

From pages to places: cartographic literacy through children's book design

Lugares de papel: letramento cartográfico a partir do design de livros infantis

Lugares de papel: alfabetización cartográfica a partir del diseño de libros infantiles

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graphic design; children's book, cartography, map literacy

This paper investigates how elements of children's book materiality can promote geographic and cartographic understanding. Through a theoretical review and analysis of 15 picturebooks from eight countries, the study identifies 2D elements (e.g., textures, colours, shapes) and 3D features (e.g., book structure and mechanisms), and discusses how they can be used to enhance geography comprehension and map literacy. As a result, we propose a visual framework to guide educators and authors in using and creating books that could enrich children's reading experiences and foster cartographic skills.

design gráfico. livro infantil ilustrado. cartografia. letramento cartográfico.

Este artigo investiga como elementos da materialidade de livros ilustrados infantis podem promover a compreensão geográfica e cartográfica. Por meio de uma revisão teórica e análise de 15 obras de oito países, o estudo identifica elementos 2D (por exemplo, texturas, cores, formas) e recursos 3D (por exemplo, estrutura e mecanismos do livro) e discute como podem ser usados para aprimorar a compreensão geográfica e a alfabetização em mapas. Como resultado, propomos um quadro para orientar educadores e autores no uso e na criação de livros que podem enriquecer as experiências de leitura das crianças e promover habilidades cartográficas.

diseño gráfico. libros infantiles. cartografía. alfabetización cartográfica.

Este artículo investiga cómo los elementos en la materialidad de los libros ilustrados infantiles pueden promover la comprensión geográfica y cartográfica. A través de una revisión teórica y el análisis de 15 obras provenientes de ocho países, el estudio identifica elementos bidimensionales (por ejemplo, texturas, colores, formas) y características tridimensionales (por ejemplo, la estructura y los mecanismos del libro), y analiza cómo estos pueden utilizarse para mejorar la comprensión espacial y la alfabetización cartográfica. Como resultado, se propone un marco visual que sirve de guía para educadores y autores en la creación de libros que enriquecen las experiencias de lectura infantil y fomentan el desarrollo de habilidades cartográficas.

1 A start point

"The experience of place in children begins at home," says Catling (2018: 270) about children's propensity to engage in mapping since early childhood. This mapping skill is initially developed through sensory exploration and playing in familiar environments. As children expand their interactions with places — through neighborhood walks, travels, or social interactions — they enhance their capacity to create and interpret maps to communicate localization of things that

their desires, intended destinations, or their own location. A third factor that significantly enriches children's environmental cognition is using media sources, particularly books with illustrations and images of real or fictional places. As Catling notes, "these stories and illustrations draw on children's local familiarity through their settings, even when these are new, such as rural or island environments for urban children, or unconventional worlds" (2018: 274).

Mapping encompasses reading and using maps and understanding them as representations of real or imaginary places. This developmental process is foundational to children's growing awareness of the world as individuals and active citizens (Ibid). Consolidating these skills requires nurturing geographical and cartographic literacy — abilities that are essential for understanding human and natural systems, making geographical decisions, and decoding map conventions (Kümmerling-Meibauer; & Meibauer, 2015). Therefore, promoting cognitive and emotional stimuli through literature can be essential in childhood education to support their development as socially competent individuals in map interpretation and cartographic literacy.

Pavlik and Bird (2017) emphasize the importance of interdisciplinary research at the intersection of children's literature and cartography, particularly exploring the aesthetic diversity of maps in literary works. Picturebooks serve as a valuable resource for studying childhood geography, offering insights into how spatial representations influence geographical literacy and foster outcomes like active citizenship. While children's literature plays a significant role in cognitive and emotional development, few studies investigate how the materiality of picturebooks—graphic elements and physical structure—can enhance geographic and cartographic education. Although cartography is often linked to conventional maps, its use in children's books provides a unique opportunity to engage children in understanding both real and imaginary places, promoting essential map-reading skills, furthermore, cartographic literacy.

There for, cartographic literacy is a form of information literacy, described by ALA (1989) as a capacity to recognize when information is needed and to have the ability to locate, evaluate, and use effectively the needed information. In this context, information design deals with the organization and presentation of data and its transformation into information with value and meaning. Thus, each design decision has an impact on the meaning of the message (Shedroff 2014), and it is up to the designer to observe certain principles so that these implications are intentional.

This paper addresses this gap of cartographic literacy by investigating the informational design strategies used in graphic language and representation of places and maps in children's books, and how these elements can help children develop map reading and interpretation skills, preparing them to understand and navigate geographic spaces. Through a theoretical review and analysis of 15 children's books from eight different countries, the study explores how bidimensional materialities—such as textures, colours, shapes, scales, proportions, planes, and volumes—and three-dimensional resources—physical features or mechanisms of the book—can enhance cartographic understanding. The proposed framework serves as a guide for educators and authors in creating books that promote map literacy.

2 Step by Step in Child Maps Comprehension

Understanding childhood is essential for this discussion. As Samoilow (2015) notes, children were historically seen as pre-social beings dependent on adults. Today, concepts like the "competent child" recognize their citizenship rights and ability to actively engage with society. Despite cultural variations, children share cognitive traits that define them as a distinct group, as Hunt (2010) explains. In literature, children's playful approach to language contrasts with fixed adult structures, allowing for unique interactions with text and illustrations. Children's literature, therefore, is not simplified or stylistically constrained but a complex, dynamic system that varies culturally and diachronically (Hunt, 2010: 95).

Sundmark (2019) stresses the importance of developing geographical literacy from childhood, referring to "childhood geography" to describe children's unique spatial experiences compared to adults. He notes that maps in children's books often feature artistic, playful, and fictional expressions, in contrast to the functional maps in adult literature, such as travel guides.

In general, the development of children's mapping depends largely on formal education in the specific language of cartography. That includes, initially, literacy in "basic elements and content, such as signs, scales, norms, symbols, and orientation," as Richter (2017) states. For that, map literacy must be adequately taught to children, as it is essential in the action and process of using maps for social practices, understanding them as tools that allow us to comprehend our everyday actions and experiences.

Between the ages of 3 and 12, children begin to develop mapping skills, although a full understanding of maps is not yet formed during this stage (Catling, 2018). As children grow and interact more with their environment, their cognitive development allows for a greater ability to interpret maps, making geographic learning more effective. To consolidate these skills, map literacy must also be formally taught in schools. Although the pace of development varies, Catling (2018) identifies a pattern of geographic comprehension evolution every two years.

According to Catling (2018), there is solid evidence that children recognize and understand the utility of maps from an early age.

In summary, the development of children's cartographic skills begins experiencing of the environment and evolves as their social interactions expand. Over time, these skills should integrate simplified and systematized models to deal with complex information, allowing for a critical understanding of geography and autonomy in interpreting cultural and political data about both known and unknown places.

3 Crossing Boundaries: children's books and cartography

In the intersection of maps and children's literature, two key approaches are literary cartography and subjective cartography. According to Pavlik and Bird (2017), literary cartography combines aesthetic, narrative, ideological, and pedagogical elements to shape readers' perceptions of power, space, and time within the narrative. While rooted in traditional cartographic conventions, this approach uses maps as central narrative elements, not just geolocation tools. Subjective

cartography, on the other hand, deals with abstract and imaginative representations, distorting places to reflect the emotional perspectives of the narrator (Kümmerling-Meibauer and Meibauer, 2015).

Ramos (2021) observes that even in "map books" that blend children's literature with conventional cartography, illustrators tend to represent elements subjectively. The author found that maps often highlight social and sensory experiences, reflecting adult perspectives and the artists' interests.

Maps in children's books

Maps in children's books can structure and give meaning to the unknown, shaping the narrative, as noted by Kümmerling-Meibauer and Meibauer (2013; 2015). The authors classify maps into two types: "real" and "mental" (or "cognitive"). "Real maps" represent portions of the real or fictional world and must maintain consistency, even if they do not replicate reality. "Mental maps," on the other hand, are cognitive abstractions formed through the mental mapping of environments. These types are interdependent: real maps support the development of mental maps, which are crucial for understanding real maps (Fig. 1).

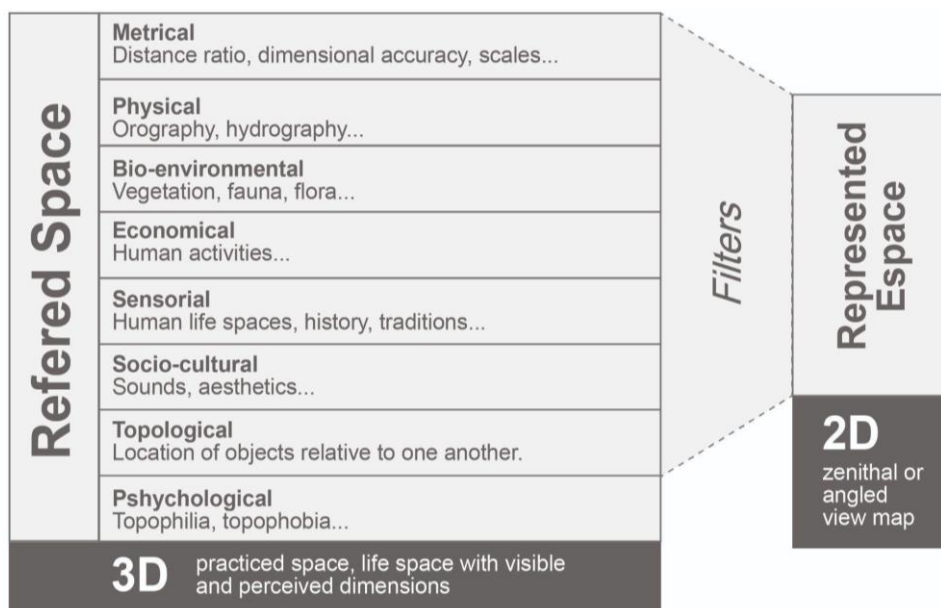
Fig. 1: Relationship between real and mental maps: adapted from Kümmerling-Meibauer, Meibauer (2015)



Kümmerling-Meibauer and Meibauer (2015) argue that more realistic maps are easier to understand. However, as maps are used subjectively, they become more abstract and mental. Meunier (2017) critiques this binary distinction, stating that it oversimplifies the concept and relies on unclear terminology. According to Meunier, "all maps in picturebooks can be considered real while also being products of personal and mental abstraction. They are initially real for the protagonist and become real for the reader as well" (Meunier, 2017: 23).

Meunier (2017) also describes maps as artificial representations of places and identifies eight key properties that connect maps to the three-dimensional spaces they represent. These are: (i) metric, (ii) physical, (iii) environmental, (iv) economic, (v) sensory, (vi) sociocultural, (vii) topological, and (viii) psychological. Illustrators select and emphasize one or more of these properties, creating varying levels of artificialization in the depiction of a place (Fig. 2).

Figure 2: Filters for representing spaces as maps: adapted from Meunier (2017: 24)



Building on Meunier's (2017) filters for translating referenced space into represented space, we explored how these filters are structured through elements of graphic language theory that enable this transcoding process.

4 The method of analysis

As part of the methodological process, we first conducted a theoretical review in the field of graphic language to identify the elements that enable the transcoding of three-dimensional (3D) space into two-dimensional (2D) representations. This step allowed us to develop a framework for analysing a sample of children's books featuring landscapes and maps.

Charting the path: building a framework of analysis

In children's books, the representation of a map or a landscape can be related to different kinds of visual messages. Munari (1997) considers that the visual message is mediated by the receptor of the message's perceptions and may consider three aspects or filters: sensorial, functional, and cultural.

The author defines two components of visual messages: information and visual support. The information is the content of the visual message; while the support is the expression of the message, which groups the elements that make the message visible. Munari (1997) classifies these elements as: Texture, Form, Structure, Modulo, and Movement. The author discusses colours, in the realm of Design, as an aspect intrinsic to the material. However, in the present analyses of the representation of maps in children's books, colour is a major element of the visual expression.

Maps are a specific kind of communication, and although there are rules in a cartographic representation of space, a map can represent a subject's perception of a place. Santaella (2012) observes the role that an image can play in a picturebook, considering its relation with

the text, as a result, she classifies two ways of visual expression. On the one hand, the cognitive, explanatory, technical, pragmatic, in short, rational function. On the other hand, the magical, symbolic, enigmatic, suggestive, in short, imaginary function. (Santaella, 2012)

Perassi (2015) considers that every image is a symbol and can be represented in three stylistic categories: 1) naturalistic, 2) symbolic-geometric, and 3) expressive. Naturalistic representations approach the model by hiding or disguising the technique and expressive elements of the representation. While symbolic-geometric representations use strategies of stylization and geometrization of forms, arousing in the observer senses of idealization and abstraction, thus evoking codifications, which inform about shared elements of a culture. Finally, expressive representations purposely distort the shapes and colours of the represented object, which increases its emotional effect.

The symbolic-geometric representations of places are idealized visual metaphors, and as shared mental models, they tend to be perceived as more objective. While expressive representations offer the reader an emotional experience, they tend to be perceived as more subjective. Naturalistic representations do not evoke either mental or emotional aspects, but an experience and a testimony of the existence of a place.

Despite the importance of images in the representation of places in children's books, the materiality of the book must be considered. Santaella (2012) reinforces that the materiality of images and written texts is not limited to the bi-dimensional surface, as, in the case of books, these are three-dimensional objects that contain bidimensional pages.

To analyse the representation of places in children's books, Table 1 was developed. It considers aspects of 2D interactions (Santaella, 2012); the components of visual support, such as texture, form, structure, modulo and movement (Munari, 1997), also colour. The graphic style used in the representation is 1) naturalistic, 2) symbolic-geometric, and 3) expressive. (Perassi, 2015). These concepts are adapted to fulfil a map or landscape image evaluation.

Table 1: Graphic elements in different applications of place and map representation in children's books.

	Visual Element	Conventional Cartography (Symbolic)	Naturalistic (Analog)	Subjective Cartography (Expressive)
	Colours	Reinforce an informational code.	Visually presents the materials that make up a scene.	Distorted to amplify the emotional appeal.
	Textures	Excluded or simplified to convey the material.	Natural colours, in conformity with the represented place.	Focused on expression or style.
	Shapes	Simplify to the maximum, using recognizable geometries and silhouettes.	Fidelity to the shapes of the represented scene.	Alters and exaggerates due to emotional effects.

	Scales and Proportions	Maintain continuous proportionality.	Simulate the proportions of objects and structures from real places.	Altered by the emotion transmitted in the narrative.
	Planes	Planning and valorising the most important views for recognition.	Conforming to the observer's perspective view.	Distorts planes based on sensations and emotions.
	Volumes	Simplified or excluded for planning and use the most important views for recognition.	Describes the variety of volumes and spatiality from a viewing angle.	Alters, deforms, and exaggerates due to emotional effects.

Setting the destinations: defining the work sample

The sample selection was drawn from the personal collections of four researchers specializing in editorial design and/or children's literature, with the initial criterion of including books that depicted real or fictional places through landscapes or maps. From an initial list of over 50 works, a sample of 15 books was filtered, prioritizing diversity in themes, representation techniques, graphic resources, and mechanisms.

5 The analysis of children's book illustrations

We began by selecting the most relevant illustrations from the books for analysing landscape and map representations. This process involved photographing the pages and covers of each work and creating a reference list to organize the analysis. Each illustration was then examined individually based on the graphic elements outlined in the framework (Table 1).

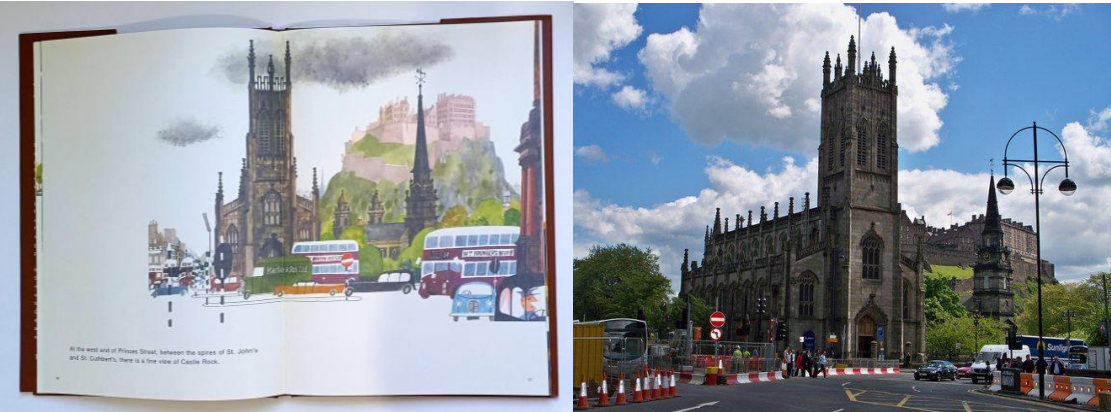
Although the selection was not based on the countries of origin, the final sample included works from eight different countries, offering a diverse range of themes and territorial contexts for analysis. Additionally, eight of the 15 books featured graphic resources or mechanisms that emulated maps or three-dimensional scenes, complementing the framework with a 3D layer related to the book's physical structure for cartographic or landscape representation purposes.

Bidimensional Materialities

This Is Edinburgh (2006), written and illustrated by Miroslav Sasek in 1961, is part of the This Is... series, which depicts cities across various countries between 1959 and 1974. The book serves as a tourist and informational guide to Edinburgh, featuring ink and watercolour illustrations alongside historical details of its landscapes and landmarks (Fig. 3). The artwork, while simplified, reflects realistic colours, textures, and proportions. Distant elements are lighter

and smaller, effectively conveying perspective and scale. Irregularities in the hand-drawn shapes add authenticity while maintaining visual coherence with the real-world scenes.

Figure 3: Landscape representation in *This Is Edinburgh* (2006) and the referred real place.



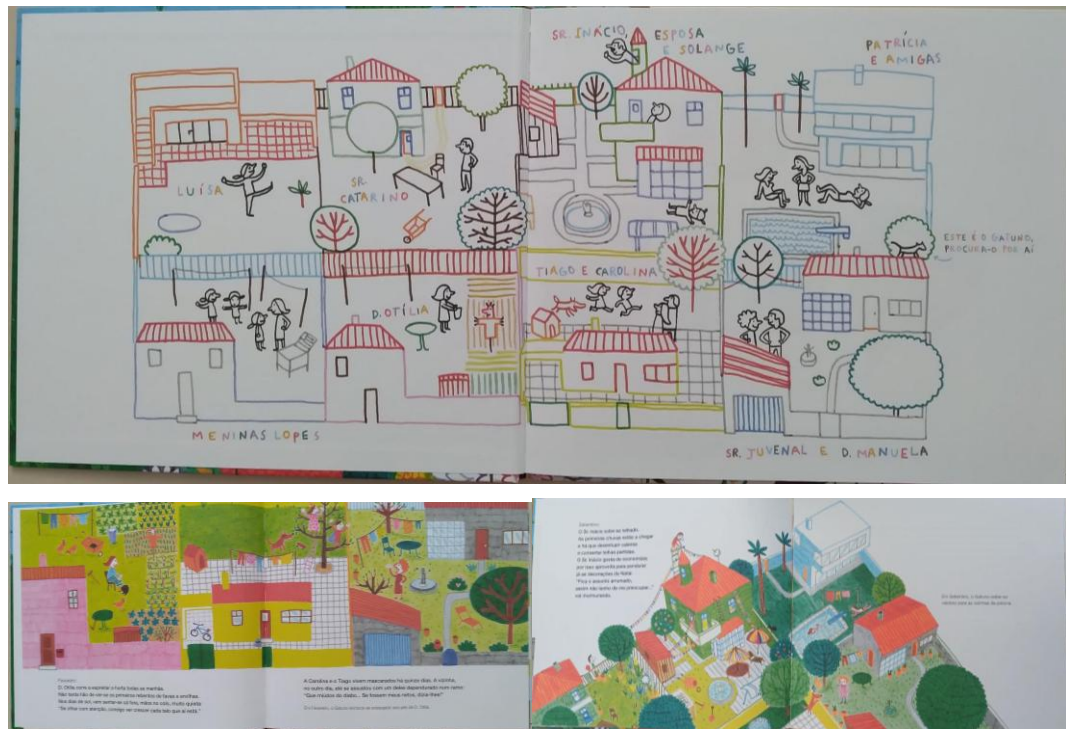
The illustrations provide an analogous representation of the landscape; however, he eliminates unnecessary elements, particularly background planes, and highlight natural or architectural landmarks. This is achieved through figure-ground contrasts, which enhance the clarity of key features. These kind of illustrations can help children, from an early age, understand abstraction and simplification, making it easier for them to identify points of interest in both the real world and on maps.

Table 2: Analysis of *This Is Edinburgh* (2006)

	Visual Element	Conventional Cartography (Symbolic)	Naturalistic (Analog)	Subjective Cartography (Expressive)
2D (Surface)	Colours		X	
	Textures		X	
	Shapes		X	
	Scales and Proportions		X	
	Planes			X
	Volumes		X	

O *Livro dos Quintais* (2010) is a Portuguese picturebook that opens with a map of a residential block on its endpapers (Fig. 4), guiding readers through the narrative of each neighbour's garden.

Figure 4: Neighbourhood map (on top) with landmarks in *O Livro dos Quintais* (2010).



Considering the initial map, *O Livro dos Quintais* features a graphic narrative that begins with a flat, top-down view but gradually introduces depth and dimensionality in the internal page illustrations.

Table 3: Analysis of *O Livro dos Quintais* (2010).

2D (Surface)	Visual Element	Conventional Cartography (Symbolic)	Naturalistic (Analog)	Subjective Cartography (Expressive)
	Colours	X		
	Textures	X		
	Shapes	X		
	Scales and Proportions			X
	Planes			X
	Volumes			X

The map functions as a summary, featuring landmarks, ensuring spatial coherence and allowing readers to orient themselves as the narrative shifts angles and presents each neighbour's garden. Colours are used symbolically to differentiate properties and represent natural elements, though their realism is ambiguous in this imagined setting. Shapes are

simplified to characteristic profiles, with scale and proportion are exaggerated to emphasize human figures, which are larger in proportion to buildings and natural elements, even if not true to real-life dimensions. Volumes appear inconsistently, hinting at perspective, contrasting with the predominantly simplified, frontal aesthetic.

The Journey (2016), written and illustrated by the Italian, Francesca Sanna, portrays a family displaced by war, seeking refuge in an unknown land. Through expansive double-page illustrations, the narrative highlights a mother's struggle to cross guarded borders, with shifting landscapes, reflecting their sense of loss and displacement. A fragile, sand-like city symbolizing their homeland (Fig. 5 - right) contrasts with the cold mountains of their destination (Fig. 5 - left).

Figure 5: Book pages of *The Journey* (2010).



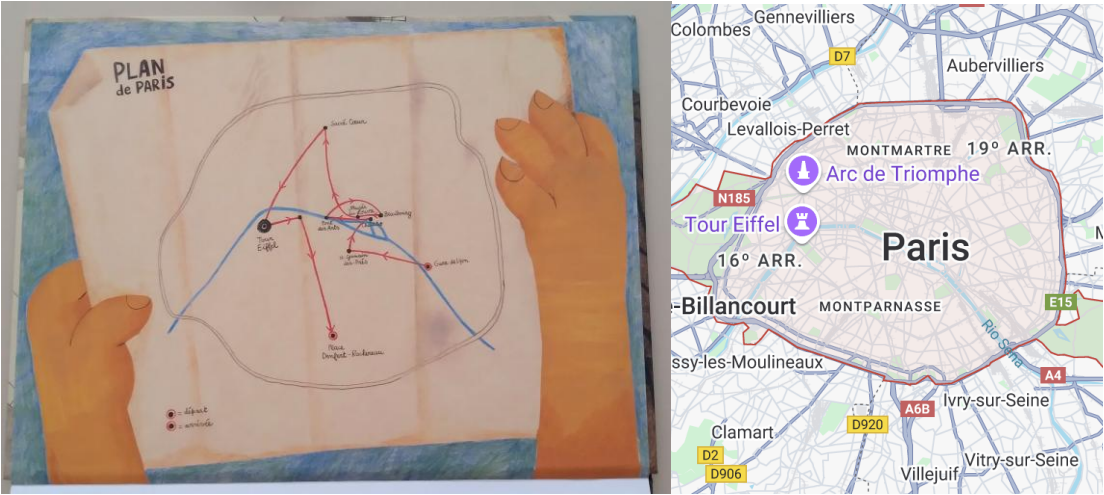
The endpapers feature a map blending symbolic elements (Figs. 5 - below) tracing their journey through forests, past walls, across the sea, and into unfamiliar terrain. Even in fully subjective landscape representations, the mere use of symbolic forms to represent each region, provides a strong indication of the ambivalence between two scenarios. Given the current context, this evokes specific territories that are frequently depicted in the news as war zones and the most common "refuge" destinations.

Table 4: Analysis of *The Journey* (2010).

2D (Surface)	Visual Element	Conventional Cartography (Symbolic)	Naturalistic (Analog)	Subjective Cartography (Expressive)
	Colours			X
	Textures			X
	Shapes	X		
	Scales and Proportions			X
	Planes			X
	Volumes	-	-	-

A Lion in Paris (2014), by multi-award-winning author and illustrator Beatrice Alemagna, tells the story of a lion who, tired of his life in the savannah, travels to Paris. The book opens with endleaves featuring a conventional map style similar to that of a city map of Paris (Fig. 6).

Figure 6: The lion itinerary in *A Lion in Paris* (2014).



The map uses minimal colours to distinguish boundaries, the river, and key tourist hotspots, marked in black, along with the lion's itinerary in red. Scale is implied through the proportions of the river and landmarks. As a conventional map covering a large area, it avoids volumes, textures, or other visual elements that could clutter the overview, ensuring clarity and focus on the lion's journey.

Table 5: Analysis of *A Lion in Paris* (2014).

2D (Surface)	Visual Element	Conventional Cartography (Symbolic)	Naturalistic (Analog)	Subjective Cartography (Expressive)
	Colours	X		
	Textures	-	-	-
	Shapes	X		
	Scales and Proportions	X		
	Planes	X		
	Volumes	X		

In general, more analogous representations of the referenced space are commonly found in depictions of urban or natural landscapes, often focusing on scenes that closely resemble an in-person experience. These representations feature frontal views of urban and natural elements, with chromatic correspondence, volumes, planes, proportions, and scales. Textures are more easily represented in detailed, close-up views of landscapes than in broader scenes, which

explains why analogous representations are used in informational books about habitats or tourist guides, where greater equivalence is needed for easy identification of the referenced space.

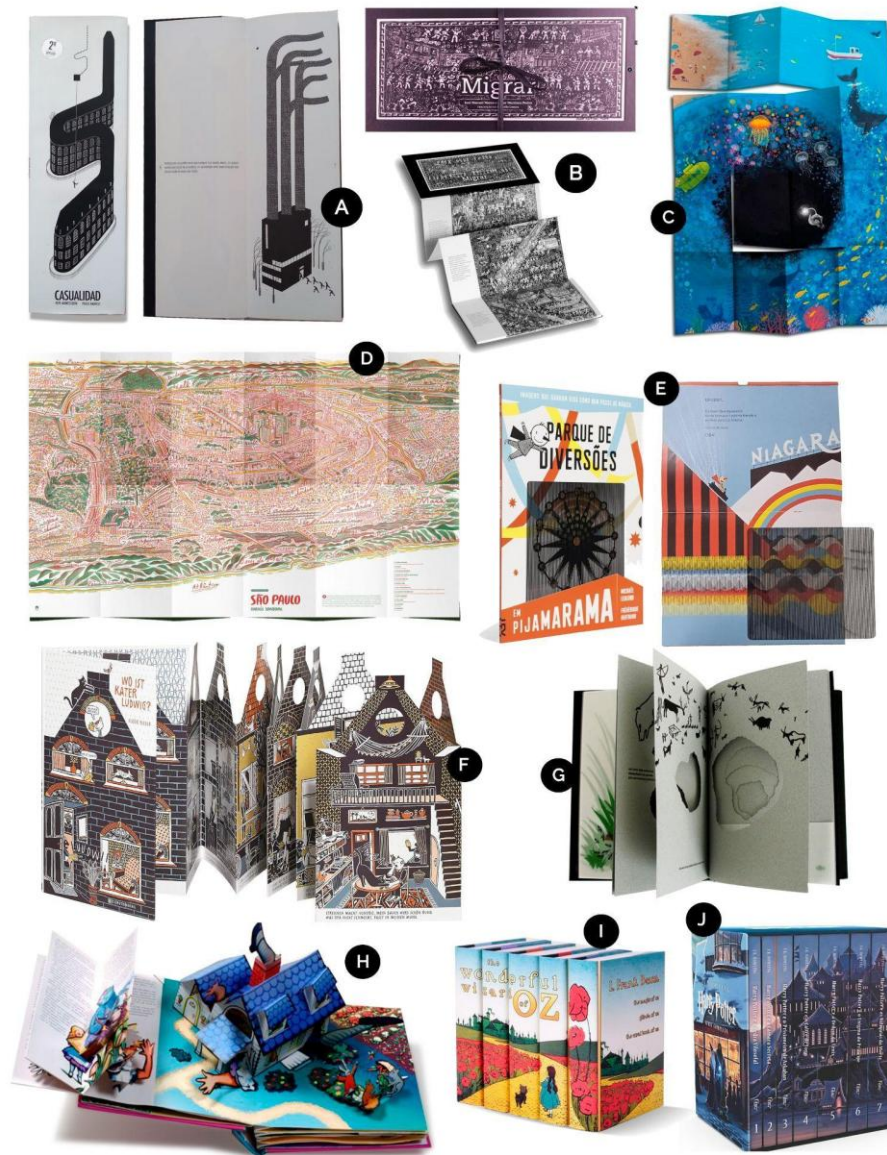
On the other hand, graphic elements can also serve expressive purposes, distancing themselves from analogous experiences with the world. In these cases, there are fewer conventional references, as the artist deforms the visual representation of the place through an emotional and highly personal lens. This requires a more specific, less systematic, and more contemplative and sensory approach to perceive the place through the evoked sensations and the author's subjectivity.

This framework can assist teachers, parents, and reading mediators in identifying cartographic and landscape representation elements in books. Once identified, they can deepen their reading experience and explore how these resources are represented or structured in the book's design, enhancing their engagement. Additionally, these elements can be used to compare and understand real-world geographic features, serving as a tool for geographic education. By identifying graphic elements and locating them within the framework, it becomes easier to train the cognitive skills required for geographic education and to understand how the representation aims to present the world to children—whether by guiding symbolic interpretation, encouraging observation of analogous properties in the real world, or fostering expression through the subjective experience of reality.

Tree-dimensional materialities

The researchers identified that, beyond the cartographic elements in children's books' two-dimensional materiality, the sample analysis revealed three-dimensional features that enhance cartographic experiences. A visual panel complements the analysis, showcasing reference works that incorporate these elements.

Figure 7: A composition of books with different structure and mechanisms which emulate maps or 3D elements: (A) Monteresín Corrales, P., & Díaz Tamargo, P. (2011); (B) Mateo, J. M., & Martínez, J. (2013); (C) Carroll, L., & Sabuda, R. (2003); (D) Leblond, M. (2014); (E) Ozilak, F. (2022); (F) Sandoval, A. (2021); (G) Rieder, F. (2019); (H) Munari, B. (2008); (I) Baum, L. F. (2022); (J) Rowling, J. K. (2015).



Analysing part of the sample that featured structural and mechanical design alterations in the books (Fig. 7), we identified variations in format proportions, such as vertically oriented books for vertical landscapes (A) and formats closer to cartography, including unique sectioning and page-turning systems resembling map folds (B, C, D). Additionally, we observed the use of different materials, like ribbons to keep maps closed (D) or special papers or features that can be detached and create optical movement effects (E). The sample also included cut-outs and holes, which generate unique graphic designs for the entire book (F) or specific pages, creating spatial and visual connections between pages (G). Pop-ups and movable mechanics added three-dimensionality to scenes (H), while packaging resources, such as collection covers (I) or boxes (J).

Table 6: Physical feature to explore place representation on children's books

Feature	3D Elements
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Proportion	Changes to proportions or size and forms.
Sections and Folds	Alterations or unconventional formats (e.g. map, accordion or carousel)
Addition of Materials	Ribbons, specialized or textured papers.
Cut-outs and Holes	Graphic die-cuts
Pop-ups	3D and movable mechanics.
Packaging	Belly bands, jackets, sleeves, and boxes.

These features enhance geographic and cartographic representation by requiring physical interaction, such as unfolding maps, walking to follow stories in accordion or carousel books, and engaging with cut-outs, mechanisms, and folds. This adds an interactive and immersive spatial layer to reading, effectively emulating narrative spaces through haptic, tactile, and gestural engagement.

6 Final Coordinates

This study highlights the essential role of children's picturebooks in promoting cartographic literacy by linking place and map representations to early childhood education. Through the analysis of 2D and 3D elements presented graphic and physical features used to enhance children's understanding of geographic and cartographic concepts.

Representations of urban or natural landscapes in children's literature can vary from highly accurate depictions to simplified or symbolic map-like versions, or even expressive interpretations that reflect the artist's subjective view of a space. While all representations are inherently subjective, understanding the intentions behind these choices enhances the reading experience. Also, three-dimensional graphic resources and tactile mechanisms can further enhance reading, and by mapping these properties, their effects can be used to explore haptic and gestural reading, stimulating motor skills.

Exploring the intersection of children's literature and cartography offers an effective approach to developing mapping skills, as it also enhances children's understanding of real places and shapes their critical and emotional perceptions of the world. It is important to recognize that this understanding is shaped by the choices illustrators and authors make in their spatial representations, reflecting geographical and ideological perspectives that influence how children perceive space and social relations. Therefore, establishing an intentionality for producing children's books with spatial representations can ensure these materials effectively support both cognitive and emotional aspects of geographic education.

The proposed a framework offers practical guidelines for educators to observe and authors to create books that promotes map literacy. However, the successful application of these resources depends on thoughtful adaptation to specific educational contexts. Educators, parents, and authors should carefully select and use maps in children's books, considering the variety of map types, representation methods, and formats. This diversity provides opportunities to discuss different worldviews.

The findings highlight the importance of informational design coordinating an interdisciplinary approach. By bridging these fields, this research highlights how materiality-mediated representations can support geographic learning from early childhood, contributing to the appreciation and development of children's books, including fiction, as valuable educational resources.

It is important to acknowledge the limitations of this study. The sample of 15 books, is small and was not systematically selected but rather curated from the personal collections of a limited group of specialists. While this may not capture the full range of cultural approaches to cartographic representation, it provided useful examples for applying the framework. Future research could build on this by examining, for example, how cultural differences influence place representations and tree-dimensional resources in children's books or assessing their long-term effects on children's spatial cognition and real-world navigation.

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References

- ALA. (1989). Presidential Committee on Information Literacy: Final Report. Disponível em: <<http://www.ala.org/acrl/publications/whitepapers/presidential>>. Acesso em: 10 abril 2025.
- Catling, Simon (2018). To know maps: Primary school children and contextualised map learning. *Boletim Paulista de Geografia*, São Paulo, v. 99, p. 268–290.
- Hunt, P. (2010). *Crítica, teoria e literatura infantil*. São Paulo: Cosac Naify.
- Kümmerling-Meibauer, B., & Meibauer, J. (2013). Towards a cognitive theory of picturebooks. *International Research in Children's Literature*, 6(2), 143–160. <https://doi.org/10.3366/ircl.2013.0095>
- Kümmerling-Meibauer, B., & Meibauer, J. (2015). Maps in picturebooks: Cognitive status and narrative functions. *Nordic Journal of ChildLit Aesthetics*, 6(1). <https://doi.org/10.3402/blft.v6.26698>
- Meunier, C. (2017). The Cartographic Eye in Children's Picturebooks: Between Maps and Narratives. *Children's Literature in Education*, 48(1), 21–38.
- Munari, B. (1997). *Design e comunicação visual: contribuição para uma metodologia didática*. São Paulo, SP: Martins Fontes.
- Pavlik, A., & Bird, H. S. (2017). Introduction: maps and mapping in Children's and Young Adult Literature. *Children's Literature in Education*, 48(1), 1–5.
- Perassi, R. L. de S. (2015). *Do ponto ao pixel: sintaxe gráfica no videodigital*. Florianópolis: CCE/UFSC.

- Plester, B., Blades, M., & Spencer, C. (2006). Children's understanding of environmental representations: aerial photographs and model towns. In *Children and their Environments* (pp. 42–56). Cambridge: Cambridge University Press.
- Ramos, A. M. (2021). Can a city map be a picturebook? Alternative publishing formats for children. In *Verbal and visual strategies in nonfiction picturebooks* (pp. 220–234).
- Richter, D. (2017). A linguagem cartográfica no ensino de geografia. *Revista Brasileira de Educação em Geografia*, 7(13), 277–300.
- Santaella, L. (2012). Leitura de imagens. São Paulo: Melhoramentos. (Coleção Como eu ensino).
- Samoilow, T. K. (2015). Competence and citizenship in picturebooks: a reading of Lisa Aisato's Fugl (Bird). *Barnelitterært Forskningstidsskrift*, 6(1).
- SHEDROFF, N. (2014). Information Interaction Design: A Unified Field Theory of Design. Disponível em: <nathan.com/information-interaction-design-a-unifiedfield-theory-of-design/>. Acesso em: 16 abril 2025.
- Sundmark, B. (2019). Maps in children's books: From playworld and childhood geography to comic fantasy and picturebook art. *Filoteknos*, 9.

Children's Books

- Alemagna, B. (2014). *A lion in Paris*. Tate Publishing;
- Baum, L. F. (2022). *The Wizard of Oz Book Set*. Juniper Books;
- Carroll, L., & Sabuda, R. (2003). *Alice's Adventures in Wonderland: A Pop-up Adaptation*. Little Simon;
- Leblond, M. (2014). *Parque de Diversões em Pijamarama*. Panda Books;
- Martins, I. M., & Carvalho, B. P. (2010). *O livro dos quintais*. Editora Planeta Tangerina;
- Mateo, J. M., & Martínez, J. (2013). *Migrar*. Pallas;
- Monteresín Corrales, P., & Díaz Tamargo, P. (2011). *Casualidad*. Barbara Fiore Editora;
- Munari, B. (2008). *Na Noite Escura (Capa dura)*. Cosac & Naify;
- Ozilak, F. (2022). *Lá*. Editora Caixote;
- Rieder, F. (2019). *Wo ist Kater Ludwig?*. Gerstenberg Verlag;
- Rowling, J. K. (2015). *Harry Potter Box Set [Edição especial]*. Rocco;
- Sanna, F. (2016). *The journey*. Flying Eye Books;
- Sasek, M. (2006). *This is Edinburgh: A children's classic*. Universe Publishing;

Sandoval, A. (2021). *São Paulo: A minha cidade*. Ameli;

Stamm, P., & Bauer, J. (2006). *When we lived in Uncle's Hat and other incredible places*.
Winged Chariot Press.

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