

ECONOMIC AND PERSONIFIED VALUES OF MARGARET MEE'S WORKS ON THE ATLANTIC FOREST AND RAINFOREST

VALORES ECONÔMICOS E PERSONIFICADOS DAS OBRAS DE MARGARET MEE SOBRE A MATA ATLÂNTICA E A FLORESTA AMAZÔNICA

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HERITAGE ASSETS
CULTURAL ASSETS
ART
ECONOMIC VALUATION
PERSONIFIED VALUES
QUALITATIVE RESEARCH

This study analyzed the economic value of Margaret Mee's works and the intrinsic values of her contribution to art and botany. Research was conducted in auction houses and specialized bookstores, as well as through analysis of the documentary "Margaret Mee and the Flower of the Moon." It was noted that specialized professionals attribute economic value to heritage assets based on criteria such as authenticity, documentation, and rarity. Regarding the intrinsic values of the artist's legacy, nine intangible values were identified, including her personality, recognition, environmental activism, and influence. Thus, this study aims to contribute to the recognition of intangible cultural value in financial records.

BENS PATRIMONIAIS
BENS CULTURAIS
ARTE
AVALIAÇÃO ECONÔMICA
VALORES PERSONIFICADOS
PESQUISA QUALITATIVA

Este estudo analisou o valor econômico das obras de Margaret Mee e os valores intrínsecos em sua contribuição à arte e botânica. Pesquisas em leiloeiras e livrarias especializadas foram realizadas, assim como análise do documentário "Margaret Mee e a Flor da Lua". Percebeu-se que os profissionais especializados atribuem valor econômico aos bens culturais com base em critérios como garantia, laudos e raridade. Quanto aos valores intrínsecos ao legado da artista, foram identificados nove valores intangíveis, incluindo sua personalidade, reconhecimento, ativismo ambiental e influência. Assim este visa contribuir para o reconhecimento do valor intangível cultural nos registros financeiros.

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1 INTRODUCTION

Art served as the earliest means to formally document scientific subjects like botany, medicine, and pharmacy. To faithfully capture images, illustrators needed a deep understanding of the sciences. Among the earliest documented illustrations were those of medicinal plants, notably showcased in the *Aniciai Iulianae Codex* penned by Dioscorides in the 6th century AD. These depictions drew heavily from the engravings of Cratevus, a renowned botanist from the 1st century BC (Silva, Pellegrin, 2020).

In Brazil, the forest and flora were also depicted by a notable English artist, the visual artist Margaret Mee, who illustrated numerous plants from the Brazilian tropical forests and the Amazon. Her work generated significant material for both art enthusiasts and botanists (Segadilha, Gomes, 2016).

Through her work, Margaret Mee addressed issues involving the protection of the environment and the inhabitants of the Amazon regions. She was recognized not only in England, such as at the Royal Botanical Gardens at Kew, but also in Brazil, with the establishment of the Margaret Mee Botanical Foundation in 1989, which is now known as the Flora Support Foundation for Botany; and the Orchid Garden of the Botanical Garden of Brasília, named in her honor (Brasília, 2023).

Her 15th and final expedition in Brazil, in 1988, was documented in a film where the artist aimed to illustrate the moon flower, *Selenicereus wittii*. This led to the Beija Flor Samba School in Rio de Janeiro honoring her in 1994 with the samba theme "Margaret Mee, a Dama das Bromélias" (Direção de Martino, 2013).

Margaret also spoke out against the lack of preservation and deforestation of the Amazon Rainforest caused by land grabbers and miners. Almeida (2014) reported that Margaret Mee was also concerned with the commercialization of natural products found in the region, which aided in the development of a report for the Brazilian Institute of Forestry Development (IBDF), presently known as the Brazilian Institute of the Environment and Natural Resources (IBAMA). This report highlighted the ongoing and escalating devastation in the region.

Consequently, given that her legacy transcends mere economic considerations, determining an economic value for her works presents a significant challenge.

Economic valuation of intangible heritage assets, like artistic works, poses unique challenges. Traditional approaches such as cost-based valuation and income-based approaches often fall short in capturing their full worth. This is because the value of these assets extends beyond their physical attributes or potential income streams; it also encompasses their cultural and historical significance. Therefore, determining a fair economic value that adequately reflects all these aspects becomes complex. In the case of artistic works, their value is deeply intertwined with their cultural and historical context. This holistic perspective makes it challenging to quantify their true worth solely through conventional economic methods.

Several efforts are underway to develop frameworks and guidelines for the economic valuation of intangible heritage assets, including artistic works. For instance, the International Financial Reporting Standards (IFRS) include provisions for the accounting and reporting of intangible assets, encompassing heritage assets. This underscores the significance attributed to the protection and preservation of heritage assets outlined in the 2005 United Nations Educational, Scientific and Cultural Organization (UNESCO) Convention.

While the economic valuation of artistic works presents challenges, accounting managers can employ various economic valuation methods to effectively portray their cul-

1. Levy Leiloeiro. <https://www.levyleiloeiro.com.br/leilao.asp?Num=3385>

2. Quotes for Works of Art. <https://www.catalogodasartes.com.br/inicio>.

tural significance. However, it's crucial to account for subjectivity in accounting judgments, particularly concerning values associated with monuments, public spaces, natural resources, and culture itself. Such considerations can influence the fair value reflected in financial statements (Fuji, Slomski, 2003).

It is worth noting that, when evaluating cultural or public assets, the uniqueness of the work must be taken into account, along with the diverse and sometimes conflicting values attributed by traditional methods. This assessment should encompass economic, aesthetic, cultural, historical, artistic, educational, and political considerations. (Ferretti, Comino, 2015).

Given this exposure, the following prerogative is asked: How can we appropriately evaluate the economic value of heritage assets, particularly the works of Margaret Mee, taking into account her significant legacy as an artist and environmental activist, and the inherent value personified in her contributions to art and environmental conservation?

The aim of this study is to assess the economic value assigned to Margaret Mee's artworks while also delving into the intrinsic values inherent in the artist herself. This analysis seeks to determine the viability of incorporating these values into financial statements. By recognizing these intrinsic values, this research aligns with Kosmala's (2008) assertion regarding the portrayal of women in the arts, management, and society, considering Margaret Mee's significant contributions as both an environmental activist and a pioneering figure of her time.

The discourse surrounding the economic valuation of heritage assets is substantiated by the adoption of international standards within the public sector, prompting inquiries from academia and accounting regulatory bodies (Freire, Crisóstomo, Almeida, Silva 2017). In 2017, the International Federation of Accountants issued a Consultation Paper to solicit input from the community on financial reporting for heritage assets in the public sector. This topic has emerged as a fertile ground for novel academic inquiries, addressing both theoretical and practical dimensions (International Public Sector Accounting Standards Board, 2017, 2022). Nevertheless, accounting researchers have largely remained detached from this trend (Gomes, Silva, Martins, 2016).

VALUATION OF ASSETS: SPECIALIST EXPERTISE

According to Biondi, Grandis, and Mattei (2021), accounting for heritage assets poses a difficult, challenging, and concerning issue for the following reasons: (i) defining assets; (ii) determining when to recognize them in financial statements; (iii) selecting measurement criteria; and (iv) determining what evidence and additional information should be provided.

In the European Union, the regulations governing Property, Plant, and Equipment do not adequately address the needs of users concerning heritage assets. This is because the culture and history encapsulated within these assets represent the identity of a country (Aversano, Christiaens, 2014).

In the Brazilian Public Sector Applied Accounting Manual, issued by the Brazilian National Treasury System (Secretaria do Tesouro Nacional, 2021), it is noted that heritage assets are to be recorded in fixed assets on balance sheets with values that do not reflect market values. This is due to uncertainty regarding the methodology for measuring and recognizing the fair values of heritage assets.

However, Aversano and Christiaens (2014) argue that the valuation of such items cannot solely recognize their quantitative value. Thus, it should take into account quali-

tative characteristics such as relevance and representational fidelity, understandability, timeliness, comparability, and verifiability, while also assessing data constraints such as materiality and conducting cost-benefit analysis.

According to Strassburger, Souza, and Behr (2014), heritage assets, owing to their distinctive nature, pose uncertainties regarding their fair value. In the consultation paper on International Public Sector Accounting Standards (2017), the recommended valuation methods for heritage assets include historical cost, market value, and replacement cost.

However, there are various methods of economic valuation available for assessing environmental and heritage assets, as highlighted by Castro and Nogueira (2019). These methods include contingent valuation through willingness to pay, replacement or substitution cost, travel cost, historical cost or acquisition price, fair value, expert judgment or appraisal by a specialist, amount of loss or expected total loss, exchange value or cash value for the exchange of the asset, value in use or value to the asset owner, national value or that reported in the balance sheet, net present value or cash flow, net realizable value or the asset's net value after sale, and recoverable value or the value recoverable by cash flows (Castro, Nogueira, 2019).

Some authors have attempted to apply valuation techniques to heritage assets. Souza, Costa, Santos, and Moreira (2019) utilized the contingent valuation method and the travel cost method to estimate the value of Teatro Amazonas. They assessed the public appreciation and the level of cultural knowledge of the sample, as well as the political and cultural context, all of which influence the value of the asset.

Hence, there exists discretion in selecting valuation methods to assess heritage heritage, raising questions about the adequacy of instruments used for evaluating heritage assets. Furthermore, the Brazilian Public Sector Technical Accounting Standard (NBC - TSP 07) pertaining to Fixed Assets states that: "Entities preparing and presenting financial statements under the accrual basis must adhere to this standard in accounting for Fixed Assets, with the exception of: [...] (b) heritage assets" (Conselho Federal de Contabilidade, 2017, p. 2). Consequently, items categorized as heritage should be recognized and appraised provided they possess a reliable measurement basis, present the gross book value, depreciation method, and any depreciated amount (if applicable), and can be reconciled at the beginning and end of the reporting period with their components (Conselho Federal de Contabilidade, 2017).

Alternatively, Brazilian Standard (NBR) 14653-7 issued by the Brazilian Association of Technical Standards (ABNT) offers guidance on estimating the value of assets with an analogous market, such as historical and artistic heritage. This is achieved through various methods including hedonic prices, the travel cost method, the opportunity cost method, and the contingent valuation method (Fernandes, Bem, Waismann, 2020).

According to Pires, Ribeiro, Niyama, and Matias Pereira (2015), the measurement of heritage assets typically commences with recognition at historical cost, a practice favored by certain museums. However, for annual adjustments over the asset's useful life, market value methods like fair value, replacement cost, and expert judgment are deemed necessary. In terms of specialist assessment, conflicts arise in value attribution. Ferri, Sidaway, and Carnegie (2020) contend that traditional accounting methods diverge from those used by professionals or curators for valuation purposes.

Works of art are typically assessed in specific environments, such as auctions, fairs, galleries, museums, and cultural centers. Therefore, when it comes to valuing works

of art, relying on the expertise of specialized professionals appears to be the most appropriate method. In auctions, for example, bidding usually begins with a reference value announced by the auctioneer, and the final price of the artwork may experience an unpredictable increase. Meanwhile, international fairs such as Tefaf (Maastricht), Art Basel, Frieze (London), Armory Show (New York), and Art Basel Miami are significant platforms for fostering the appreciation of heritage assets, as they attract notable collectors (Ferraz, 2015).

To commence the valuation of rare assets, specialists typically adhere to specific criteria commonly utilized in the trade. These may encompass guarantees from reputable experts in rare works, signed technical reports, reimbursement policies for potential errors, assurances of the artwork's origin by responsible auctioneers ensuring legality and clearance, detailed descriptions of the asset's condition, and the incorporation of telephone and internet bidding in auctions to stimulate heightened bidding activity .

When employing expert judgment to determine the value of works of art, one common technique involves utilizing public databases that catalog the prices of previously sold and available goods. Examples of such databases include Artprice, Askart, Artnet, Gordon's Photography Prices, Gordon's Print Prices & Lawrence's Dealer Print Prices, Lawrence's Print Prices, Invaluable, Print Gallery, Art Exchange, Art Catalog, and The Art Office. These art market research tools are relied upon by both appraisers and collectors who utilize auction price databases .

Despite its complexity, according to Ferraz (2015), the relationship between auctions and dealers offers favorable conditions for purchases and sales, ultimately enhancing the value of the artwork. Auctions are driven by the logic of financial capital, influencing the correlation between market value and aesthetic value. Factors such as exclusivity, quality, physical condition of the artwork, representation of a collector, promotion, and high-end catalogs all contribute to increased prices and bids for works.

2 MARGARET MEE AND HERITAGE ASSETS OF BRAZILIAN FORESTS

An exemplary artist who left a lasting impact beyond the realm of art was the Englishwoman Margaret Ursula Mee. Born in England in 1909, she initially worked as an illustrator at De Havilland during the Second World War. Later, she pursued formal art education at Saint Martins College of Art, the Central School of Art, and the Camberwell School of Art (Lourenço, Barros, 2016).

Mee arrived in Brazil in 1952 at the age of 43, where she embarked on a career teaching art at the British School in São Paulo. It was during this time that she developed a profound fascination with the diverse flora of the Brazilian tropical and Amazon forests, leading her to join the Institute of Botany of São Paulo as an artist-illustrator in 1958 (Martins, 2016).

Following her debut exhibition at the Casa da Cultura Inglesa in São Paulo in 1960, Mee secured a position at the Botanical Garden in Rio de Janeiro. Initially tasked with drafting forest plans, she later transitioned to producing intricate, large-scale illustrations of entire plant specimens in her Rio de Janeiro studio. Her exceptional work garnered recognition from prestigious institutions such as the National Geographic Society and earned her the esteemed Guggenheim Prize. During her time in Brazil, she forged a close bond with renowned landscape designer Roberto Burle Marx. Mee's contributions were further acknowledged with the Member of the British Empire (M.B.E.) decoration and the Order of the Southern Cross honor in Brazil (Mee, 2006).

Becker (2012) recounts Margaret Mee's pivotal journey into the heart of Brazilian tropical forests, particularly the Amazon, commencing in 1964. Here, amidst the lush biodiversity of Brazil's fauna, Mee channeled her artistic talents to depict rare plant species, many of which remained uncharted by scientific exploration. Her body of work encompasses illustrations spanning the Bromeliad family, orchids, and cacti. Throughout her extensive expeditions spanning from 1956 to 1988, Mee meticulously crafted 400 botanical illustrations using gouache and watercolor mediums, filling 40 sketchbooks and penning 15 detailed diaries (Ryle, 1988).

Immersing herself deeply in the Brazilian forest ecosystem, Mee actively engaged with indigenous communities, delving into their profound knowledge of the intricate connections between plants, animals, and humans. Her astute observations and dedication led to the identification and documentation of nine previously undiscovered plant species. In honor of her pioneering contributions, several plant specimens were christened in her name, including *Aechmea meeana*, *Sobralia margaretae*, and *Neoregelia margaretae* (Siegel, 2017).

"Flowers of the Brazilian Forests," "Flowers of the Amazon," and "In Search of Flowers of the Amazon Forest" stand as some of Margaret Mee's most notable works produced during her tenure in Brazil (refer to Figure 1).

The book "Flowers of the Brazilian Forests" was released as a limited edition of 500 deluxe copies, each bearing Mee's signature in gouache on the reverse side of the title page. This significant botanical masterpiece stems from her expeditions in the Amazon region, marking the inaugural major publication of her Brazilian artwork. Roberto Burle Marx, the esteemed Brazilian landscape architect, contributed a preface to the book. The depth of the paintings owes not only to Mee's meticulous observations but also to the insights and annotations found in her personal travel diaries. Recognized for its commercial success and exceptional quality, the critic Wilfrid Blunt proclaimed in the *Journal of the Royal Horticultural Society* that Mee ranked foremost among the finest botanical artists.

The second significant work is the book "Flowers of the Amazon," presented in an exquisite case containing 24 prints of the artist's drawings created during her journeys. Each illustration is accompanied by descriptions in both English and Portuguese and is prefaced by Roberto Burle Marx. Additionally, the book includes excerpts from Mee's diaries, providing insights into the region's flowers, trees, birds, animals, routes, itineraries, and plant life.



Figure 1. Margaret Mee's main works. Source: Internet Images, 2023.

Lastly, there's the book "In Search of Flowers of the Amazon Forest," featuring a preface by the Duke of Edinburgh and edited by Tony Morrison. This publication showcases sketches extracted from the author's diaries and notebooks compiled during her expeditions.

Identifying herself as an environmentalist, Margaret Mee documented the environmental damage inflicted during her Amazon expeditions, as well as the neglect faced by riverside communities. She ardently advocated for the preservation of the Brazilian ecosystem's biodiversity and flora (Protasio, 2012).

Given such invaluable contributions, it becomes evident that appraising the heritage assets bequeathed by the artist poses a challenge not only from an economic standpoint but also in recognizing the personal essence of her work and the intrinsic value of her legacy, as documented by those who shared in her journey through the Brazilian forests.

3 RESEARCH METHODOLOGY

In line with the overarching objective of this research, a study was conducted on the economic value of works pertaining to the Brazilian forest and flora, acknowledged in literature as both art and science, alongside the personalized value attributed to the illustrator Margaret Mee.

As noted by Ferraz (2015), the value of artwork correlates with its creation process, critical analysis, and institutional context. In venues such as auction houses or established specialized bookstores, these factors significantly influence the formation, assessment, and acknowledgment of the fair value of artworks. Within these specialized contexts, the expertise of agents emerges as the most suitable method for the economic valuation of heritage assets, providing precise insights into rare works and serving as a foundation for measurement, recognition, and accounting disclosure.

Given this premise, an investigation was conducted to examine the economic value of three works identified as rare, due to their uniqueness and historical value, created by the artist: "Flowers of the Brazilian Forests" (1968), "Flowers of the Amazon" (1980), and "In Search of Flowers of the Amazon Forest" (1988). The prices of these works were collected from prominent auction houses and specialized libraries specializing in rare book sales. This research was conducted in March 2023, using the PICOC protocol (population, intervention, comparison, outcome, context), along with relevant keywords and search terms associated with Margaret Mee's works. The study aims not only to assess the economic value of these pieces but also to recognize their rarity and historical importance, thereby contributing to the understanding and appreciation of Margaret Mee's artistic and scientific legacy (Marcolino, Barbosa, 2015).

In the next phase, the content of the 2013 documentary "Margaret Mee e a Flor da Lua," directed by filmmaker Malu de Martino, was scrutinized. To conduct the content analysis, the statements made by the interviewees were categorized into nine themes: aspects related to the individual; personality traits; the intersection of art and science; activism and environmental advocacy; the perceived value of her work; mystical elements; her influencer profile; strategic considerations; and acknowledgment of her contributions.

To enhance the examination of personified values, the documentary audio was transcribed into text using the "Otter.ai" software: Voice Meeting Notes® and Web Speech API Demonstration® in their free versions. Following transcription, a compilation of interviewees' statements was conducted using the free software, Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires - IRaMuTeQ®, for

textual analysis. This aimed to ascertain the correlation between the themes of personified values and the content of each interviewee's speech in the video (Salviati, 2017).

To achieve this, the corpus was prepared, which involved correcting punctuation errors, combining words that logically belong together (e.g., "Rio_Negro"), and excluding unnecessary expressions (such as "né," "aí," "etc."). The contents were then categorized based on narratives related to the identified personified values. Variables were created to represent each of the nine personified values mentioned in the analysis, labeled, for example, as *value_1. Additionally, variables were created to identify the interviewees, labeled as *Relator_01, totaling 18 individuals and one session. The participants' professions and genders in the documentary were also identified, as outlined in Table 1.

In addition to textual statistical analysis, Factor Correspondence Analysis (FCA) was conducted to examine word proximity through comparisons of the reports. Furthermore, Descending Hierarchical Classification (DHC) was performed to categorize words into classes based on personified values. Finally, word similarity was analyzed to comprehend text construction and highlight the directions taken in addressing the themes.

| PERSONIFIED VALUE VARIABLE | | | | | CODIFICATION |
|--|---------------|-----------------------|-------------------|----------------|--------------|
| Regarding Margaret as a woman | | | | | *Value_1 |
| Regarding her personality | | | | | *Value_2 |
| Regarding her art and science | | | | | *Value_3 |
| Regarding activism and the environment | | | | | *Value_4 |
| About the value of your work | | | | | *Value_5 |
| Regarding mysticism | | | | | *Value_6 |
| Regarding her influence | | | | | *Value_7 |
| Regarding her strategy | | | | | *Value_8 |
| Regarding the recognition of her work | | | | | *Value_9 |
| REPORT VARIABLE | REPORT CODING | PROFESSION VARIABLE | OCCUPATION CODING | GENRE VARIABLE | GENRE CODING |
| Margaret Mee | *Report_01 | Botanical Illustrator | *Occup_01 | Woman | *Gen_01 |
| Maria das Graças | *Report_02 | Botanical | *Occup_02 | Woman | *Gen_01 |
| Carmen Fidalgo | *Report_03 | Botanical | *Occup_02 | Woman | *Gen_01 |
| Oswaldo Fidalgo | *Report_04 | Botanical | *Occup_02 | Man | *Gen_02 |
| Sir Chilean Prance | *Report_05 | Botanical | *Occup_02 | Man | *Gen_02 |
| Simon Mayo | *Report_06 | Botanical | *Occup_02 | Man | *Gen_02 |
| Tony Morrison | *Report_07 | Writer | *Occup_03 | Man | *Gen_02 |
| Sylvia Brautigam | *Report_08 | Arts Curator | *Occup_04 | Woman | *Gen_01 |
| Joaquim Nabuco | *Report_09 | Attorney | *Occup_05 | Man | *Gen_02 |
| Malena Barretto | *Report_10 | Botanical Illustrator | *Occup_01 | Woman | *Gen_01 |
| Leila Fischer | *Report_11 | Neighbor | *Occup_06 | Woman | *Gen_01 |
| Anne Phillips | *Report_12 | Friend | *Occup_07 | Woman | *Gen_01 |
| Cesar Baumann | *Report_13 | Neighbor | *Occup_06 | Man | *Gen_02 |
| Mary Aune | *Report_14 | Friend | *Occup_07 | Woman | *Gen_01 |
| Fábio Scarano | *Report_15 | Ecologist | *Occup_08 | Man | *Gen_02 |
| Gilberto Castro | *Report_16 | Biologist | *Occup_09 | Man | *Gen_02 |
| Sue Loran | *Report_17 | Friend | *Occup_07 | Woman | *Gen_01 |
| Paulo Saldanha | *Report_18 | Boatman | *Occup_10 | Man | *Gen_02 |
| Commemoration | *Report_19 | All | *Occup_11 | Todos | *Gen_03 |

Table 1. Coding of the documentary's textual variables

4.1 ECONOMIC VALUE OF THE WORKS OF MARGARETH MEE FLOWERS OF BRAZILIAN FOREST (1968)

In the research carried out, it was possible to verify that the works of Margaret Mee were sold in the main international and national auction houses and bookstores, such as: (i) Christies' Auctions: Founded in 1799, Christie's is considered one of the world's most prestigious art companies. In 1996, the book was listed for sale in pounds sterling; (ii) Bonhams: Specializing in fine books and manuscripts; (iii) Espaço de Artes Miguel Salles Located in Rio de Janeiro, this company specializes in auctioning objects such as antique paintings; (iv) Artnet: An international e-commerce platform; (v) Drawing Room London A gallery situated in London, showcasing works by renowned artists from around the world; (vi) Others: AbeBooks, Iberbooks, Virtual Bookshelf, Waterstone, eBay, Levy Auctioneers, Veras Nunes Auction, and Amazon.

The book "Flowers of the Brazilian Forest" can be acquired from various retailers, including Amazon, AbeBooks, and IberBooks, at prices ranging from US\$ 615.64 to US\$ 20,101.17 (refer to Table 2).

Differences in the values of artworks stem from various factors, including the object's condition and structure (integrity, originality, and restoration), its purchase origin, recent sales prices of the artist's work, comparable item prices, the artwork's theme, rarity, demand, and emotional resonance for the buyer. Another significant aspect influencing the value of this book is its limited print run of 500 units, potentially elevating the collective value of the entire set to US\$ 10,050,585.00, based on the valuation from IberLibros.

| COMPANY | MAXIMUM VALUE FOUND |
|------------------------------|---------------------|
| IberLibros | US\$ 20,101.17 |
| AbeBooks | US\$ 19,500.00 |
| Amazon | US\$ 1,870.00 |
| The Antique Map and Bookshop | US\$ 615.64 |

Table 2. Value of the Work Flowers of Brazilian Forest

Flowers of the amazon forest (1980)

The botanical book "Flowers of the Amazon Forest", being bilingual, includes insights from Mee's travel diaries, highlighting environmental damage to the forest, alongside select illustrations by the artist. Notably, this book underwent multiple print runs, a factor contributing to the notable variance in values compared to "Flowers of the Brazilian Forest." This divergence can be attributed to the basic economic principle of supply and demand, where an increase in supply coupled with reduced demand directly influences the item's value.

As a result of an oversupply relative to demand, prices for the work experienced a decline. On the AbeBooks website, a minimum of 10 copies of the book were listed, priced between US\$ 64.77 and US\$ 351.87 (refer to Table 3). Moreover, a rare hardcover edition of the book was auctioned in São Paulo, Brazil, in 2017.

| COMPANY | MAXIMUM VALUE FOUND |
|---|---------------------|
| Amazon | US\$ 638.48 |
| AbeBooks | US\$ 351.87 |
| Ebay | US\$ 118.96 |
| note: Quotation on 03/14/2023, Euro: USD 1.06. Dollar: brl 5,25 | |

Table 3. Value of the Work Flowers of the Amazon: The Botanical Art of Margaret Mee

In search of flowers of the amazon forest (1988)

This publication, edited by Toni Morrison, features 302 pages showcasing the beauty of the tropical forest through 60 of the artist's main works since her initial expedition in 1956. However, the sales values were not significant (refer to Table 4).

The researched books for sale had values that ranged between US\$ 70.25 and US\$ 158.45. However, on the Amazon website, the value of the work is presented between US\$ 72.90 (used copy) and US\$ 254.94 (new copy).

Through the values collected in this exploratory research, it was possible to verify that the book "Flowers of the Brazilian Forest" was better valued in the market, as assessed by specialists in the area. This demonstrates that economic valuation methods are valuable tools for accounting to register the values of heritage assets.

However, there are different types of assets with their own characteristics that lack studies on the best mechanism to be used for their valuation. Therefore, considering the works and trajectory of Margaret Mee, it is necessary to expand the valuation of heritage assets to perpetuate her legacy.

| COMPANY | MAXIMUM VALUE FOUND |
|---|---------------------|
| Amazon | US\$ 254.94 |
| AbeBooks | US\$ 158.45 |
| IberLibros | US\$ 149.28 |
| Ebay | US\$ 70.25 |
| note: Quotation on 03/14/2023, Euro: USD 1.06. Dollar: brl 5,25 | |

Table 4. Value of the Book In Search of Flowers of the Amazon Forest

4.2 PERSONIFIED VALUES

There are intangible values associated with heritage assets that go beyond their economic value, as noted by Throsby (2003), such as philosophical, scientific, artistic, educational, and instructive values. However, these immaterial elements can be difficult to measure and imperceptible to some people, largely due to personal choices and a lack of knowledge.

In the documentary "Margaret Mee and the Moonflower," directed by Malu de Martino (refer to Figure 2), the testimonies of friends, biologists, artists, writers, and curators who knew Margaret's work and life were recorded.

From these testimonies, it was possible to identify the personal values of the artist that are intrinsic to the history of each work, perpetuating values that influenced or marked her creations. Through a qualitative evaluation, the elements pointed out by the interviewees were analyzed, providing a deeper understanding of the artist. About the illustrator, it could be understood that:

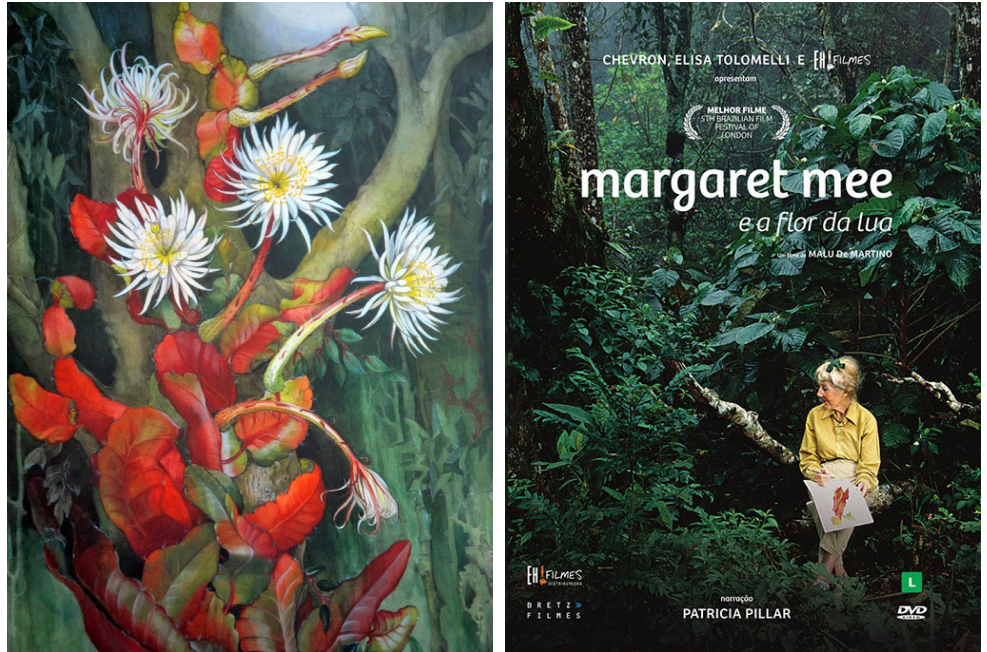


Figure 2. Moonflower painting and cover of the documentary about Margaret Mee Note: On the right is the painting of Flower of the Moon, mentioned in the documentary on the left that talks about this expedition. Source: Images taken from the Internet, 2023.

(i) Regarding Margaret as a woman: Margaret was just as capable as male English explorers, and her age didn't hinder her work. She started working as a botanical illustrator in Brazil when she was 47 years old.

(ii) Regarding her personality: Margaret had a unique and admirable lifestyle. She was kind, elegant, and determined, with a sensitive and discreet demeanor. She was also adventurous, eccentric, and seen by some as a bit unconventional. She was a warrior, brave, courageous, and radical in her pursuits.

(iii) Regarding her art and science: Margaret was a modernist visual artist with her own unique style. Form and space were important in her work, and nature was a primary source of inspiration for her art. She had the ability to recreate with both poetic and scientific styles. Margaret was agile, passionate, and had a convincing power and a lot of tenacity in her paintings. Botanists sought her out to paint their work, and her legacy in art and science has been compared to other explorers, such as Ghillean Prance.

(iv) Regarding activism and the environment: Margaret was passionate about botany and one of the first to speak out against deforestation, forest degradation, and violence against native and riverside populations. Her activism was calm, but firm. She defended her political ideas and had meetings with government ministers and secretaries in defense of environmental issues. She was not afraid to speak to politicians, even sending a copy of her book to President Geisel during the military regime, stating that many of the plants depicted in her book would soon become extinct.

(v) Regarding the value of her work: Margaret knew that her work was priceless, and she did not sell her illustrations for monetary gain. The value of her work was in its rarity, artistic and scientific value. She and her husband did not have much money, but the result of her work allowed them to purchase a house in Santa Teresa. Margaret did not place much value on money, considering it to be very dirty.

- (vi) Regarding mysticism: For some interviewees, Margaret evoked the mystery and magic of the Amazon, with an extra spiritual and magical dimension to things. The house where she lived in Santa Teresa, RJ, was a sanctuary, with some plant seedlings that she collected on expeditions.
- (vii) Regarding her influence: Margaret was admired by her co-workers and served as an influencer and encourager in her field.
- (viii) Regarding her strategy: Some interviewees noted that Margaret knew how to take advantage of opportunities and had contacts with influential people.
- (ix) Regarding the recognition of her work: The Amazon Trust Fund and the Margaret Mee Botanical Foundation were established, awarding grants to biologists and botanical illustrators. The fund also acquired over 60 works by Margaret and deposited them at the Royal Botanic Gardens, Kew.

Textual content analysis

To gain deeper insights into how personified values could be assessed, a textual analysis was conducted based on the documentary "Margaret Mee e a Flor da Lua." The objective of this analysis was to identify themes categorized as intangible values that contribute to the overall value of Margaret Mee's work. A total of 27 interviews were analyzed using the IRaMuTeQ® software, resulting in 256 texts segmented as Elementary Context Units (ECUs), of which 211 were utilized, representing 82.42% of the corpus. Employing Reinert's linguistic method, the Descending Hierarchical Classification (DHC) was performed, facilitating the lexical analysis of words in their respective contexts through the predetermined modality of simple classification, known as Standard Analysis (ST), which is suitable for lengthy texts. This process yielded a dendrogram illustrating the grouping of word occurrences based on personified values, as depicted in Figure 3.

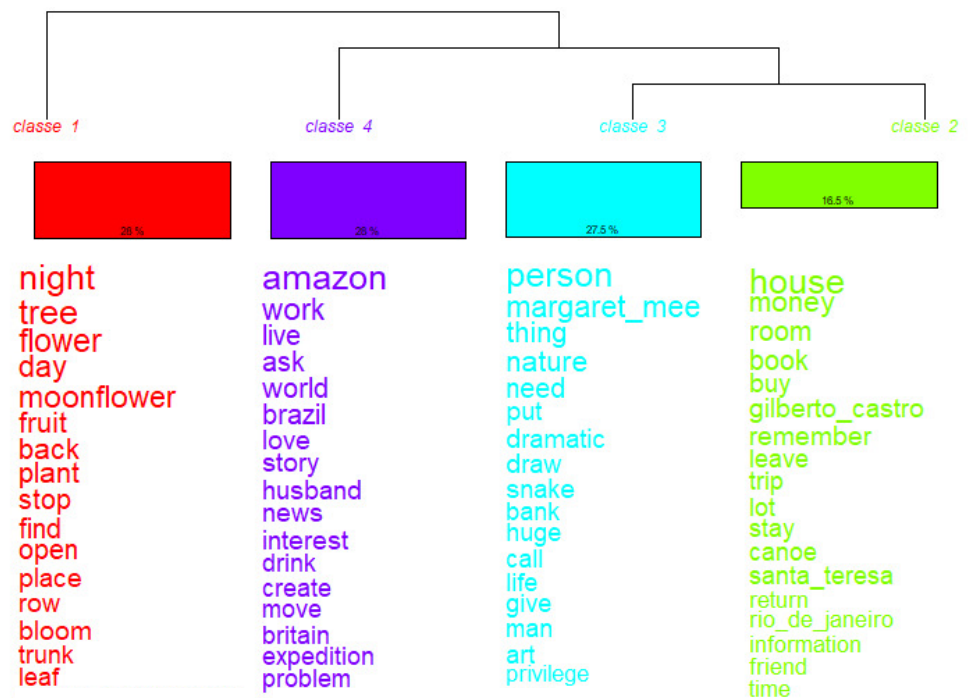


Figure 3. Dendrogram of Descending Hierarchical Classification (DHC). Note: Groups created based on impersonated value variables. Source: Prepared by the authors

The dendrogram presented above illustrates four word classes derived from the corpus discourse. The results suggest three primary groups of interconnected classes: classes 1, 4, and 3, which account for 28%, 28%, and 27.5% of the extracted documentary text, respectively. All classes originate from class 1, reflecting narratives centered around an environment dedicated to their travels.

Detailed analysis of Class 1 reveals a group in the first column on the left, focused on the search for the moonflower, emphasizing the words "moonflower" and "find." The first ten words in this class are statistically significant with $p < 0.01$. This botany-oriented class is predominantly influenced by Mee's own report, constituting 58.38% of the speech. Additionally, 45.1% of this class represents variable_3, which addresses the art and science related to the personified values of the artist being studied.

Class 4 constitutes 28% of the corpus and pertains to Mee's life and work outside of her expeditions. The key words in this class are "Amazon," "work," and "life," each with a significance of $p < 0.01$. This group is entirely based on contributions from the botanist Maria das Graças, representing 62.5% of value_8, which focuses on the artist's strategic values.

Class 3, encompassing 27.5% of the corpus, highlights the words "person" and "Margaret_Mee," both statistically significant with $p > 0.01$. This class is centered on stories from Margaret Mee's life. More than 60% of reports 10 and 12 fall into this class, with a particular emphasis on value_9, which pertains to the recognition of her work.

Class 2, found in the last column on the right, accounts for only 16.5% of the DHC and is more distant from the context of the expeditions. It includes words like "book" and "money," with "house" having a χ^2 of 57.99. This class relates to values 1 and 5, which address women and their work, respectively. Sue Loran, a friend of Margaret Mee, highlighted that for Mee, environmental preservation was more important than money.

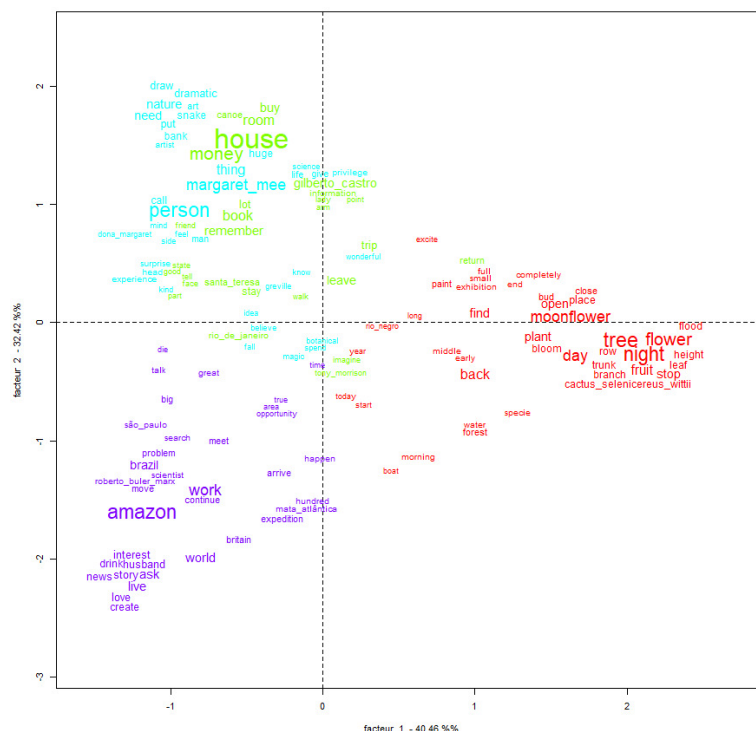


Figure 4. Factorial Analysis of Correspondence in Reports about Margaret Mee. Source: Prepared by the authors.

Finally, a Factor Correspondence Analysis (CFA) was performed using the 27 reports. The personified values were used as variables to categorize the reports from each interviewee. The aim was to identify which mentions were most closely associated with the legacy of Margaret Mee.

Figure 4 displays the most frequently mentioned words, grouped into four factors. At the center of the discussions is the word "botanical," indicating that all interviewees, as well as Margaret Mee herself, referred to her dedication to her work as a botanical illustrator. The other words in the quadrants are related to different aspects of her work.

In the first and fourth quadrants, the words "flower of the moon" and "night" appear most frequently in Reports 01 and 02, respectively written by Mee in her diary and by botanist Maria das Graças Wanderley. The factor identified in these quadrants is also associated with the value_3 variable, which relates to Margaret Mee's contributions to art and science.

Two factors were identified in the second quadrant, in the upper left corner, containing words that involve values corresponding to her personality and her life in Rio de Janeiro. In the third quadrant, in the lower left corner, the last identified factor is presented, linked to the context of her expeditions, but with a focus on her love and dedication to her work.

Overall, Table 5 summarizes the personified values identified in the documentary.

| PERSONIFIED VALUES | VARIABLE | MENTIONS | FREQ. % |
|--|----------|----------|---------|
| Regarding her art and science | *VALUE_3 | 33 | 24,63% |
| Regarding her personality | *Value_2 | 22 | 16,42% |
| Regarding the recognition of her work | *VALUE_9 | 21 | 15,67% |
| Regarding activism and the environment | *Value_4 | 20 | 14,93% |
| About the value of your work | *Value_5 | 9 | 6,72% |
| Regarding mysticism | *Value_6 | 8 | 5,97% |
| Regarding her influence | *Value_7 | 8 | 5,97% |
| Regarding her strategy | *Value_8 | 7 | 5,22% |
| Regarding Margaret as a woman | *Value_1 | 6 | 4,48% |

Table 5. Personified values identified in the textual analysis.

Table 5 shows that the personified values most frequently mentioned by the documentary participants relate to Margaret Mee's art and science, accounting for 24.63% with 33 mentions. Following this, her personality is highlighted with 16.42% and 22 narratives. There are 21 mentions related to the recognition of her work, and 20 focus on her love for the environment and her activism. The remaining values account for 28.36% of other intrinsic aspects of her work and life. The reports express admiration and love for nature, coming from an educated and kind woman with unparalleled talent.

To further illustrate the relationships between the words, a similarity analysis was conducted, with thicker lines indicating stronger connections and narrower lines indicating weaker connections (see Figure 5).

In Figure 5, the words 'person' and 'Margaret_Mee' are highlighted, showing a strong relationship until the word 'know'; this thicker line expresses the construction of the documentary text from the legacy of Margaret Mee's work. On the right branch, one can see Mee's desire to find the moonflower, starting from the word 'Margaret_Mee', which gives rise to 'find' and 'flower', opening a link to 'moonflower', which reportedly

only 'opens' at 'night', once a year, being recorded in art only on his last expedition to the Amazon. The line deriving from the word 'person' concentrates on the context of his expeditions to Brazil. The reports linked to the word 'know' also focus on the determination to return to the forest to paint the moonflower.

The contribution of the artist's work can be identified, according to reports and the themes presented, which should be better recognized and measured by specialists in the area, as in the preliminary result on Margaret Mee's work, the structure involving expert judgment seems appropriate to attribute value to the accounting record of works of art. However, faced with the reality of an emblematic context, such as the intrinsic values of the artist, there is much room for improvement, especially regarding the definition, recognition, measurement, and dissemination of such assets.

Although the IPSASB (2017) concluded that the distinct characteristics of heritage assets do not require disclosure, in the present study, it seems that, given the particularities of each asset, information mainly on valuation methods and mechanisms must be included in the financial statement. On the other hand, information about the personification of the artist, influencing the composition of cultural value, could compose voluntary disclosures, although it is difficult to measure with reasonable precision the personified and subjective values that a person has when contemplating a heritage asset."

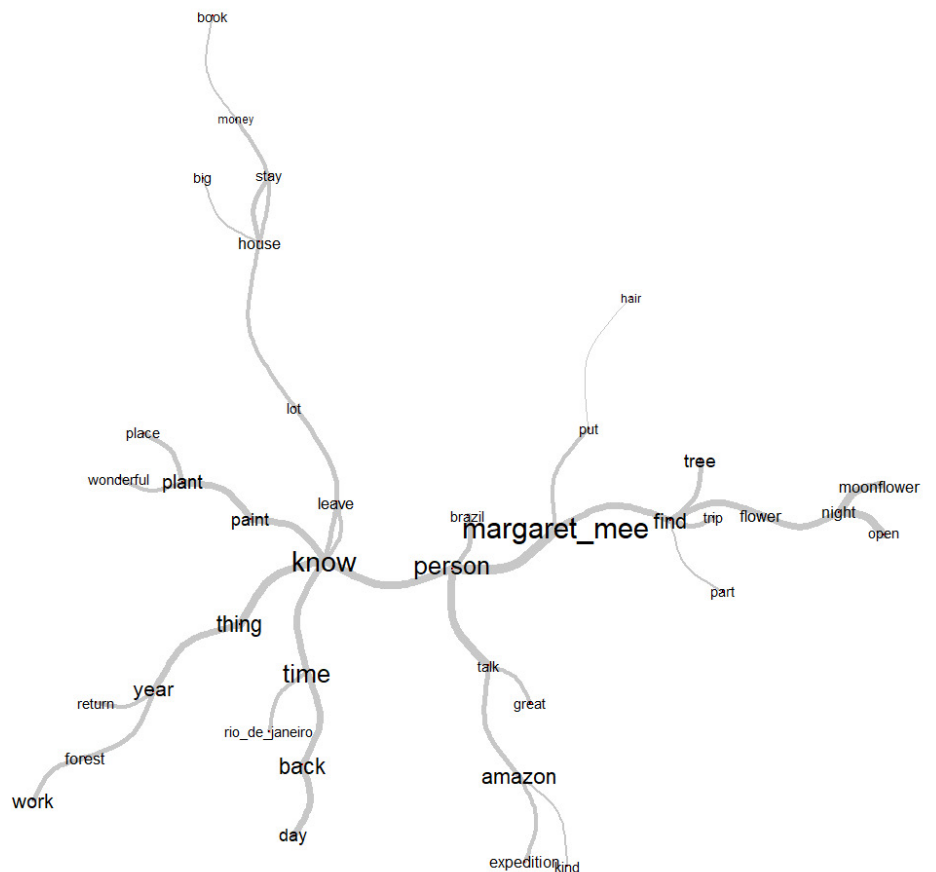


Figure 5. Textual Similarity Analysis of the video “Margaret Mee e a Flor da Lua”. Note: Words less than 10 citations were removed to make the figure cleaner. Source: Prepared by the authors.

5 CONCLUSION

In this study, we delve into the intricate challenge faced by accounting managers in evaluating the worth of cultural assets. Economic valuation methods serve as essential tools for quantifying both tangible and intangible cultural treasures, ranging from artworks to cultural events. However, due to their diverse and unique attributes, not all valuation methods are applicable to cultural assets. Each category demands specialized approaches to ensure accurate measurement, recognition, and documentation. For instance, when considering works of art, expert judgment emerges as a pivotal factor. The ecosystem of art commerce, encompassing auction houses, galleries, fairs, and museums, provides a framework that seemingly offers a fair reflection of value, echoing in financial records. Moreover, art, often viewed as a luxury commodity, derives its economic context from affluent societies, where collectors demand comprehensive information, particularly regarding the provenance of assets.

Margaret Mee, an eminent explorer and conservationist, left an indelible mark as an illustrator of the Atlantic Forest and the Brazilian Amazon rainforest. Beyond merely documenting botanical specimens, her art served as a poignant portrayal of Brazil's floral richness and environmental challenges, including the devastation wrought upon natural habitats and indigenous communities. Internationally acclaimed, her notable works commanded significant prices in prestigious auctions and specialized bookstores. Notably, her masterpiece, 'Flowers of the Brazilian Forest,' with a limited edition of 500 copies, fetched a remarkable price of US\$ 20,101.17 per book.

Testimonies from interviews featured in the documentary depict Margaret Mee as a remarkable individual—kind and sensitive, yet endowed with strength, determination, and courage. Her passion for the Brazilian forests transcended concerns about monetary gain, as she emerged as a pioneering voice against the environmental degradation inflicted upon the Amazon rainforest. These inherent qualities profoundly influenced the value of her artistic legacy, encompassing scientific, economic, and accounting dimensions. Margaret's legacy comprises a treasure trove of artistic and scientific illustrations, coupled with a resounding call for environmental stewardship, underscoring the intrinsic role of observation and contemplation in her artistic process.

However, quantifying the value of Margaret's work extends beyond tangible assets, such as watercolors, books, and diaries. It encapsulates intangible elements, including the scientific, aesthetic, and imaginative narratives embedded within her botanical art. Despite its significance, current regulations fall short in adequately measuring and recognizing these aspects.

In conclusion, this study contributes to the ongoing discourse surrounding the measurement, recognition, and disclosure of cultural assets. By shedding light on the complexities inherent in evaluating such assets, it serves as a guiding beacon for refining economic valuation methods. Moreover, it emphasizes the imperative of acknowledging both the tangible and intangible values attributed to the artist, encapsulating the essence of Margaret Mee's profound legacy.

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