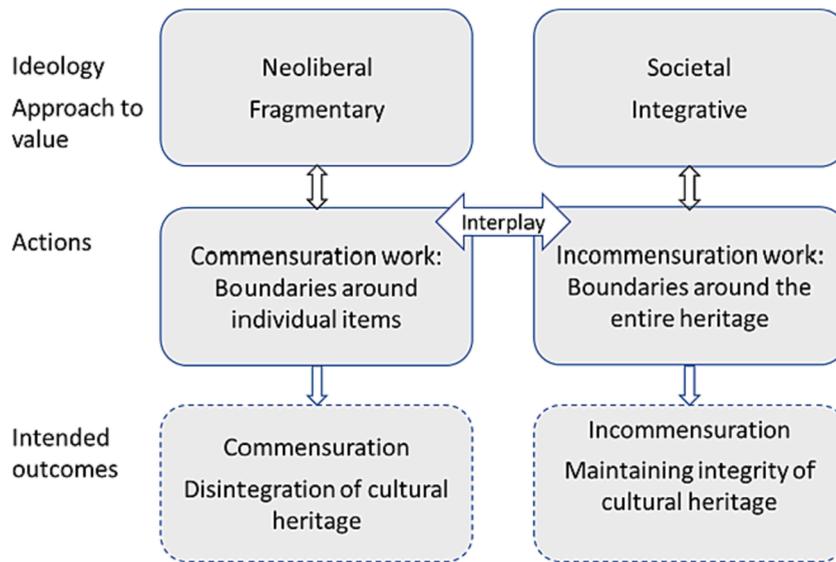
Fig. 1. Theoretical framework: (in)commensuration work.

Both of these are defined as intangible constructs – perceived and occupied by people – that are drawn from a combination or amalgam of both inherited and created objects. Heritage, like cultural action, is rooted in space as well as time, and is consequently more often than not place-based, site-specific, locality-sensitive and community-contextualized.

In this paper, these understandings of culture and cultural sustainability form the context for our examination of (in)commensuration work and different approaches to value in the case of cultural heritage. Having now reviewed both bodies of literature, that is, (in)commensuration and cultural heritage, we are able to formulate the research questions that guide our analysis: How is (in)commensurability of cultural heritage socially constructed? How are different ideologies and approaches to value associated with such (in)commensuration work?

Before moving further, however, it is important to pause and reflect on how we understand the value of cultural heritage. The literature reviewed above is underpinned by the implicit assumption that culture is always worth preserving or sustaining for future generations. However, this is not always the case as a culture can also be socially and environmentally detrimental and unjust.[3] We, the authors of the paper at hand, are not cultural relativists – we do not believe that atrocities towards human or non-human beings should be tolerated just because such acts are said to constitute elements of cultural heritage. When analyzing the case at hand, we have reflected on our values and formed a shared understanding of why we think the cultural heritage in question is worth defending. This is because we are opposed to the neoliberal colonization of the world and the associated search for ever more resources to maintain unsustainable levels of consumption. We do not hold an idealized view of the local cultural heritage, but in this particular conflict our sympathies lie with those opposing the mine because preserving the heritage is in line with protecting nature and societal wellbeing.

3. The case

The case analysed here is a gold mining project planned in the region of Roşia Montană, Western Romania. The region has been mined for gold for immemorial times (Cauuet, 2014) and, for many centuries, a flourishing community has lived there out of gold exploitation. During the communist times (1947–1989), the mines were nationalized and exploitations were operated via state-owned enterprises. The transition to capitalism after 1989 also meant economic hardship for the mining sector, and gold exploitation at Roşia Montană ceased in 2006. However, already in 1996, when Minvest Roşia Montană, the state-owned company, was downsizing its operations, Gabriel Resources, a Canadian listed company expressed its interest to continue and extend existing operations. In 1997, the joint venture partnership between the two companies resulted in a new company being established, the Roşia Montană Gold Corporation.[4]

Exploration work, pre-feasibility and feasibility studies to establish the reserve ore and economic viability of the local mining areas were conducted in the early years (1997–2001), which confirmed the significant mineable stock at Roşia Montană. Estimated at 10 million ounces of gold and 50 million ounces of silver in 2001 (2001 Annual Report, RMGC), the reserves reinforced the RMGC's intentions to open large-scale low-cost open-pit mining operations in the region. These early years were marked by optimism, as

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[3] We are thankful to one of the anonymous reviewers for this very important observation.

[4] The company was initially named Euro Gold Resources, before being known as Roşia Montană Gold Corporation. The ownership structure was as follows: Gabriel Resources 80%, Minvest 19.31% and the rest of 0.69% belonged to a group of Romanian shareholders.

economic prospects of the mine were promising, and the Company managed to obtain clearance for archaeological explorations in some of the needed areas. For this latter purpose, RMGC invested significant amounts of money in archaeological work, whose subsequently outcome consisted of important artefacts and mine galleries being unearthed. Despite such contributions of the company to the cultural heritage, as the contours of the project were gradually taking shape, revealing the social and ecological repercussions for Roşia Montană, opposition began to arise.

The plans to displace a part of the inhabitants to a separate suburb of the city Alba Iulia, located 70 km away from Roşia Montană, combined with the relocation or destruction of cultural artefacts and flattening of local mountain peaks, were not easily accepted by many locals. Setting off initially from a small, local association named *Alburnus Maior*, established in 2000, the opposition steadily expanded in the coming years, especially when it became financially and technically supported by various international non-governmental organisations (Pop, 2014). With the intense coverage of the case in national media starting in 2002, the project reached a high public profile both within and outside Romanian borders (Alexandrescu, 2020; Pop, 2014) but it also became subjected to fierce disputes (Apostol, 2015). The local community has been divided, with some supporting and others opposing the project. Supporters expected the project to compensate for poor employment opportunities in a region where the local economy suffered from the closure of state-owned enterprises. Opponents preferred instead to preserve the place and its cultural heritage intact for themselves and the coming generations and use alternative means to make the region economically viable again.

Similarly contrasting stances have been visible in Romanian society ever since the conflict erupted. In her overview of the debate over an extended period of time, Apostol (2015) delineates the significant groups and organisations involved on both sides. Local authorities, various state agencies and industrial associations positioned themselves in the supporters' camp, for reasons that relate to the economic revival of the region. Resistance comprised numerous national and international non-governmental organisations from various domains (e.g., architecture, heritage, ecology), the Romanian Academy, clerical representatives of different Romanian churches and the Hungarian state. As with many projects of natural resource extraction, hostility towards the RMGC project centred on issues of ecological damage and landscape loss, community dislocation and cultural impact. This is because Roşia Montană is located in a beautiful mountainous area, with attractive landscape, and is endowed with historical artefacts of cultural, archaeological and architectural significance. Unlike the dominant method of gallery mining used in the past, the technical method proposed in RMGC's project is much more invasive to the local landscape. The combination of cyanides and open-pit mining would mutilate the mountains surrounding Roşia Montană and the artefacts located in the area.

Distinct from other contestants, the neighbouring Hungarian state has taken an opposing stance to the project for reasons of national ecological safety. A cyanide spill occurring from another Romanian gold mining exploitation in 2000 reached Hungary via river flows, contaminating water supplies of the Hungarian population. Fear of similar events made Hungarian authorities cautious of new gold mining operations on Romanian territories near the borderline.

As the debates over the opportunity of implementing the project heated up in early 2000s, RMGC proceeded with its plan and requested an environmental permit in 2004. The following year, Romanian authorities decided to undertake an Environmental Impact Assessment (EIA) procedure, which involved an elaborate documentation to be prepared by independent experts on various impacts of the planned mine and two rounds of public consultations to debate this documentation. During this period, RMGC faced numerous legal trials initiated by the local NGO, *Alburnus Maior,* which managed to temporarily suspend the EIA (September 2007 – May 2010). While the EIA resumed and proceeded with technical evaluations of the project, regulatory efforts were made to facilitate the implementation of the project. A law proposal in 2013 intended to confer to the project the status of special national public interest, which would have allowed for the expropriation of resistant locals. Following massive street protests in Bucharest, the proposal was eventually rejected in 2014 and the Company initiated an international arbitrage procedure in July 2015. All its operations and activities have been suspended ever since and the procedure is still ongoing at the time of writing this article (December 2022).

Meanwhile, in February 2016 the Romanian state officials presented the nomination of the Roşia Montană Mining Landscape for inscription in the The United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage list,[5] followed by a positive decision in July 2021.

4. Data and method

Below, details are provided on the dataset and data analysis.

Data collection and analysis occurred in several steps, following an abductive tradition, in which we continuously travelled between data and theory. We started with an empirical curiosity for the heatedly debated case of the Roşia Montană mining project and our first aim was to gain a comprehensive understanding of the entire debate. Public documents released by the case company and other societal actors, such as national and international non-governmental organisations, state agencies and religious institutions, were collected (see Annex A). The online archive of two major national newspapers (Evenimentul Zilei, i.e. The Daily Event and Curierul Naţional, i.e. The National Messenger) were scrutinised starting from 2002 to better understand the major developments in the case. Notes were taken on important events occurring in the case and eventually a summary of these were reported in Word files for further reference. Based on the above documentation, a description of the actors involved in the case and actions pursued by each of them was produced. Major disputes related to the project and arguments for or against the project were identified, which enabled a thorough view of the broader societal dynamics of the case. RMGC's position in the dispute was examined based on the rich documentation made

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[5] The procedure was discontinued in 2018, when the Prime Minister of the time withdrew the nomination from UNESCO. The procedure was resumed in 2020.

available to the public.

This early review of the case evidenced the presence of two major but antagonistic standpoints in relation to the mining project (i.e., opponents and supporters). The opposition to the project does not concern just a specific aspect of the planned mine and its aim is not to adjust particular parts of the construction and exploitation plans, but to articulate an absolute hostility towards the project. Conscious that gold mining is deeply ingrained in the history of the region, we were surprised by such fierce resistance. Thus, in an attempt to unearth the rationales that support this latter view on the gold mine, we looked closer at the arguments mobilized by the opponents. We noticed the prevalence of several recurring key themes: culture, identity, spirituality, nature, history, ancestors – all of which were claimed to be under threat from plans of relocation and replacement. These items of indefinite and intangible nature made us reflect on cultural sustainability, including issues of local habitat and heritage preservation. We therefore directed our attention towards such subtle and elusive concepts and noticed how all of them were associated with Roşia Montană's cultural heritage.

Once our theoretical interest on the broad topic of cultural heritage was outlined, we proceeded to collect and investigate additional documentation. We especially welcomed materials that articulate the cultural meanings of the Roşia Montană region. The dataset collected at this stage primarily covered public documents that shed light on the significance of Roşia Montană for multiple constituencies. Such meanings were identified in texts echoing the voices of the local community, the Churches of different denominations and local non-governmental organizations. We introduce these materials in more detail below. Once more, notes were taken while reading the documents and interesting excerpts were extracted and saved to several Word files that were initially grouped based on data sources and later on themes of potential theoretical interest, e.g. spirituality.

The stance of local community members on the project was uttered in several materials. It is useful to note that the local community is highly divided as regards the necessity of the project and the abstract notions of culture are mainly present in the documentation communicating the opponents' views. We thus examined these in greater depth. First, we benefited from an extensive material documenting two processes of public consultation that were a requirement of the EIA procedure. The consultation was mediated by the Romanian Ministry of the Environment, which facilitated the information flow between RMGC and its stakeholders. More specifically, public consultation meetings were organized in 14 locations across central, western and southern Romania as well as in Hungary in July and August 2006. The minutes of these meetings have been made publicly available. In addition, written statements were solicited from all stakeholders[6] and RMGC was obliged to respond to them. Due to the suspension of the EIA in 2007, the consultation process had to be repeated in 2011 to cover the new legal developments occurring meanwhile. This latter consultation did not include in-person meetings. The Ministry of the Environment collected all petitions and ensured that RMGC responded to them. The resulting material is substantial, comprising 91 volumes for the 2006 consultation process, with each volume having an average length of about 200 pages. This voluminous documentation contained repetitive parts, since many of the corporate responses to petitioners were similar or even identical. We skimmed through the material using our intuitions, reasoning and knowledge of the case to locate paragraphs relevant from a cultural standpoint. This documentation reconfirmed the major concerns voiced in relation to the mining project, but also helped us to gain more insights into the cultural aspects of interest for many, especially in the local community.

Second, we identified documents narrating local cultural activities in the region. These were commonly first-hand documents released by non-governmental organizations, such as various reports that explained their activities in the region. Often these actions were meant to provide alternatives for the economic development of the region and to enhance local identity.

Third, the spiritual aspect of Roşia Montană's culture was underlined in the public statements of religious leaders. Religion is still a significant part of Romanians' life, especially in the rural areas such as Roşia Montană. First-hand material was collected directly from the web pages of the Churches present in the area. Romanian Orthodox Church as well as the Romano Catholic, Unitarian and Reformist Churches have all taken official positions against the mining project in several press releases. This data is complemented with articles from the clerical press that are well in line with the official statements and provide further insights into the Churches' rationales and worldviews.

The close inspection of all this documentation in an inductive fashion brought to our attention new themes that were linked to the cultural aspects of Roşia Montană. Empirical details that associated cultural heritage to geographical location, historical events and inhabitants' identity hinted to us a theoretical treatment that does justice to the distinctiveness of Roşia Montană's cultural heritage.

While following an initial inductive path in our document analysis, we were sensitive to notions commonly associated with cultural heritage. As Ferri et al. (2021) noted, cultural heritage is frequently understood via multiple and difficult to define values and we paid particular attention to identifying such indefinite and localized meanings. When looking at the documents voicing the views of local opponents, we recognized the significance of culturally-infused terms, such as traditions and lifestyles, nature and local places, religious ideas, historical artefacts and local community. The Word files produced earlier in the process were used to trace such notions and conceptually group them around several components of cultural heritage, that is tangible heritage, intangible heritage and natural sites.

Subsequently, we turned to the accounting literature on incommensurables. Applying this theoretical lens resulted in the identification of a notion of an *integrative value* of cultural heritage, whereby cultural heritage is composed of several highly intermingled components (e.g., tangible, intangible, natural sites), whose separation would detract from its value. Theoretically-informed conceptualizations also allowed us to look deeper into the mechanisms of incommensurability work and helped us understand how integrative approach to value is mobilized in opponents' attempt to keep the heritage intact. Opponents' articulations of cultural heritage manifests in acts of discursive protection, whereby defensive boundaries are placed around the entire heritage. Boundaries are

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[6] Stakeholders were understood in a very broad sense. Any citizen or organization within or outside Romanian borders was permitted to comment on the project.

meant to avoid the separation, displacement and destruction of the individual items. Hence, we identified boundaries and integrity of cultural heritage as constitutive elements of our theoretical framework.

In parallel, we looked at documentation emanating from the mining company and its supporters with an interest in analysing how the cultural heritage is understood in these texts. Corporate standpoints were clearly outlined in the process of public consultation, when RMGC had to reply in writing to each and every question or comment posed in petitions. Despite the public consultation documentation being extensive, many responses were identical, due to the similar nature of petitioners' concerns. Additionally, corporate webpages, annual and sustainability reports were informative in terms of complementing corporate views. We scrutinized these materials for the presence of previously identified elements of the cultural heritage and examined the differences. We noted a quite distinct approach to heritage on the part of RMGC. First, we could not identify the same interconnectedness in terms of defining the value of cultural heritage as in the *integrative value* case. Cultural heritage was conceptualized as a mere aggregate of all items, in which some are more worthy of preservation for future generations than others. From this perspective, the isolation of worthy components and their protection against damages associated with mining operations suffices to ensure heritage conservation. Considering the divisive character of this conservation approach, whereby heritage items would be physically separated either by removal of some pieces into distant places and destruction of some others, we developed the notion of *fragmentary value* of cultural heritage. From this perspective, we noted how boundaries are used selectively for the extraction of the worthy or valuable components from the cultural heritage for protection purposes. Thus, the notion of boundaries proved useful here also in relation to the disintegration of heritage.

Our empirical analysis further exposed an active interplay between commensuration and incommensuration work, instantiated in actions to define and enforce boundaries in contrast to the adversaries in the dispute. The incommensuration work of activists can be interpreted as a response to supporters of the mine in that the narrow boundaries the latter outlined were enlarged to safeguard the entire assemblage of cultural heritage. Similarly, commensuration work unveils an active pursual to dismiss a conceptualization of value in which heritage is proposed as an entirety rather than as selection of worthy items.

The contrast of the two approaches to value in relation to (in)commensuration work stimulated reflections on the broader values and belief systems they seemingly reflect. We therefore linked the two approaches to the ideological underpinnings they support that is neoliberal ideology for the approach taken by supporters of the mine and societal approach by the opponents.

Informed by two distinct views on cultural heritage, as mirrored in the notions of *integrative* and *fragmentary* approaches to value and notions of boundaries and (in)commensuration work, we believe our analysis to be useful in theoretically illuminating the heated dispute surrounding the gold mining project.

Throughout the research process, we employed an interpretative approach to research (Hoque et al., 2017), being loosely guided by the principles of discourse and interpretative textual analysis. Interpretative textual analysis has been previously used in studies examining meanings associated with social and environmental reports or mass media articles (e.g., Laine, 2005; Mäkelä & Näsi, 2010). The study at hand is in line with these approaches to data analysis, paying attention to a close reading of texts, looking at meanings and interpretations that texts are constructing for the reader. Constant interplay between empirical material and theoretical notions ensured reflexivity throughout the different stages of the analysis process and guided theoretical choices (van Maanen, Sørensen & Mitchell, 2007).

5. Cultural heritage at Roşia Montană: relics, spirituality, traditions and nature

This section introduces in greater detail the complexity of the cultural heritage at Roşia Montană. To approach the heritage in a structured fashion, we introduce three dimensions of cultural heritage: tangible, intangible and natural heritage. The tangible dimension consists of artefacts with historical, social and artistic significance, while the intangible one touches upon issues of values, lifestyles and traditions. The third dimension integrates nature into cultural values, thus allowing a conceptualization of cultural heritage from the angle of the natural environment. The three dimensions were identified in an abductive interplay between prior conceptualizations of cultural heritage in theory and their significance for our empirics. We acknowledge that this separation can be criticised for depth and can prove harmful, if applied in practice. However, we use the distinction for analytical purposes, to facilitate our empirical examination.

The tangible dimension of heritage includes artefacts of architectural and archaeological significance. Architecturally, in Roşia Montană there are 41 edifices which are listed on the national historical monuments list (Administratia Prezidentială, 2009, 60), out of which two are churches (the Romano Catholic Church and a Greek Catholic Church in Roşia Montană). According to the list (Administratia Prezidentială, 2009, 29), five edifices of religious significance show the ethnic diversity of their spiritual communities that include unitarian, reformist, catholic, Greco-Catholic and orthodox beliefs, in addition to which chapter 5 of Environmental Impact Assessment recognizes Baptist and Pentecostal confessions. Among the buildings, three date from 18th century and exhibit baroque, classic and traditional Romanian architectural elements. The central square of Roşia Montană village is protected by law as it is representative for its architectural features of Classical and Baroque inspiration.

Roşia Montană is particularly rich in archaeological vestiges. The most famous of all are the Roman mining galleries that cover more than 7 km. The galleries penetrate four mountains and were expanded in subsequent centuries, forming a network of over 80 km that includes an underground communication and drainage system and exhibits chronologically distinct technical features (National Institute of Heritage, 2016). The galleries gained international recognition, not necessarily due to the trapezoidal gallery section that is representative of Roman mining techniques but to the complexity of the network. UNESCO classified the galleries as being "the most significant, extensive and technically diverse underground Roman gold mining complex currently known in the world" (UNESCO, 2021).

Among famous relics are 25 wax wood tablets (*tabellae ceratae*) dating from 2nd century AD, which were discovered hidden in the Roman mines. The tablets are signed contracts or other administrative documents that include calculations, thus being documents of economic, legal and juridical nature, attesting to the use of Roman law in ancient Dacia (Ardevan, 1998). The documents have linguistic value, being written in Latin cursive, as well as demographic significance. While not unique *per se*, the tablets are rare and are recognized for their well-preserved state. Unlike other tablets discovered in the former Roman territories, the ones at Roşia Montană are in remarkably good condition, allowing better research into the legal, commercial and linguistic aspects of the Roman times. The wax wood tablets have been long recognized, already by Theodor Mommsen, a famous German historian, who published the tablets in his 1873 book (see Luduşan et al., 2016). The tablets have been subsequently hosted in European museums (e.g., Budapest, Vienna), further attesting to their historical significance.

Other archaeological discoveries include necropolises (e.g., Tau Gauri funerary monument), Roman settlements and open air sacred places, which the Cultural Heritage Management Plan, part of EIM, acknowledges. All these are complemented by surface mining landscape of Roman origins, comprising ore processing areas (https://whc.unesco.org/en/list/1552 accessed 10.09.2021).

The intangible dimension of cultural heritage in Roşia Montană, while less obvious to an untrained eye and more difficult to capture in objective terms, is of no less significance. It has to do with traditions, shared beliefs and attitudes that formed over extended periods, and lifestyles deeply embedded into the identity of the residents. While all these are difficult to grasp, we attempt to outline the key features of this heritage, that is spirituality and community.

The role of the Church has been strong in crystalizing the formation of the cultural consciousness of Romanians over many centuries. The Orthodox Church, the dominant ecclesiastical institution, in its symbiotic relationship with the state (Flora et al., 2005; Leuştean, 2008), has maintained a powerful societal standing to the present day. Especially in rural areas, the priest is a key figure, retaining not just an emblematic position but holding actual power to direct inhabitants' lives. Much trust has been traditionally placed in Church authority in Romania with its predominantly conservative Orthodox religion. Voicu (2001) found that over 70 per cent of the Romanian population believes the Church has the right answers to family problems and can sufficiently satisfy the spiritual needs of human beings. The same study claims that over 40 per cent of the population trusts the Church to provide solutions to the country's social problems.

The role of community in small rural areas, such as Roşia Montană, is a significant one. Family members and neighbours form important elements of the cultural identity of Romanians (Schifirneţ, 1999; Voicu, 2001) that gives meaning to individuals' existence and constitute the lens through which everyday life makes sense to them.

Nature at Roşia Montană is said to be beautiful. Endowed with a mountainous landscape, Roşia Montană region is rich in forests, pastures, mountain peaks and lakes, some of which are legally protected. The nature element of the cultural heritage stems from cultural beliefs in the role of nature in Romanians' lives and often carry spiritual connotations. In essence, nature is believed to be God's creation, which infuses it with meaning and makes it sacred. Cordoneanu (2012, 131) invokes a "mystical solidarity between man and nature" as a typical aspect of the cosmic Christianity specific to Eastern Europe and reflected in local folklore.[7] The repertoire of folk songs and tales commonly invoke the deep relationship with 'Mother Nature'. 'Codrul' (an old, dense forest), rivers and mountains, where transhumance[8] was practiced, surface in the oral history as natural elements that nourish and protect local communities. Similarly, David (2018, 98) talks about a "communion of the natural and the human" that is mediated by Divinity.

Having presented three prominent dimensions of the cultural heritage of Roşia Montană, we next move on introducing the distinct approaches to (in)commensuration mobilized in the conflict.

6. Constructing the (in)commensurability of cultural heritage at Roşia Montană

Our analysis identified two major approaches in relation to the value of the cultural heritage in Roşia Montană – fragmentary and integrative – supported by and informing commensuration and incommensuration work, respectively. We elaborate on the two approaches and forms of work below. In doing so, we keep the analysis symmetrical and devote attention to the same three broad dimensions of cultural heritage, as identified above. We fully acknowledge that such a division does not correspond to the way in which the opponents to the mine approach cultural heritage (as an indivisible entirety). We have opted for a symmetrical treatment for analytical purposes as this allows us to observe the interplay between the commensuration work performed by the corporation and the state on the one side, and the incommensuration work engaging local community and activists on the other.

6.1. The fragmentary approach to value assisted by commensuration work: constructing boundaries around selected items

From a fragmentary perspective, articulated by supporters of the mining project, the cultural heritage of Roşia Montană is a large assortment of vestiges, monuments, cultural traditions and rituals. Importantly, this collection of items, of material or immaterial nature, can live an autonomous life, independently of the place where they are rooted and separate from other heritage components.

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[7] *Miorita* [the little sheep] is a well-known ballade in Romanian folklore, spread across all Romanian territories, which illustrates well the theme of human-nature communion. The ballade tells the story of a wealthy shepherd, who is being informed by one of his sheep, by plans to be murdered by two other less-wealthy shepherds. Passively accepting his faith, the shepherd plans for his death, invoking various rituals and ceremonials in which nature and human events (e.g., death, wedding) are deeply interconnected.

[8] Transhumance is a form of pastoralism featuring seasonal migration of herds between mountain pastures in the summertime and plains in the winter.

Consequently, they can be treated as stand-alone items, independent from others, and the value of the cultural heritage of a place can be seen as a sum of all its constituent parts. This conceptualization of the heritage allows for a displacement of the heritage items from Roşia Montană and their preservation in museums elsewhere.

The fragmentary approach to value is associated with commensuration work, the two concepts supporting each other. On the one hand, the fragmentary approach to value informs commensuration work, which manifests in actions of drawing boundaries around selected cultural heritage items. Subsequently, a hierarchization scheme can be employed to classify these items into three broad categories that we refer to as worthiest, worthy and unworthy of preservation. The construction of boundaries is the main form that commensuration work assumes in the case examined. On the other hand, commensuration work reinforces and strengthens the viability of the fragmentary approach in the eyes of its beholders. Despite the selectiveness of the procedure, commensuration work offers assessment criteria that are useful in deciding what is to be preserved and can have material effects on the actual preservation process. Eventually, the outcome of commensuration work is the disintegration of cultural heritage into multiple components coupled with a discriminatory selection of those pieces worthy of preservation. Such a fragmentary approach to cultural heritage is illustrated in Picture 1 below, which is taken from the Company's website. The picture provides an overview of the cultural items that the Company intends to preserve in protected areas, resulting in a concentration of cultural heritage in several designated areas that are remote from each other. Picture 2 instead shows how the fragmentary approach to value effectively isolates protected areas of valuable heritage, in the vicinity of which large areas of excavation are to develop. For instance, the protected area of Carpeni is surrounded by several industrial areas: the Cetate pit in the East, a waste stockpile and a low-grade stockpile in the South and West. The industrial facilities separate Carpeni from other protected areas located in the East and the South. The same applies to the protected areas of Tau Gauri, Piatra Corbului and the Historic Center, whose adjacent areas are to be dispossessed of their culturally inherited items. The red line outlines the industrial area for which the project is authorized.

We elaborate below on how the fragmentary approach is applied to the multiple dimensions of the cultural heritage.

6.1.1. Boundaries that disintegrate tangible historical heritage

As introduced in section 5, the tangible heritage of Roşia Montană is rich in archaeological vestiges and architectural artefacts. One of the corporate webpages (www.rmgc.ro) provides details on such cultural objects, in addition to which it elaborates on archaeological research and conservation work funded by RMGC to meet regulatory conditions. Granting archaeological clearance is a compulsory prerequisite for mining operations to begin. According to the corporation, "RMGC invested over 30 million USD to bring the history to light" (https://en.rmgc.ro/rosia-montana-project/patrimony.html), with the result that important hitherto unknown historical artefacts were unearthed.

Conservation *in situ* of the entire tangible heritage has been impractical, given its incompatibility with the economic viability of the planned mine. The fragmentary approach assisted by commensuration work has thus proved a feasible angle to cope with preservation efforts. This emanates from an uneven and discriminatory view on cultural heritage items in that not all are considered equally worthy of protection. Such an approach was associated with work to set boundaries around cultural objects classified as *valuable.* These items were isolated and separated from the assemblage of material artefacts of Roşia Montană. In these processes of individualization, singularized objects were eventually commensurated to form *the valuable tangible heritage.*

Boundary setting was a coordinated procedure with state officials, such as the Romanian National History Museum in Bucharest and the Ministry of Culture and Religious Denominations, placed at the core of assessment processes. The criteria used for defining the *valuable* heritage and discerning between what is worthy and unworthy of conservation were not always visible, being often concealed in discourses of scientific and cultural expertise, as the company explains below:

> The most significant findings – according to the specialists who conducted the research – which meet the requirements to be preserved in situ *("in their native place, as they were found on the site") are […]*

Boundary work drew borderlines around three types of tangible heritage objects, with material effects on the eventual conservation treatment assigned to each. The *worthiest* heritage items were apparently the most valuable in historical and cultural terms and were to be preserved *in situ*, in the protected areas that are visualized in Picture 1. Apparently, the representative nature of these objects entitled them to preserve not only their material form but also their ties with the local place. Commensuration is apparent in the following list of the worthiest tangible heritage items published on the corporate website:

> – the Roman funerary premises from Tău Găuri;
> – the Roman settlement (including a funerary area and a possible sacred area) from Carpeni Hill;
> – ancient mining exploitations from Piatra Corbului area (on the South-Eastern slope of Cârnic);
> – a series of archaeological vestiges in the area of the Historical Centre of Roşia Montană, including Cătălina Monuleşti gallery (where a wooden hydraulic system dated in the Roman age was found, in addition to being the site of the 19th century discovery of a significant batch of waxed plates) and the ancient surface exploitation area in the area of Văidoaia. (https://en.rmgc.ro/rosia-montana-project/ patrimony/protected-areas-and-sites.html)

The *worthy* heritage was made the subject of conservation but either in a different location than the place of origin, or as replicas, meaning that the original would not be saved:
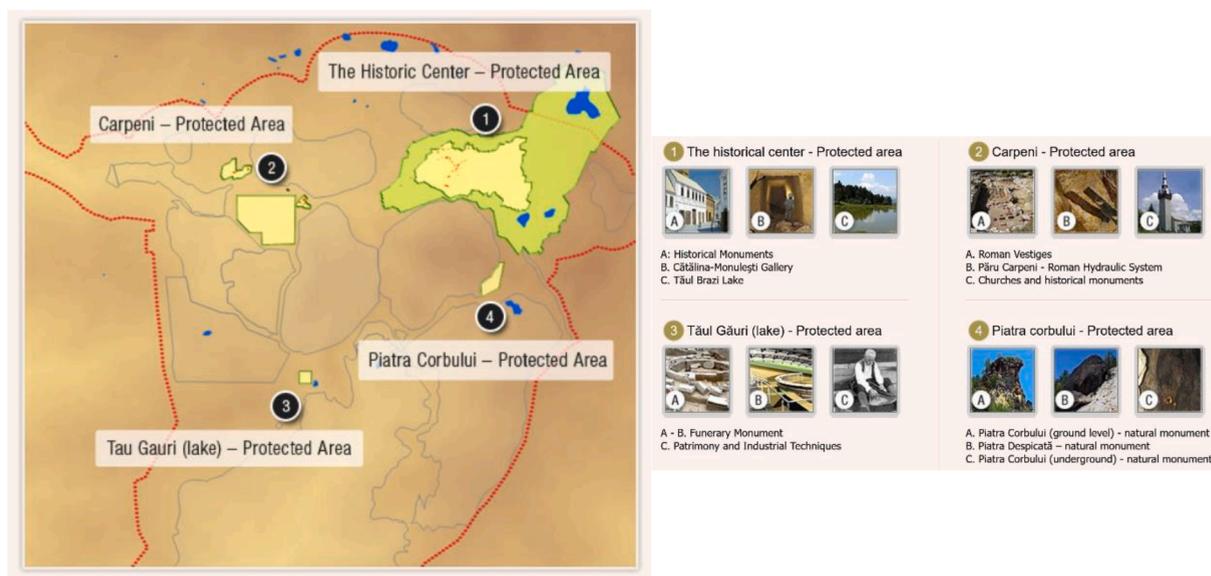
Picture 1. Cultural heritage items selected for conservation in protected areas, marked with yellow or green. The red lines delineate the industrial protection area. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.) Source: https://en.rmgc.ro/rosia-montana-project/patrimony.html.

> *Significant finds are being maintained* in situ*, while others will be exhibited in a new mining museum in Piatra Alba that is part of our Community Development Initiative.* (Annual Report, 2006, 14)

Finally, the *unworthy* objects were those that did "not present spectacular attributes",[9] thus being disqualified from preservation and entitled to demolition and destruction.

We next provide examples of how the fragmentary approach to value, in conjunction with commensuration work, was applied in setting boundaries around specific items of tangible heritage.

Roşia Montană has been known for its *mining galleries network* and, thanks to the corporate archaeological research program, discoveries of new segments supplemented the network. Archaeological work added new insights into the complexity of the network and its chronological development over many centuries, being useful in providing a broader overview of the entire assemblage of galleries. Preserving the network in its entirety was not viable from the mining project perspective, since significant gold-rich areas would be prohibited to mining operations. A selection process was inevitable, with limits to be set on what is a 'representative' mining gallery in order to assist the process of identification of such galleries:

> *[among the aims of the research program was the] research of Roman and medieval mining galleries, compilation of Inventories and proposals for solutions to preserve/restore representative parts (https://en.rmgc.ro/rosia-montana-project/patrimony/archeological-research-in-rosia-montana.html, accessed 21.6.2022)*

Consequently, some galleries were nominated for in situ conservation. The Cătălina-Monuleşti gallery was attributed the worthiest status because it displays "traces of mining operations from all historical ages" (https://en.rmgc.ro/rosia-montana-project/patrimony/mining-museum.html, accessed 17.11.2022). The gallery also hosted a Roman-age wooden hydraulic system and a considerable set of wax wood tablets (https://en.rmgc.ro/rosia-montana-project/patrimony/protected-areas-and-sites.html, accessed 17.11.2022). Similarly, Roman galleries from the Piatra Corbului protected area were to be preserved *in situ* (see Picture 1 above).
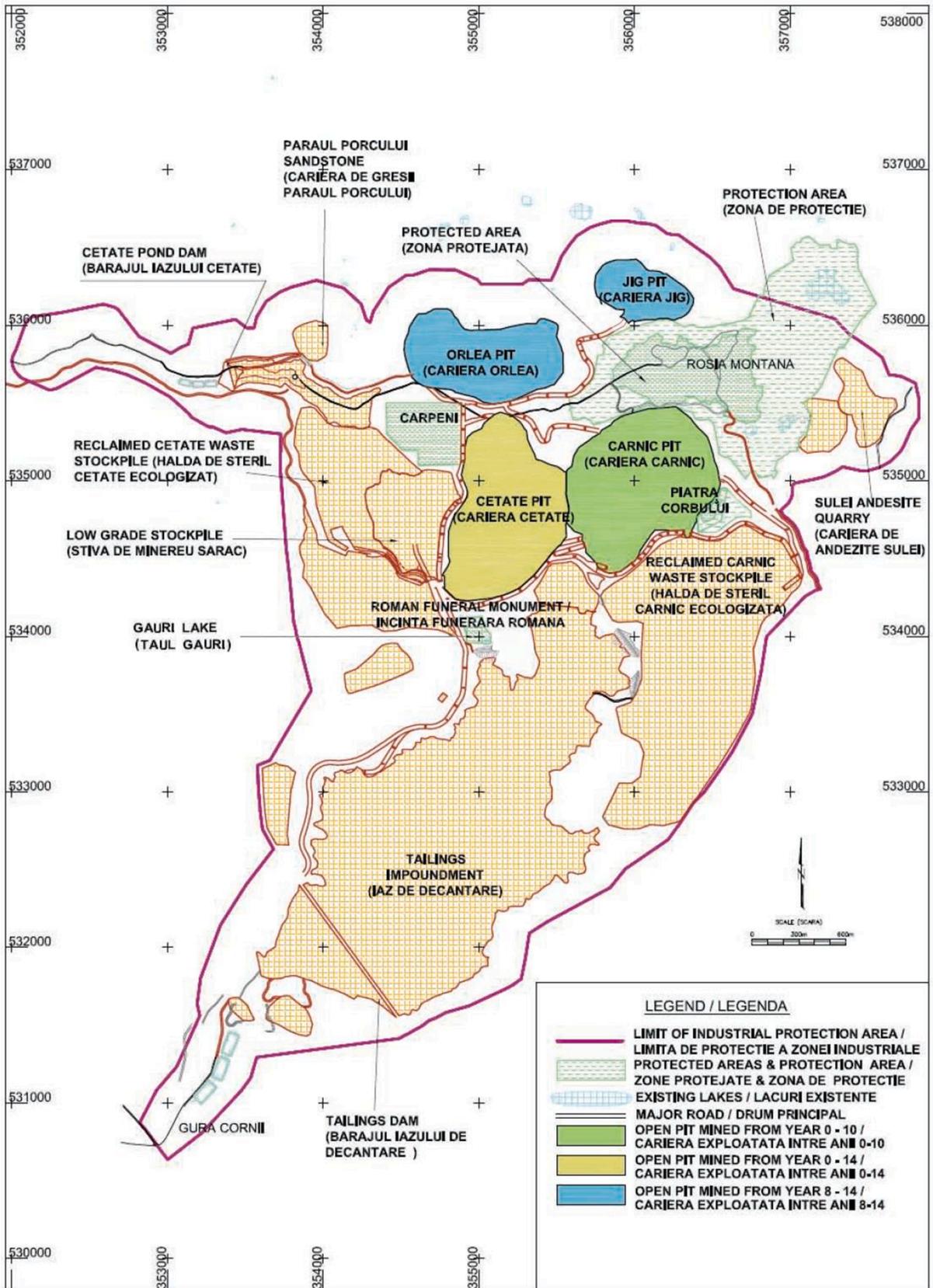
Less prestigious galleries did not receive the same standing in the commensurated list of vestiges and were instead to be preserved as replicas in the mining museum of Roşia Montană or demolished during mining operations.

Boundary enactment work is visible also in the case of *architectural and archaeological* items, where certain objects had to be singularized and extracted to compile a list of artefacts entitled to conservation. Helpful to the process of boundary making were various legal devices, many of which were aimed at conservation efforts many years before the project was proposed.

In the case of cultural buildings, such legal devices were in the form of historical edifices attestations that entitled them to legal protection. To exemplify, many edifices were located in the centre of Roşia Montană village (e.g., Catholic Church[10]), an area legally protected. A boundary was set around this area, helping to construct the cultural heritage in terms of 'a protected area' safeguarded from mining operations. A similar status of protected area was assigned to the Piatra Corbului region. The conservation strategy that

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[9] https://www.rmgc.ro/proiectul-rosia-montana/patrimoniu.html, accessed 14.12.2021.
[10] The list of historical monuments, The National Institute of Patrimony, subordinated to the Ministry of Culture https://patrimoniu.ro/monumente-istorice/lista-monumentelor-istorice accessed 21.6.2022.

(caption on next page)

Picture 2. The spread of protected areas among pits to be mined.
Source: Roşia Montană Project. Non technical summary. Vol. 9 of EIA Study Report, 2006, p. 29.

this boundary setting process enabled entailed the concentration of significant cultural objects into given geographical locations, outside of which mining activities would be allowed:

> [among the aims of the research program was the] delimitation of the archaeological and architectural reservation area which is to include parts of the mining galleries and historical monument buildings (https://en.rmgc.ro/rosia-montana-project/patrimony/archeological-research-in-rosia-montana.html, accessed 21.6.2022)

For instance, edifices of religious significance, apparently filtered on their historical and architectural value, were either to continue their existence in a protected area (i.e. worthiest heritage for conservation purposes), be relocated (worthy edifices) or destroyed and financially compensated for their loss (unworthy edifices).

For other historical vestiges, the borderline that delineates worthy from unworthy heritage objects, was formed on the basis of lists of historical monuments. An initial list was released by the National Institute of Patrimony[11] in 1991–1992. An updated version of the list dates from 2004 and additionally included archaeological sites (e.g., Hop-Găuri necropolis, Cătălina Monuleşti gallery, Orlea mining area) uncovered during the archaeological work of the corporation.

As seen, boundaries facilitated choices. All that was included within the envisioned perimeters of worthiness was entitled to preservation in one form or another, while a permit was granted for destruction of all that was outside them. Boundary setting and commensuration permit a highly selective and discriminating view of conservation, in which not all heritage objects deserve to be saved for future generations. This is made possible by a fragmentary approach to the value of the cultural heritage, where different pieces are believed to exist in isolation, detached from the entire heritage, the place and the community from which they originate. From this standpoint, the division of heritage into its multiple components is unproblematic and so is the commensuration work that allows boundary setting actions around certain valuable heritage objects. The ranking and classification that results from these actions ultimately decides the destiny of many heritage items. The 'better pieces' can be protected in some distant location, displaced from their original site, or as replicas and 'the best pieces' can continue their existence *in situ*. For most objects though conservation means no more than destruction, their unworthiness being strictly decided on historical, architectural or archaeological indistinctiveness. Their bonds and meaning for the local community do not feature sufficiently high to be devoted attention in the fragmentary approach to value.

6.1.2. Boundaries scattering intangible cultural heritage

Cultural heritage is not limited to objects and items that have a material existence but also includes aspects that are less tangible, yet no less important, for a local community. We focus here on two major components of intangible heritage, while stressing that this is a choice driven by our empirical material.

First, we refer to community traditions and norms around which community life is organized. We elaborate below on how the fragmentary approach to value facilitated commensuration work by delimiting the perimeter of valuable heritage to include mining traditions and exclude other local practices.

Prominent in corporate documentation is a variety of programs initiated to support the community in terms of education, health and wellbeing. However, there is much less when it comes to cultural traditions, which were commonly approached one-sidedly. The diversity of cultural traditions was effaced when an event known as the Miner's Day was singled out in most corporate reports. Miner's Day is an annual celebration typical to many Romanian mining communities, a regular ritual to remind a community of its mining roots and sources of identity. While the company claims to have sponsored different community events, corporate materials primarily showcase the Miner's Day festivity. In the 2009 Responsibility Report, Miners' Day runs as a subtitle under the main heading of 'Supporting community traditions'. Nurturing mining traditions appears important in light of the mining history of the region:

> With a modern mining project developing in a traditional mining community – where mining is central to its value system – RMGC and the community have the shared objective of keeping mining traditions alive. (2009 Responsibility Report, 12)

The company revived the Miner's Day in 2003 after it had been discontinued for some years, and enriched it with new experiences. A Miner's Choir was restored, and a Mining Communities and Traditional Festival was launched at the 2009 Miner's Day. The festival "showcased […] mining traditions and customs, displayed in book and photo exhibitions, paintings and historical mining artifacts" from several regions in Western Romania (2009 Responsibility Report, 18). We can see how the mining traditions, of which the Miner's Day is exemplary, become the target of boundary making in that non-mining practices are disregarded. The latter traditions include for instance numerous religious rituals that guide community life during the seasons of the year. This differentiated treatment of traditions is again indicative of a hierarchical approach to heritage, whereby some traditions are worthier that other ones.

Second, we examine community life as a component of intangible heritage. The Roşia Montană region has always been formed of populations that have arrived over the centuries for gold mining purposes, forming a diversified community who call the place 'home'. Entangled with a cultural heritage that has material and immaterial forms are ways of living that closely connect to it. Being physically placed in a region with high historical and cultural load, residents developed identities that reflect their belongingness to this cultural

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[11] Ibid.

landscape. We can thus claim that the cultural heritage can be 'lived' in the form of a culturally cognizant community, whose ways of living have been historically shaped by norms and traditions in line with the spiritual, natural and cultural values of the site.

The fragmentary approach to value surfaces in the possibility to disconnect community life from its specific geographical location. While acknowledging the 'soul of the place', RMGC attributes less significance to the actual place where the community is to live, as exemplified in the following quotations:

> *As for the soul of the place, Roşia Montană stands a much stronger chance of building a vibrant future with the new mine as its economic engine than without it, as unemployment in the absence of RMGC will rise above 90%.* [RMGC's reply to a petitioner]
> *In the event of Roşia Montană's [project] demise, the Churches there would likely be left behind, as in other abandoned mining villages in the Romanian countryside. Development of the RMP* [Roşia Montană project] *will keep the village alive - in fact and in spirit - and bring economic opportunity to the region.* [RMGC's reply to a petitioner]

In this case, boundaries are formed around a community life that is placeless, where positioning the place outside the boundaries is a prerequisite for preserving the living cultural heritage. Included within the boundaries is instead an economic approach to community life deemed essential for its long-term viability. Similar to many Romanian rural villages, Roşia Montană suffers from decay, economic decline and emigration. Infusing economic resources into this depressed region would transform it into a modern, flourishing village, where community life would continue undisturbed. In this view, the distinctiveness of community life is not tied to a physical location and losing its geographical basis would not have effects on the living heritage:

> *[The relocation village] will combine all modern amenities with a respect for tradition to create a place where people will want to raise their families and build a future.* [2006 Annual Report, 15]

However, a living cultural heritage that is displaced creates space for commensuration practices to be applied, with the community of Roşia Montană becoming just one of the many.

As the analysis indicates, the fragmentary approach relying on commensuration work has implications for multiple dimensions of the cultural heritage. For the material components, boundaries are set around what is worthiest, worthy, and unworthy of preservation, with tangible effects on their subsequent life. For the immaterial components of the cultural heritage, boundaries impose restrictions on what are valuable traditions to be cared for and passed on to the future generations. They also pose conditions on how the living cultural heritage should carried on and naturalize the loss of some of its essential dimensions, such as the physical location.

6.1.3. Boundaries isolating selected natural sites

Scholars have long argued that separation of culture and nature is artificial (e.g. Latour, 2004), leading to the alienation of human species from the surrounding environment. We here treat nature as integral to culture, especially since the two were deeply seated in Romanian history. To the extent that nature partakes in cultural rituals and is intermingled with local values, we believe that we can safely position natural sites alongside other cultural items.

Roşia Montană is located in the Apuseni mountain range of Western Romania, surrounded by small mountains and premontane hills covered with forests, pastures and grasslands. The region is considered charming, with picturesque sceneries, mountain routes and a diversity of species of flora and fauna (see Akeroyd, 2011; Gligor, 2011, who scientifically testify to the distinctiveness of the region's biodiversity).

The company proposed, and the state supported, a selective preservation approach in which only the *valuable* parts of Roşia Montană surroundings can be saved from excavation work. In this respect, two major sets of actions make commensuration work visible. The first concerned biodiversity and was reflected in the Biodiversity Management Plan of the corporation. A selective procedure was evident in the protection plans of the company, which aimed to establish Environmental Protection Zones (EPZs) that would preserve the *valuable habitats*, defined in terms of rareness or uniqueness:

> *Environmental Protection Zones (EPZs): Establishment of a network of EPZs that provide conservation for priority habitats, as identified through the ecological baseline studies, with an emphasis on protecting rare or unique habitats within the project area.* (Report on Environmental Impact Assessment Study, Chapter 4 Potential Impact, section 4.6 Biodiversity Management Plan, 5)

According to the Biodiversity Management Plan, "six areas of ecological significance" were identified in the Roşia Montană region, two of which were, however, outside the mining area. The remaining ones were subject to protection, but even so were not entirely immune to the effects of mining activities:

> *Two of these sites are located entirely outside of the project area, while the remaining four will be affected in varying degrees. These areas should be designated as EPZs, and development should be limited in the sites situated within the project footprint. […] During construction, tree clearing may be required from the EPZs. A minimum amount of tree cutting should be undertaken in these areas for which a Standard Operating Procedure for tree cutting will be developed. If rare flora are encountered that will be damaged by construction activities, they should be relocated according to a Standard Operating Procedure to be developed.* (Report on Environmental Impact Assessment Study, Chapter 4 Potential Impact, section 4.6 Biodiversity Management Plan, 6)

Commensuration work would have had the strongest implications for natural sites featuring no rare or unique characteristics that would make them eligible to be saved *in toto*. For these, actions of razing to the ground were considered legitimate in the initial stages of the project, followed by replanting in other areas or by restoration and rehabilitation of affected species at a later stage. Some examples of the actions listed in the management plan are given below:

Habitat Plots: Habitat plots, mostly located within the EPZs, and managed as seed banks, nurseries for plants used for rehabilitation of project-affected and/or degraded land, or sites into which selected plants from affected areas could be transplanted.

Riparian Planting: The planting of native species along degraded stream banks and other watercourses that provide breeding habitat and migration corridors for wildlife, and provide shade and nutrients to enhance stream quality. (Report on Environmental Impact Assessment Study, Chapter 4 Potential Impact, section 4.6 Biodiversity Management Plan, 5)

The second set of fragmentary actions referred to natural areas and landscapes of Roşia Montană and consisted of a sorting procedure to ascertain and select those meeting preservation criteria of rareness or uniqueness. Picture 1 above offers an overview of these valuable natural areas consisting of natural monuments and Tăul Brazi Lake to be maintained in protected areas. Piatra Despicată is one such geological monument representing a large cliff with an unusual rock composition, whose origin in the region is unknown. While Piatra Despicată was to be relocated into a protected area for preservation purposes, plans were for Piatra Corbului, an outcrop positioned on a hillock, to stay in its original place.

As in the case of items of tangible historical heritage, natural areas that did not meet expected criteria for being preserved, were to be ruined. This is the case of several mountain peaks to be flattened during excavations, for example the Jig and Orlea peaks.

6.2. The integrative approach to value assisted by incommensuration work: constructing and defending boundaries around the entire heritage

In contrast to the view that cultural items can live independent lives as standalone objects, the *integrative approach* envisions them as a part of a multifaceted cultural complex, impossible to break down into smaller pieces. This latter approach to value sees individual components of a cultural heritage being tightly intertwined with each other. Removing some components from the entirety is deemed destructive for the value of the cultural heritage, as this should be preserved *in toto*. The underlying rationality is that cultural heritage is imbued with intangible meanings rooted in the history and identity of its place of origin, which is of incommensurable value for contemporary citizens. We note that, taken jointly, the three dimensions of cultural heritage were tied up with strong bonds in our empirical sources, creating a vision of cultural heritage as an inseparable and unique entirety. Analytically, however, the task of analysing the heritage as an indivisible entirety is impractical, given the complexity of Roşia Montană case. For this reason, despite their highly interconnected nature, we examine them individually.

The integrative approach is informed by and reinforces incommensuration work undertaken by opponents to the mine, which implies the construction and defence of boundaries around the heritage. This occurs in reaction to the commensuration work of the company and the state, whose boundaries are narrowly set to individualize and preserve only specific 'valuable' heritage items. The incommensuration work enlarges the boundaries to embrace all items of the heritage, for the purpose of protecting it against attempts to disintegrate it.

6.2.1. Boundaries to protect tangible heritage

As seen, the fragmentary approach to value aims to separate the most preeminent relics for conservation purposes and allow the flattening of all the other. The integrative approach instead extended boundaries to protect the cultural heritage in its entirety and attacked the narrow boundaries established by supporters of the project. A prominent example where this can be observed is in the case of the remnants of mining nature. Mining heritage at Roşia Montană includes famous relics, such as the Roman mining galleries, and other less-known mining vestiges. Roman mining galleries were not considered equally important either, with some included in tourist routes, and others unsteady, dangerous to visit and difficult to restore. Many opponents contested this conservation approach by mobilizing incommensuration work.

Prestigious local and international institutions, such as the Romanian Academy, The International Council of Monuments and Sites [ICOMOS] or UNESCO, engaged in incommensuration work, as follows. The Romanian Academy applied the notion of uniqueness to discursively protect the entire archaeological area of Alburnus Maior and signal that its "great cultural and historical value" would be lost if disjoined (Romanian Academy, 2006, 2).

The International Council of Monuments and Sites [ICOMOS] has been assessing the cultural significance of Roşia Montană already from the early stages of the mining project. Its evaluations expanded over time, from a fragmented value of single objects, that is, "the remains of the largest Roman gold mine" (ICOMOS, 2002), in 2002, to a more integrative approach that talks about "an outstanding mining settlement and cultural landscape", in 2008 (ICOMOS, 2008).

In July 2021, UNESCO designated "Roşia Montană Mining Landscape" as part of the World Heritage List. The UNESCO evaluation was centred upon the Roman mining complex, that is the galleries, which was attributed "outstanding universal value". However, the UNESCO nomination, in its acknowledgment of the "cultural traditions of one of the oldest documented mining communities in Europe" and of the "socio-technical mining landscape consisting of ore-processing areas, habitation areas, sacred places and necropolis", extends the boundaries of the mining heritage to include the entire physical, social and cultural mining landscape.

All of these institutions are engaged in incommensuration work in that they assign an incommensurable value to the mining heritage of the region, seen as an assemblage. Boundaries are drawn around the entire collection of tangible objects rather than individual items, contributing to a broader and more inclusive view of conservation. This helps defending the entire mining-related heritage, avoiding acts of devastation to the 'less worthy' items.

6.2.2. Boundaries to preserve the intangible heritage in its entirety

Commensuration work and the fragmentary approach to value support the separation of the living cultural heritage from its

historical roots and place of origin. However, for many residents of Roşia Montană, this rupture was intolerable and, consequently, they engaged in incommensuration work to construct boundaries around the living cultural heritage in its place of origin. The work was mostly visible in actions of local opponents to the project and locally-born non-governmental organizations and was three-sided, consisting in articulating: 1) the role of place-bound identity; 2) cultural ties with spirituality; and 3) the cohesion of community 'spirit'.

First, from an integrative value perspective, individual and community identity are reflected in lifestyle, norms, traditions and community life that cannot be disentangled from the place of their formation.[12] Any attempt at fragmenting and spreading the living cultural heritage across places remote from Roşia Montană, breaking the bonds of relocated locals with their native places, was believed to result in "soul amputations", in the words of one petitioner. The place was thus significant for the lifestyle of many, and the practical rationales are to be found in the role of family values, spirituality and predecessors for the everyday life.

Incommensuration work, materializing in acts of protest, contestation and petitioning, designated the place of Roşia Montană as the anchor of identity via the dear ones buried in the ground:

> The questioner makes comments regarding the resettlement and states that she won't leave Roşia Montană, the place where she was born. She won't leave the tombs where are buried her only child-dead at age 18- her husband, her brothers, parents and grand-parents. She doesn't want their tombs to be resettled, she wants them to remain for ever in the graveyard where they are buried. (Petitioner comment as paraphrased by RMGC)

Thus, identity is often defined in relation to ancestors, that is the place where forebears lived and are laid to rest. Similar foundations for identity, in the form of Roşia Montană as a place of birth, childhood and family settlements, that cannot be substituted by or exchanged with another geographical location are offered by an activist, as follows:

> My love for Roşia Montană cannot be measured in money. In asking for my house, they [RMGC] ask me to no longer be myself, to make "esthetic operation" on my soul, to leave to foreign places, to move to their labour colony in Alba Iulia. They ask me to sicken myself voluntarily of Alzheimer, the terrible disease of oblivion. No, gentlemen, thank you very much, I have no intention to betray Roşia Montană, I love it too much. Not for ten million, not for a billion would I move [from here] (Formula As, 2009)

As the identity dimension of the living cultural heritage is particularly emphasized in the narratives of these residents, the incommensurable features of the Roşia Montană place deriving from its uniqueness become discernible. Incommensurability manifests in refusals to attribute a monetary value to things associated with family and predecessors:

> What is the cost of resettlement, what is the price of a grave, according to the company's representatives? If someone wanted to buy the grave of the grandparents of one of the company's representatives, how much would it cost? (petitioner comment)

The analysis above indicates that corporate boundaries to untie the living cultural heritage from the Roşia Montană place were actively disputed, and protective boundaries to protect against separation were constructed.

Second, incommensuration work rooted cultural heritage in spiritual connotations. Roşia Montană, with its multiple sacred places, was often framed as a creation of divinity, entitled to love and protection, and something that thus should be preserved intact:

> The Earth is God's Creation and has to be kept as it is. Mankind, who is its main beneficiary, is responsible for its state. (Bartolomeu Anania, the Archbishop of Cluj, quote from interview for MiningWatch Canada, 2003)

The divine angle to the *integrative* value gave prominence to religious norms and rituals. In particular, churches and worship houses, as sacred sites and the cemeteries where ancestors rest, had value in connection to the physical locale where they were rooted[13]:

> Many churches and graveyards will be resettled. In what can we still believe? What can we offer to future generations? (petitioner complaint)

Religious customs requested forebears' tombs to be maintained intact, their displacement and re-burial being permitted under special circumstances, such as inhumation of other family members in the same tomb, only seven years after the funeral date. Diverse ceremonies are practiced at the grave place to 'escort' the spirit of the deceased toward light, in other words divinity. The graves' value was spiritually loaded, being about the journey to immortality and an enduring affective tie between the living and the deceased. Displacing of graves in another location would disrupt these spiritual rituals. Obviously, this approach to cultural heritage is especially prominent with Church representatives but is also supported by local inhabitants.

Third, the removal of the living heritage from its original place was interpreted from the angle of preserving the community 'spirit'. Unlike in a fragmentary view, where community relocation to other localities is deemed unproblematic, in an integrative perspective, this would result in a disintegration of the community cohesion and 'spirit'. Incommensuration work aimed at highlighting the detrimental effects of relocation on the vivid and dynamic nature of community life, local customs and traditions. Narrow boundaries placed around a placeless community life were thus reconfigured to inclusively embrace Roşia Montană, which is positioned at the

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[12] We are aware that such interpretations are place- and time-bound and may very well be of a different nature a century ahead but important for our paper is the contextualization of cultural heritage and its role for the identities and ways of living of contemporary citizens.

[13] We acknowledge that history is fluid and the significance of places and cultural sites for inhabitants can suffer alterations over time. When people relocate for various reasons, new places of residence, new churches and new communities that are formed, can begin to gain unique significance for them. However, we focus our attention on the disruptions occurring to current inhabitants and the afflictions incurred to them.

centre of everyday activities.

Actions to enlarge the boundaries included the active display of specimens of a dynamic community life on the social media pages of some local activists. One of them posted that: "Yes, the true gold are the people. Congratulations to all that have created and developed the most beautiful festival [FânFest]" (15.01.2016). Another one posted a picture with many children wearing medals, along with the message: "There is a lot of gold at Roşia Montană!" (1.07.2021) Clerical sources also emphasized the human aspect of the Roşia Montană community: "For today and tomorrow and always the people are the true gold of our people/nation" (Romanian Roman Catholic and Greek Catholic Churches, 2013).

Actions to defend the expanded boundaries were also noticeable in efforts to evidence impairments of community cohesion occurring during the incipient stages of the mining project. With a number of relocations under way, many noted how recurring and prolonged disputes among supporters and opponents of the proposed mine fractured community life. Tension, unrest and rows became a regular sight in the region:

> *The company and politicians destroyed the village. They put hatred among every one, discord throughout the village. Neighbors don't look at [talk to] each other.* [Formula As, 2009]
>
> *I grew up in my uncle's [house] […] who turned immediately to the company's side, when it came [to the village]. […] He was a fanatic supporter, I can say and from that moment, our paths separated. I grew up [in his house] until I turned 27, when I married […] and we were very close even after that, but from that moment [when the company came], everything was over among us. Because he has never accepted that I have a different opinion than he does, [he thought he has] the right opinion, which was in community, village and people's benefit. And I was totally against [his] approach.* [Personal communication to activist]

Relocations of some people who accepted the commercial deal occurred in order to clear the mining area, further contributing to a living cultural heritage that no longer holds integral. Given that part of the Roşia Montană residents chose to resettle either in the new location constructed by the company or elsewhere, many of those staying expressed feelings of alienation and uprooting. The many houses left behind started to decay, leaving a desolating rural landscape for the remaining inhabitants. One activist posted several times on his/her Facebook page images with different houses in worsening condition alongside with messages such as: "What stories do the closed gates hide?" or "When the past is stubborn to stay!"

Identity and community life are thus fundamental in justifications to legitimate the integrative approach to value and the boundary work to reconfigure the role of the Roşia Montană place as part of the living cultural heritage.

6.2.3. Boundaries to maintain the natural sites in toto

The integrative approach to value transpires from perceptions of local culture being embedded in a unique natural place that humans and non-humans are believed to collectively share. The contested setting we examine provides ample evidence of incommensuration work being actively performed but we note two distinct rationalities in which this is based: economic and scientific. We also underscore that making a clear distinction between the place of Roşia Montană, as presented in the prior section, and natural sites, is not possible. Connotations of culture and spirituality therefore apply when it comes to nature too.

First, nature appeared inbuilt in local culture but it was frequently treated in an instrumental fashion to create a vision for the touristic prospects of the Roşia Montană region. Natural sites of exceptional value are recognised by local opponents of the project, being positioned alongside other local cultural items that have potential to develop tourism:

> *There are very many [touristic sites]. First of all, we have the Natural Monuments, Piatra Corbului and Piatra Despicată. Groapa Urzicarului is here in Vârtop village […]. We have the lakes, which are of [immense] beauty, here in the upper part, Lacul Mare, Ţarin, Brazi, Corna, Anghel, Vârful Rotundu. There are many sites to visit.* [Activist interview, https://www.youtube.com/watch?v=BUkZM3JQMKY]

In the vision that the local activists support, nature is framed as part of culture that has touristic potential and this contrasts to the corporate vision, in which cultural and natural sites are not promising enough to build a viable economic future for the region:

> *under an "alternate industries" alternative* [which includes tourism in the region] *it will be extremely difficult for the probable economic value of any alternate industry to separately attract the level of investment necessary to resolve existing historical environmental and social issues.* [Report on Environmental Impact Assessment Study, Chapter 5 Alternative analyses, 14]

Applying a touristic framing to the value of nature, opponents to the project construct boundaries around the entire natural heritage, by emphasizing the flawed character of the fragmentary vision to preservation. The isolation of outstanding natural sites and the flattening of all the other ones was said to mutilate the entire landscape, negatively affecting the value of the natural environment for tourists:

> *Tourists will visit a church from a cyanides lake and they will be directly or indirectly impacted while swimming across this lake?* [petitioner complaint 2006][14]
>
> *All these [natural sites], constituents of Apuseni Mountains paradise, will sleep their eternal sleep because on a cyanide contaminated ground no tourist will come.* [petitioner complaint 2006]

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[14] The quote mocks the official language of EIA, that is direct and indirect impacts, and alludes to the impossibility to transform a cyanide lake into a touristic place.

Thus, a nature-based perspective on heritage often stressed the integrity of the natural environment as a means for preserving the region *in toto* for future generations. This perspective was supported by local and international non-governmental organisations and was evident in public discourses but also in touristic projects developed in the area. The projects evidenced how nature is valuable for locals and how this value is lost if the mining project proceeds. Among the initiatives, the intensely mediated FânFest (Hay Festival) was initiated in 2004 as a cultural event to oppose the planned mining activities and rediscover the natural and cultural value of the region. The event, organized regularly and attended by approximately 4,000 individuals in 2004 and 8000 in 2005, aimed to promote the region and show how alternatives to mining can deliver a better value of nature than an open-pit mining project (Alburnus Maior Association, 2006).

Second, a distinct angle to the integrative approach to nature was applied by scientific forums, where the Academy of Romania stands highly, with its authority and expertise in biodiversity. The Academy adopted an ecological perspective that highlighted how the local ecosystem functioned in harmony, hosting a diversity of species:

> *Local biogeochemical cycles will be profoundly affected, which will mark the beginning of changes in precipitation regime, thermal regime, air mass circuit […] disturbance of the hydrological regime of running waters […] Most plant and animal species in this area will disappear, some rare, vulnerable or endangered. [The Romanian Academy, 2003, 2]*

This non-anthropocentric standpoint draws attention not only to fragmentation occurring in relation to the commensuration work, but also to the ecologically disruptive impact of the project. The reason for setting broad boundaries around the entire natural surroundings of Roșia Montană are in this case rooted in scientific arguments of biological and ecological nature.

7. Concluding discussion

We began this paper with the observation that prior research on commensuration has mainly focused on either commensuration work or incommensuration work, even though both forms of work are likely to prevail in situations characterized by conflicting worldviews and approaches to value. To address this issue, we abductively developed a framework that allows the simultaneous consideration of both types of work as well as the associated ideologies, approaches to value and intended outcomes. Drawing on the framework, we analyzed (in)commensuration work in the context of cultural sustainability, particularly cultural heritage, understood in the most practical sense as tangible and intangible items handed from one generation to the next (Throsby, 2008) and, in a more abstract sense, as a source of place-based identity that legitimates the conservation of the heritage (Soini & Birkeland, 2014). In empirical terms, we examined a major controversy related to a Canadian mining company's plans to open a gold mine in the municipality of Roșia Montană, Western Romania.

We believe our study to make a twofold contribution to prior literature. First, we add to the accounting literature on (in) commensuration work by developing and applying a framework that considers both commensuration work and incommensuration work and connects these two forms of work to different ideologies, approaches to value, ways of drawing boundaries around entities, and intended outcomes. In our view, this framework helps provide a more fine-grained view of (in)commensuration work especially in conflictual situations. Our analysis indicates that rooted in a neoliberal ideology, the fragmentary approach to value informs, and is reinforced by, commensuration work, which becomes manifest in actions of drawing boundaries around selected cultural heritage items that are classified as being worthy or unworthy of preservation. The outcome of such activities, if taken to completion, is commensuration and the disintegration of the cultural heritage. In contrast, the integrative approach, which is rooted in a societal ideology, sees cultural heritage as an entirety, an entity that cannot be broken down to individual elements. The integrative approach informs, and is reinforced by, incommensuration work which becomes manifest in the construction of boundaries around a compound made up of tangible, intangible and natural heritage. Ultimately, such actions aim to maintain the integrity of the heritage by constructing it as incommensurable.

Second, we expand previous research on accounting and sustainability as our study relates to the rarely explored dimension of cultural sustainability. While the body of knowledge on accounting and sustainability is quite sizable, the majority of such research deals with ecological or environmental aspects, while studies on social sustainability are still rather scarce and those addressing cultural sustainability are, at least to our knowledge, practically non-existent. Public sector accounting scholars have touched upon the theme of cultural heritage when debating the monetary valuation of heritage assets for financial reporting purposes. While these prior studies have considered heritage assets in the form of tangible items, such as scientific collections or pieces of art, we have expanded the scope of examination to a broader web of interrelated things. To illustrate the difference with the help of an analogy from biological research, one can either focus on the predicament of an individual species or one can study an entire ecosystem made up of various species and their habitats. While prior accounting research resembles the former approach, our study follows the latter as we illustrate how the cultural heritage in Roșia Montană is an assemblage of various elements, including historical artefacts, sacred places, natural landscapes, and traditions. Moreover, prior accounting research has focused on artistic or scientific collections that are considered valuable by both the proponents and opponents of commensuration through monetary valuation. In contrast, we have analyzed the 'living' heritage associated with a particular community, where the proponents and opponents hold different views about the value of the heritage. Those having a fragmentary approach to value believe that selected parts of the heritage are worthy of being sustained, whereas those who have an integrative approach to value believe that all of it deserves to be sustained for future generations.

In this respect, we see considerable analogies between our findings and those related to ecological sustainability. First, the two positions identified in our study have much in common with the philosophical disagreement between 'light green' and 'deep green' approaches to ecological sustainability (see e.g., Giddings, Hopwood & O'Brien, 2002). Those subscribing to the former see nature as a form of capital, the loss of which can be compensated with other types of capital, for instance by compensating the CO_2 emissions from

one's air travel with money.[15] In contrast, those subscribing to a 'deep green' philosophy reject the view of nature as a form of capital and consider it impossible to set a value on it or compensate for its loss in any way. In the case at hand, those having a fragmentary approach to value see cultural heritage as a kind of cultural capital,[16] the loss of which can be compensated by building replicas or paying local residents to move elsewhere, while those who have an integrative approach refuse to consider heritage as a type of capital because they consider it to be inextricable, invaluable and irreplaceable. Second, we can also see how the framework developed in this paper is applicable to ecological conflicts. Those having a fragmentary approach could be imagined to draw boundaries around selected natural areas (even individual trees) that they consider valuable and worthy of preservation, whereas those having an integrative approach would wish to draw a boundary around the entire natural environment on a local, national or even global scale. Third, our findings resonate with those of Arjaliès and Gibassier (in press), which analyzed a failed attempt to financialize biodiversity conservation by developing a conservation impact bond. According to those authors, the living beings that make up nature are "interconnected, complex, and constantly evolving" (ibid., 6) and thus could not be transformed into passive objects amenable to calculation and financialization. In our case, if we shifted our analytical gaze away from human actions, we could say that the interconnected and complex 'living' heritage at Roşia Montană resisted disintegration into passive individual entities and therefore remained largely immune to commensuration.

Despite the fundamental role of commensuration in accounting, the paucity of research on the complexities of (in)commensuration work requires further analysis. Our study complements existing studies by analysing the dynamics related to constructing items and their values as commensurable or incommensurable. As previous work has mainly focused on looking at one side of this work only (Bialecki et al., 2017; Gerdin & Englund, 2019; Habran & Mouritsen, 2022; Rainelli-Weiss & Huault, 2016), we contribute by analysing the interplay between the different parties and their (in)commensuration efforts. Such (in)commensuration work is distributed to various parties involved in the dispute over the mining operations of Roşia Montană. We note how each party contests the definition of the boundaries proposed by the other and attempts to impose its own version of how boundaries are to be set. Hence, we maintain that the workings of commensuration and incommensuration are in constant interaction, mutually opposing and invalidating each other's claims.

Our case of cultural heritage highlights the different modes of valuing simultaneously, and emphasizes the need to understand value, and expressions of value as multidimensional and essentially connected to a specific context, time and place, as well as to the person(s) involved in the situation. Importantly, the (in)commensuration work is (sometimes a subtle) interplay between different interests, targets, and values, taking place in a specific time and space, and is affected by the underlying ideologies.

Our study further contributes by focusing on the moral aspects of (in)commensuration work. Commensuration has constitutive power in altering people, our identities, and our social relationships (Bialecki et al., 2017; Mennicken & Espeland, 2019). In the deeply cultural contexts such as ours, claims of incommensurability can be expressions of the constitutive incommensurables (Espeland & Stevens, 1998) linked with our cultural roles and identities. As seen in our case, the economic rationality behind the claims of commensurability of the objects that are considered symbolically important to personal and collective identities transgresses deeply significant moral and cultural boundaries and threatens people's identities. In these cases, people often oppose by drawing protective boundaries around the constitutive incommensurables, due to the clashes of the incompatible moral worldviews (Espeland & Stevens, 1998; Huault & Rainelli-Weiss, 2011). Extending commensurability to areas of life that are considered deeply personal may pose a risk of altering our understandings of their value as mainly economic or instrumental, and thus framing people and organisations as economic actors and entities (Miller & Power, 2013). An understanding of how this kind of practices become, or do not become morally acceptable over time is needed (Healy, 2004). Analysis of such cases of commensuration and incommensuration work and their impacts on personal and collective identities and values, and cultural sustainability may help us better understand the mechanics of those changes (Labatut, Tesniere & Boxenbaum, 2015).

The moral aspects of our study also touch upon the limits of commensurability (Espeland & Stevens, 1998; Healy, 2004; Huault & Rainelli-Weiss, 2011). To what extent can the personally and culturally significant objects of cultural heritage be included within the boundaries of commensurability is an important area of debate. While such discussions are deeply embedded in a specific context, they share important broader societal concerns of neoliberal colonisation of various aspects of our lives. For some people opposing the gold mine the idea of relocation and compensation was just unimaginable and they completely refused to participate in the negotiations. Agreeing to negotiate with the company would have meant alienating from oneself and compromising on the 'uncompromisable', giving up on the constitutive incommensurables (Espeland & Stevens, 1998; Healy, 2004; Huault & Rainelli-Weiss, 2011).

The above-mentioned stances reflect broader positionings in terms of ideological values that underpin human action. Neoliberal ideology is known for the approach it takes with respect to incommensurable aspects, such as ecological systems, human rights or cultural heritage. In its prioritization of economic interests, a neoliberal rationality is prone to support the use of such incommensurabilities as resources for the promotion of globalized business activities. Timber, oil, gold and other natural extractives become economic objects whose harvesting is justified in the name of economic growth. Conceptualizations of human-nature interactions from this perspective have been referred to as commodification of nature (Dempsey & Robertson, 2012) or neoliberalization of nature (Castree, 2008), which often support corporate and policy decision-making. This view is evident in the case we analyse here, where gold is a means for prosperity, a resource to be exploited for human benefit. What it pertains to cultural heritage is the invasion of neoliberal-grounded individualistic views into the cultural world, where each item has value in itself rather than in relation to other

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[15] Such emission compensation schemes have been criticized for various reasons, as have corresponding ecological compensation schemes (see e.g., Tregidga, 2013).

[16] The term 'cultural capital' as utilized here should not be confused with Bourdieu's conceptualizations.

ones. Such an approach naturalizes processes of commensuration, appraisal, and selectivity of individual cultural items (e.g., Ashworth, 1997) rather than assemblages tied to certain places and local communities. This is the common rationality that supports a discursive construction of cultural heritage that prioritizes materiality, the perceived inherent (context-free) value embedded within the object to be preserved, and expertise to certify authenticity. These features have been found to shape the contours of the so-called 'authorized heritage discourse', which is hegemonic in contemporary societies and where commensuration processes play a key role (Smith & Waterton, 2012). As Smith and Waterton (2012, 167) remarks: "By reducing the process of heritage to a technical issue in this way, the social, political, and cultural effects of heritage are curiously absented from the management process."

In contrast, an ideology supported by care for what is perceived to be the intrinsic value of humans and non-humans, or what we call here a societal ideology, displays a less mechanistic approach to defining the composition of cultural heritage. Alternative conceptualizations of the notion of cultural heritage, such as "heritage from below" (Robertson & Webster, 2017), have been proposed in literature. In these, heritage is not a pre-established category that prioritizes one object over another, but has a more fluid understanding, where people and their identity are central. The aim of deciding what is to be saved for future generations is not to articulate lists of worthy items to be preserved in isolated environments such as museums, but to attach identity-informed cultural and social values to tangible and intangible things. Smith and Waterton (2009, 300) state that "what we preserve in the conservation and management processes are cultural and social values and narratives", and it is these values and narratives that give meaning to cultural heritage. While we see some elements of intangible heritage entering the discourse of the company and supporters of the mining project in our case (e.g., the Mining Day tradition), we can also note that it received less significance in comparison to the tangible heritage. We note for instance how attention is devoted to a greater number of items in the case of tangible heritage than in the case of the intangible one. Indeed, intangible heritage, marked by the values and identity of local communities, seems to be less common in Western-oriented interpretations of heritage, which have been intensely criticized recently (Smith & Waterton, 2012). Opponents to the authorized heritage discourse support a view in which heritage is "a process understood, practiced *and experienced* on the ground by the people themselves" (Muzaini & Minca, 2018, 1, emphasis in original). Cultural heritage conceptualized in this manner is thus consistent with incommensurability and an integrative approach to value as identified in this paper.

An issue of particular significance for defining incommensurabilities, especially when they are of a cultural nature, is *identity*. To keep the study theoretically focused, we did not explore the theme of identity but we believe it to be paramount when dealing with cultural heritage. Auclair and Fairclough (2015, 4) define cultural heritage in close connection to identity in claiming that "the memories they [cultural objects] embody and the narratives they support – make us who we are". The identity of some Roşia Montană residents developed in relation to the surrounding cultural landscape and played an essential role in legitimating the treatment of local heritage as incommensurable. As heritage is place-specific and time-bound (Auclair & Fairclough, 2015), it is from the stance of contemporary residents of Roşia Montană that local heritage can be designated culturally incommensurable. Our case was of a more specific nature, in which cultural heritage became a sensitive issue nation-wide, and even at international level. This greatly facilitated its recognition as incommensurable in the eyes of many outside the region. On a broad level, however, we believe that it is only by reference to local identity that heritage can become incommensurable. It is for the people at Roşia Montană that its cultural assemblage is essential in terms of their ways of living. Thus, we hope further studies to engage on a deeper level with issues of identity in their examination of cultural heritage.

In terms of limitations, we acknowledge that a deeper engagement with the local community or corporate representatives would have been beneficial for the study. However, given the long-standing nature of the dispute that received much column space in the media, there was no shortage of materials to voice either local inhabitants' or corporate representatives' views. Plentiful materials emanating directly from local activists were available on social media and other online platforms and we believe this greatly facilitated our analysis. Similarly, multiple data sources articulating the corporate vision of cultural heritage circulated in the public space. We also recognize that the different elements of the heritage were not uniformly perceived across various representatives of the oppositional groups. This does not, in our view, diminish in any way the entangled nature of the multiple elements that all together form the assemblage of Roşia Montană cultural heritage.

As we hope our study demonstrates, there is much that we need to know about incommensurables such as those associated with cultural heritage and the work that is performed to protect them, either in a fragmentary or integrative fashion, and we hope that future research will continue the conversation. Our study introduced the notion of cultural sustainability and argued that explorations of the interplay between culture and sustainability are required in the literature on sustainability accounting. We further maintain that, in addition to the tangible and material dimensions of cultural heritage, more consideration should be given to the intangible and living heritage, manifest in cultural traditions, lifestyles, values and issues of identity in local communities. We especially encourage further studies on the latter aspect, given that identity and heritage appear highly connected in our empirical material. To keep the study focused, we did not examine these issues in detail, but we believe further research is needed to shed light on their interplay. Finally, while we maintain that complex assemblages such as cultural heritage should remain untouched by profit-seeking businesses, we acknowledge that at times this is not a feasible option. We would therefore welcome further explorations of whether and how an integrative approach to value could be preserved when such cases occur. Can sustainable "cross-epistemological" compromises be achieved between the proponents of commensuration and incommensuration?

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Annex A Empirical sources

Corporate sources (RMGC)

Annual reports 1997–2011.
Responsibility reports 2006–2009, with Romanian and English language versions.
Two distinct web pages:
https://www.gabrielresources.com/site/rosiamontana.aspx – tailored for investors' interests.
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The Environmental Impact Assessment Report.

Sources from public institutions

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Roşia Montana Hall, Letter to the Commission for public administration (2006)*
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Academic sources

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The Romanian Academy:

"The standpoint of the Romanian Academy related to the Roşia Montană mining project" (2003)*

"Statement of the Romanian Academy concerning the Roşia Montană mining project" (2004) *

"Statement by the Romanian Academy regarding the Roşia Montana mine proposal" (2006)

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Non-governmental organizations:

Alburnus Maior (local NGO):

Web pages (as of 2011; currently inactive) *

"Anticipating the surprise – Evaluating the risk. Investors' guide related to the Gabriel Resources mine project proposal" (2004) *

"Updated risk analysis" (2005) *

"Sustainable development as alternative to mining at Roşia Montana" (2006) *

"How to not make an assessment of environmental impact" (2007)*.

"7 legal reasons for which Gabriel will NOT mine at Roşia Montana" (2008)*

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