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## Picturebooks as Objects

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Based on recent studies on materiality, picturebook research, and cognitive studies, this paper investigates how children may perceive picturebooks as objects and their material properties. In this regard, we emphasise three dimensions of picturebooks as objects and relate them to developmental stages. The first dimension concerns the materials the picturebooks are composed of, such as paper, cardboard, wood, plastics, and cloth. The second dimension refers to the type of book, e.g. hardbacks, sets of cardboard sheets, fanfold books, pop-up books, and even hybrid objects such as books which are toys at the same time. Finally, this study focuses on the types of actions that are associated with picturebooks as objects, such as biting, building, piling up, setting up, painting, collecting, and arranging. In sum, we argue that an examination of the cognitive perspective is fundamental for the investigation of the social and cultural aspects of the materiality of picturebooks.

**Keywords:** cognitive studies, materiality, object, picturebook, picturebook research

### What is materiality?<sup>1</sup>

Picturebooks are the first books young children usually come in contact with from the age of eight months onwards.<sup>2</sup> While a host of studies have investigated the impact

<sup>1</sup> Preliminary versions of this article were presented at the international workshop “Material, Spatial and Sensory Encounters with the Picturebook Object” at Koc University, Istanbul in June 2017, and the international conference “Synergy and Contradiction. How Picturebooks and Picture Books Work”, at the University of Cambridge in September 2018. We would like to thank the audiences for their constructive comments, and we particularly express our gratitude to Ilgim Veryeri Alaca and Smiljana Narančić Kovač for their substantial help in sharpening our arguments.

<sup>2</sup> There are different reading ages indicated by publishers. Some publishers, such as the German publisher “Ravensburger Verlag”, even promote picturebooks for toddlers aged three months, but the majority of picturebooks for children under the age of one year address children from the age of eight months onwards.

of picturebooks on the child's emergent literacy, that is, children's acquisition of visual, linguistic, and literary literacy as preconditions for the later acquired capacities to be able to read and write, there are hardly any studies that focus on the crucial question of how children perceive the picturebook as a material object.<sup>3</sup> Does it matter whether a picturebook is made of cardboard, cloth or plastic? Do children distinguish between toys as objects and books as objects? To our knowledge, these issues have not been addressed in material studies and developmental psychology yet, let alone in children's literature research.<sup>4</sup> Owing to the seeming lack of empirical studies on this topic, we cannot exhaustively fill this lacuna here but intend to point out the most relevant aspects related to the analysis of picturebooks as objects. Such a survey may be regarded as a starting point for further studies.

First of all, we have to ask what children know about objects. Cognitive psychologists have figured out that children have a concept of what an object is from early on. According to empirical studies undertaken by Elizabeth Spelke and her collaborators, infants from the age of four months gradually assume that objects have four properties (Spelke, Phillips and Woodward 1995).<sup>5</sup> The first property, cohesion, refers to the object's connectedness: "To be an object is to be a connected and bounded region of matter that maintains its connectedness and boundaries when it is in motion" (Bloom 2000: 94). The second principle, continuity, refers to the assumption that objects "follow a continuous pathway through space; they do not disappear from one point and reappear at another" (95). The third principle, solidity, points to the knowledge that objects "do not pass through each other" (95), while the final property, contact, indicates that "babies expect inanimate objects to move if and only if they touch them" (95). From these principles, the principle of cohesion is taken to be the most basic principle; according to Spelke, Phillips and Woodward, constitutes "core knowledge" that is likely to be innate.

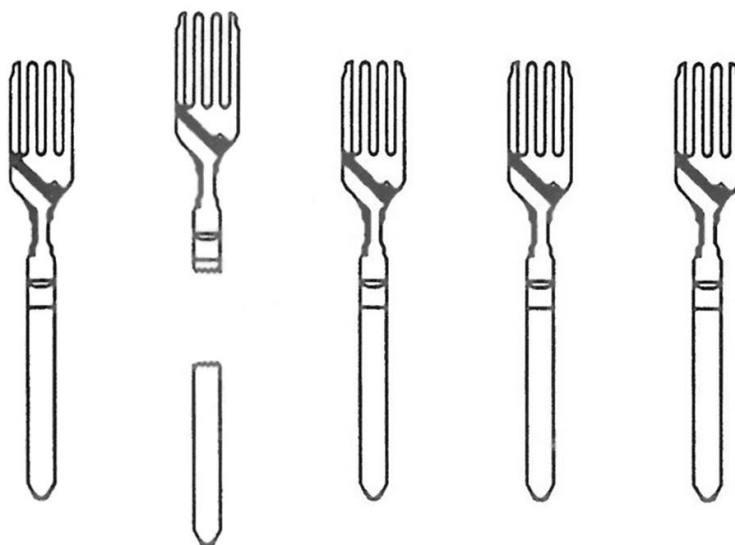
Children also have knowledge about artefacts. They can classify artefacts on the basis of their typical properties. Artefacts can be categorised in relation to shape or function. To what extent children use functional properties in classification tasks is not clear. In one experimental task, Elizabeth Shipley and Barbara Shepperson (1990) asked preschool children with respect to the picture shown in Fig. 1, "Can you count the forks?" (Shipley & Shepperson 1990).

Most people would answer "four" (intact forks) or "five" (four intact forks plus one broken fork). Surprisingly, most children answered "six", i.e., they counted every single object, adhering to the principle of cohesion. In contrast, when taking function into account, the adults' answers were more reasonable.

<sup>3</sup> For an overview on materiality in picturebooks, see Ilgim Veryeri Alaca (2018). As for the historical aspects of materiality in picturebooks, see Jacqueline Reid-Walsh (2008). Materiality in postmodern picturebooks is discussed in Margaret Mackey (2008) and further extended in Sandra Beckett (2012) in relation to artists' books.

<sup>4</sup> The relation between materiality and cognition is discussed in Susanne Küchler (2005).

<sup>5</sup> See on this topic also Paul Bloom (2000).



**Fig. 1.** “Can you count the forks?”, illustration taken from Shipley & Shepperson (1990). © Elsevier. Used by permission of Elsevier.

**Sl. 1.** „Možeš li prebrojiti vilice?“, ilustracija iz Shipley & Shepperson (1990). © Elsevier. Objavljeno uz suglasnost Elsevieria.

As already mentioned, we do not know, however, what children think about the category of picturebooks as an object or artefact. One assumption is that they acquire prototypical knowledge about picturebooks when looking at so-called early-concept books (see Kümmerling-Meibauer and Meibauer 2011). With respect to this book type, it is plausible to assume that children ascribe to them the property of cohesion. As for the other three principles, we may suspect that children will gradually learn that picturebooks are continuous and solid and can be moved, for instance, when a picturebook is taken from the bookshelf.

Materiality is an important property of objects. If picturebooks are objects, then they can be characterised by their material properties. In a wider sense, materiality has been understood as being related to *materials* (colour, pigments, and substances), *signs, scripts and graphic systems* (typography, maps), *physical phenomena* (light, sound), *organisms* (nature, animals), *substances* (water, air), and *artefacts* (buildings, computer, and tools).<sup>6</sup> This wider notion of materiality is popular in the social and cultural sciences.<sup>7</sup>

<sup>6</sup> On these distinctions, see Herbert Kalthoff, Torsten Cress and Tobias Röhl (2016). The impact of the material-culture turn is discussed in Dan Hicks (2010).

<sup>7</sup> On recent debates on materiality in the cultural sciences, see Ian Woodward (2007), Chris Tilly et al. (2006), and Anne Gerritsen and Giorgio Riello (2015).

As an artefact, picturebooks are not organisms. Yet many other properties from the list can be connected with picturebooks. Beginning with the first category, materials, we find picturebooks made of paper, cardboard, cloth, wood, and plastic. These material qualities particularly apply to picturebooks for very young children as they match the child's still developing fine motor skills, because children at this age are usually not able to turn thin paper pages. Moreover, materials such as cloth, wood, and plastic rather resist any attempt of destruction which affects picturebooks with paper pages. Beyond this, picturebook artists use different artistic techniques, such as photography, collage, and watercolour illustrations, as well as various colour schemes.

As for the second category, signs, scripts and graphic systems, picturebook makers employ different typographies in order to emphasise the aesthetic, emotional, and story-related aspects of the picturebook narrative. In addition, picturebooks are replete with visual signs displayed in the visuals. A wealth of picturebooks even contain maps in the endpapers or within the body of text that provide an insight into the narrated fictional spaces.<sup>8</sup> Physical phenomena abound in picturebooks as well, particularly in those intended for small children. There are picturebooks with sound effects like *The Sound of the Wilds: Jungle* (2008) by Maurice Pledger, which enable the child reader to listen to the sounds of animals living in the jungle when opening the pages. Yet other picturebooks show light effects when the pages are held against a light source. As for substances, the fourth category, we find, for instance, picturebooks that contain pages filled with tiny pellets that make a crackling noise. Finally, although picturebooks are artefacts themselves, they may contain other artefacts, like a small puppet, a pencil to draw, or stickers, thus inviting the child reader to use these gadgets, which are more or less connected to the picturebook story.<sup>9</sup>

However, a taxonomy of picturebooks according to such dimensions will not be satisfying. What is needed is a perspective on picturebooks that focuses on their materiality from the perspective of children for whom they are created. In our view, this elicits a cognitive dimension, because the materiality of picturebooks is intimately connected to the child's cognitive development.<sup>10</sup> That said, we may assume that picturebooks are objects, more precisely, artefacts, that reveal some of the properties of materiality in the wider sense, as outlined above. In particular, picturebooks are objects whose material properties have to do with sequences of picture-text combinations. To our knowledge, there are no empirical studies that have investigated how children perceive picturebooks as objects in relation to other objects in their surroundings.

<sup>8</sup> On maps in picturebooks, see Bettina Kümmerling-Meibauer and Jörg Meibauer (2015b).

<sup>9</sup> The correct handling of these artefacts demands the child's ability to understand the symbolic uses of objects. See on this Pedro Palacios and Cintia Rodríguez (2015). The multimedia combination of artefacts in contemporary picturebooks has been increasing since the new millennium. See Bettina Kümmerling-Meibauer (2015).

<sup>10</sup> It would be a promising endeavor to investigate the cognitive challenges picturebooks pose for children. See Bettina Kümmerling-Meibauer and Jörg Meibauer (2013).

However, as studies in the realm of developmental psychology have shown, pictures in picturebooks pose a particular challenge for young children as pictures have a dual nature: they are objects themselves and represent an object or a cluster of objects at the same time. While nine-month-old infants are usually able to perceive pictures of objects that are depicted by means of realistic colour photographs and drawings, they do not understand the concept of “picture” itself.<sup>11</sup> In the same vein, even preschool children tend to confuse the properties of depicted and real objects (see Ganea, Bloom-Pickard and DeLoache 2008). Other studies have emphasised that object identification by young children is closely connected to sensorimotor experiences, as children investigate objects by seeing, touching, smelling, tasting, and hearing (see Smith 2013; Augustine, Jones, Smith and Longfield 2015). This observation could explain the emphasis on the material aspects of those picturebooks that target infants and preschool children, as they invite the child to explore their material character. These affordances go hand in hand with the young child’s gradual learning of the “correct” position of picturebooks. In this regard, Judy DeLoache and colleagues maintain that an understanding of the canonised position of a picturebook will be acquired at the age of approximately 30 months (see DeLoache, Uttal and Pierroutsakos 2000).

In our contribution, we emphasise three dimensions of picturebooks as objects and relate them to children’s developmental stages as closely as possible. First, we focus on the materials the picturebooks are composed of, such as paper, cardboard, wood, plastic, and cloth. These materials allow certain actions: for instance, they can be drawn on or can be taken into the bathtub. Obviously, the materials are connected to the dimension of integrity or destructibility that is important in the child’s development.

In the next step, we discuss the second dimension, which refers to the type of book, for example hardbacks, sets of cardboard, fanfold books, accordion books, carousel books, pop-up books, and even hybrid objects such as books which are toys at the same time. Again, these different types of picturebooks invite different actions of the child that are related to different developmental stages.

Finally, we analyse the types of actions that are associated with picturebooks as objects, such as biting, building, piling up, setting up, painting, collecting, arranging, and, last but not least, reading. Certainly, these types of actions are closely linked to the materials and the book types previously mentioned, but also, from a cognitive point of view, to children’s developmental stages. In sum, we argue that an examination of the cognitive perspective is vital for an investigation of the social and cultural aspects of the materiality of picturebooks.

In this regard, it should be mentioned that most people have a common understanding of the picturebook in relation to these three dimensions: the prototypical picturebook is made of paper, is a hardback edition, and should be read. This idea even seems to be present in many academic studies focusing on picturebooks, since

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<sup>11</sup> See Judy DeLoache (2002) and Sophie Pierroutsakos and Judy DeLoache (2003). This article stresses that the understanding of a picture as an object and a representation of an object is a seminal step in the child’s pictorial competence (142).

the material aspects, the various forms and actions are only – if ever – mentioned in passing.<sup>12</sup> Yet, as in the arts, it should be stated that variation matters, since variation in the input fosters learning, in particular visual and literary literacy. In this sense, the material properties of picturebooks serve particular functions.

## Material conditions of picturebooks

The most common material that picturebooks are composed of is paper, ranging from thick cardboard to glossy paper, handmade paper, and sensitive India paper. The selection of paper quality and thickness depends on the target group – children under the age of three usually do not have the fine motor skills to turn thin paper – as well as on the artistic demands of the picturebook artists and the publishers.

Board books dominate the book market for very young children and the term is often used as a synonym for “baby books”.<sup>13</sup> Traceable in many European countries since the second half of the nineteenth century, this book type has been classified as an “indestructible book” or “tearproof book”. Often this expression is printed on the title page or the back cover to emphasise the solidity of the book, thus pointing to the relevant advantage of these books in contrast to tearable picturebooks. A typical example is the German picturebook *Unzerreissbares Bilderbuch: mit Bildern, Geschichten und Reimen* [Tearproof Picturebook: with Pictures, Stories, and Rhymes] (1873) that depicts different scenes with children who care for animals (Figure 2).

Other materials, which are particularly prominent in the increasing sector of picturebooks for toddlers and infants, are wood, plastic, and cloth. The idea to create picturebooks made of wood is certainly linked to the pedagogical concepts of Heinrich Pestalozzi and Maria Montessori. Both pedagogues emphasise the usage of wood as a suitable material for children’s playthings, such as blocks, vehicles, and dollhouses.<sup>14</sup> The solid material is hardly destructible and quite handy for small children. Since wooden pages cannot be glued or bound together as in a paper version, they have tiny holes with string, which connects the single pages. Seen in this light, the wooden material makes it easier for infants to turn the pages. The accompanying clicking noise might be particularly attractive for this age group, as is also the sound of crackle books, that is, picturebooks made of plastic or cloth, which are filled with tiny pellets, such as Dick Bruna’s *Dag dieren* [Hello Animals] (2008). When these picturebooks are touched or shaken, they make a crackling noise.

The first picturebooks made of plastic seem to have emerged in the 1960s<sup>15</sup> – but prospered from the 1990s onwards – in the wake of the immense success of

<sup>12</sup> The studies by Perry Nodelman (1988) and Maria Nikolajeva and Carole Scott (2001) do not touch on this issue. Gunter Kress and Theo Van Leeuwen (1996) point to the social actions associated with picturebooks but ignore the material aspects.

<sup>13</sup> Another term frequently suggested is “exhibition book”.

<sup>14</sup> On the education theories of Froebel and Montessori in relation to children’s play, see Angeline Lillard (2013) and Tina Bruce (2015).

<sup>15</sup> See, for instance, the series *Molly Plastikbuch* [ca. 1960].



**Fig. 2.** Cover of *Unzerreissbares Bilderbuch: mit Bildern, Geschichten und Reimen*, illustr. by L[udwig] Burger, Guido Hammer, Ernst Hartmann, Heinrich Leutemann, Carl Offterdinger, Oscar Pletsch, J[ulius] Schnorr [von Carolsfeld] et al. 5<sup>th</sup> ed. (n.d. [1873]). Stuttgart: Thienemann, Private collection, Sebastian Schmideler.

**Sl. 2.** Prednja strana korica *Unzerreissbares Bilderbuch: mit Bildern, Geschichten und Reimen*, s ilustracijama L[udwiga] Burgera, Guida Hammera, Ernsta Hartmanna, Heinricha Leutemanna, Carla Offterdingera, Oscara Pletscha, J[uliusa] Schnorra [von Carolsfelda] i dr., 5. izd. (n.d. [1873]). Stuttgart: Thienemann. Iz privatne zbirke Sebastiana Schmidelera.

picturebooks for very young children. The advantage of plastic is that it is washable and indestructible, so that picturebooks made of plastic can be used in the bathtub, in the playground, or any other places where picturebooks made of paper are at risk of getting damaged.

Since the end of the nineteenth century, picturebooks made of cloth came to the fore, reaching a peak in the first half of the twentieth century. The British publisher Dean's Rag Books (founded in 1903) specialised in this book category, offering rag books for children from the age of two, whose titles mostly refer to objects from the young child's surroundings, such as *Baby's Object Book* (1905) or *What Is It?* (1910). These books consist of illustrations and texts printed on cotton or linen. The single pages were cut out with the zigzag blades of fabric shears and manually sewn together.<sup>16</sup> Other publishers followed suit and launched similar cloth books – often with a short note on the back that these books can be washed when they become dirty. This may be one reason for this book type to have become quite prominent with younger children who may soil the fabric pages with their fingers.

Moreover, the softness of the material invites it to be used as a cushion, tablecloth or blanket. *Schlaf gut, sagt der Mond* [Sleep Well, Says the Moon] (2010) by Hana Christen, with illustrations by Natascha Rosenberg, is a cloth book in the shape of a round cushion with a crescent moon and some stars sewn on it (Fig. 3a). When untying the ribbon on the right, the 'cushion' opens and reveals a smaller 'book' inside, whose cloth pages can be turned and show individual night scenes (Fig. 3b).

A hybrid type is the so-called "touch & feel" book that combines cardboard or paper pages with elements made of cloth, fake fur, and other material to imitate the surface of objects and the skin or fur of animals. Children are then invited to touch these surfaces to get an impression of how a specific object or animal may feel, as in an abridged version of Julia Donaldson and Axel Scheffler's *Der Gruffalo* [original title: *The Gruffalo*] (2002),<sup>17</sup> where children may touch the 'fur' of the monster and other animal characters.

This wealth of picturebooks encourages children to distinguish the typical features of different materials. Picturebooks made of wood, plastic, cloth, and cardboard are quite robust and can be wiped clean of stains or washed. Due to the thickness and flexibility of the pages, they can easily be turned even by children who are still developing the fine motor skills necessary for competently dealing with normal paper pages. Moreover, children can experience the hardness of wood and cardboard in comparison to the softness of cloth and the flexibility of plastic. They may realise that it is possible to buckle and scrunch a cloth book without causing any severe damage, while a picturebook made of paper requires other behavioural patterns in order to avoid deforming or tearing the pages.

<sup>16</sup> On the history of Dean's Rag Books, see the comprehensive study by Peter Cope and Dawn Cope (2009).

<sup>17</sup> *The Gruffalo* was initially published in the UK in 1999 as a hardbound edition, penned for readers aged three to seven, and followed by a small-format board book edition in 2000, which is targeted at children younger than three years of age.





**Fig. 3a and 3b:** Cover and doublespread of *Schlaf gut, sagt der Mond* (2010) by Hana Christen, with illustrations by Natascha Rosenberg. © 2010 NordSüd Verlag AG, Zürich/Schweiz. Reprinted by permission of NordSüd.

**Sl. 3a i 3b.** Prednja strana omota i dvostranica slikovnice *Schlaf gut, sagt der Mond* (2010) Hane Christen, s ilustracijama Natasche Rosenberg. © 2010 NordSüd Verlag AG, Zürich/Švicarska. Objavljeno uz suglasnost NordSüd.

## Types of picturebooks

The second dimension in the discussion of the material aspects of picturebooks refers to diverse types of picturebooks.<sup>18</sup> Although hardbound or paperback editions are quite common in the book market, publishers and illustrators have created other types that invite the child reader to interact with the medium. As far back as the eighteenth century, picturebook artists developed flap books, carousel books, pop-up books, and fanfold books. These different book types are usually included under the umbrella term of “movable books”.<sup>19</sup> Movable books are either hand created or demand progressive printing techniques. Due to their complicated structure, these picturebooks are very fragile and at the risk of becoming damaged when used by children without surveillance.

In general, these books are distinguished by their playful character, since they stimulate the child to open flaps, to pull strings, and to put cut-out figures into slots, to name just a few actions.

A typical example is *Das Zauberboot* [The Magic Boat] (1930) by Tom Seidmann-Freud, which asks the child to perform specific activities that are closely related to the narrative, such as pushing a paper wheel to visualise the story of a race between a hare and hedgehog or to pull paper flaps to show different puppets in relation to a puppet play, whose text is printed on the opposite page (Figs. 4a and 4b). Walter Trier’s mix-and-match book *Crazy People* (1955) invites the child to create 8,192 different odd-looking characters by combining the heads, bodies, and legs of different people and animals over and over again (Fig. 5). This kind of flap book requires an understanding of essential features, such as coherence and integrity, in order to comprehend the funny aspects of the unusual combination of mismatched body parts.

Pop-up books generally surprise the readership by showing three-dimensional paper constructions, which come to light when the book is opened. Since books usually have a two-dimensional character, the three-dimensional depiction of objects, figures, and settings reveals a new perspective, stimulating the viewer to attentively look at the pop-up constructions from different angles. This is evident in *600 Black Spots* (2007) by the renowned pop-up artist David Carter: Each doublespread shows a surprising construction that consists of abstract forms, such as circles, rectangles, cylinders, bars, and dots, in different colours. Together they form a meticulously constructed shape that resembles a sculpture. Whilst attentively looking at these constructions, the viewer is asked to find the 600 black spots that emerge on the different spreads.

Fanfold or accordion books can be read in different ways: the beholder may look at the single folds or pages separately, but she may also unfold the whole book to have a look at the entire picture sequence. This strategy enables the viewer to get an idea of what a story is: it has a beginning and an ending, stretching from the first to the final page. But it also consists of single units (the individual pages and doublespreads), which constitute essential parts of the storyline. Due to their form, accordion books can be set up and put on a table or the floor, and thus open up new vistas on the book object.

<sup>18</sup> How different book types are related to early literacy is discussed in Bettina Kümmerling-Meibauer and Jörg Meibauer (2015a).

<sup>19</sup> For a survey on pop-up books and movable books, see Ann Montanaro Staples (2018).



**Fig. 4a and 4b.** Two pages of *Das Zauberboot* (1930) by Tom Seidmann-Freud. Berlin: Herbert Stuffer Verlag. When turning the volvelle on the right of the book, the circle that represents the race between a hare and hedgehog can be moved.

**Sl. 4a i 4b.** Dvije stranice iz *Das Zauberboot* (1930) Toma Seidmann-Freuda. Berlin: Herbert Stuffer Verlag. Kad se na desnoj strani knjige okreće papirnati kotač, pomiče se krug koji prikazuje utrku zeca i ježa.

Hybrid objects such as a picturebook that is simultaneously a toy represent a particular cognitive challenge, as children may be confused about the correct category. Even when the aspect of shape is disregarded, these objects can be associated with two competing functions, namely to be read or to be handled as a toy. To the extent that children take functions into account, one can speculate that children are aware of the distinction between primary and secondary functions. Thus, it is more plausible that they will categorise *Mein Kiddilight-Auto. Polizei* [My Kiddilight Car. Police] (2007) by Urs Wagner as a book – yet as a book that can also be used as a toy (Fig. 6). What is intriguing here is that the book has the shape of a police car (an object) while its content deals with a police car and the work of the police using it. So, the child can switch between pictures (as two-dimensional objects presenting something) and the miniature object that is depicted. Children will benefit from such a book as they are learning the distinction and the relation of the representation of the object and the actual object.

The cognitive effect of such hybrid objects, so much is clear, might be a specific input. As Paul Bloom stresses: “[...] we would want the capacity to refer to members of categories that occur in the physical and social world (things like birds and chairs), to reason about them, to have desires that implicate them, and so on – but also to understand that things can be members of these kinds even if they appear different from typical members and that they might not be members of these kinds even if they appear to be typical members” (Bloom 2000: 167).



**Fig. 5.** A doublespread of *Crazy People* (1946) by Walter Trier. London: Atrium. The reader can create funny people by randomly turning the flaps.

**Sl. 5.** Dvostranica slikovnice *Crazy People* (1946) Waltera Triera. London: Atrium. Čitatelj može sastavljati smiješne likove nasumičnim okretanjem razrezanih dijelova stranica.

What Bloom underscores here is the observation that objects may not match “normal” expectations with respect to their shape, form, and function. In order to understand the conceptual framework that lies behind the meaning of objects, children have to acquire knowledge about the specific properties of objects. Hence, they may gradually learn that a book has a prototypical shape (angular), consists of a number of pages that can be turned, shows prints, signs, and visuals on these pages, and invites the child to look at the pages in order to decipher the text as well as the illustrations. If such a book has the shape of a car with two wheels at the bottom, the boundaries between the concept of a book and the concept of a toy seem to blur.

### Types of actions triggered by picturebooks

It goes without saying that a picturebook is designed for joint attention. Rules of book behaviour are introduced in the reading situation, for instance to posit the book in the correct position, to read it in the right direction (from left to right), and to attentively look at the pictures, while it is not allowed to bite into or to scribble in the book.<sup>20</sup>

<sup>20</sup> These and other rules of book behavior have been enumerated in David Lewis (2001).





**Fig. 6:** *Mein Kiddilight-Auto. Polizei* (2007) by Urs Wagner. © 2007 Arena Verlag GmbH, Würzburg. Reprinted with kind permission of Arena Verlag. The closed book has the shape of a car with wheels. The opened book tells a story about the multiple tasks of the police.  
**Sl. 6.** *Mein Kiddilight-Auto. Polizei* (2007) Urs Wagnera. © 2007 Arena Verlag GmbH, Würzburg. Objavljeno uz ljubaznu suglasnost Arena Verlag. Zatvorena knjiga oblika je automobila s kotačima. Otvorena knjiga posreduje priču o brojnim policijskim zadacima.

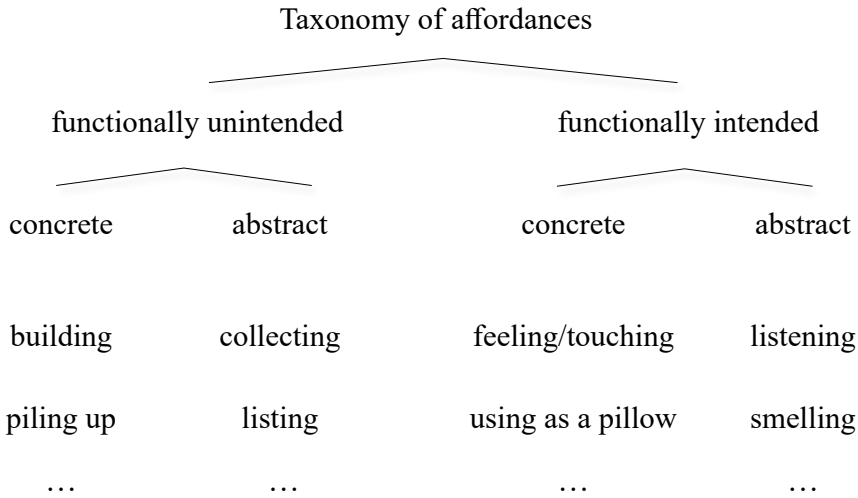
These rules foster a stereotypical concept of the picturebook that has to do with its predominant function, namely to be read. Yet the picturebook, as a material object, affords several other activities,<sup>21</sup> some functionally unintended and some functionally intended.

Among the functionally unintended actions are building – for instance, several books can be used to build a house or a stable – piling up, as children do with building blocks, and arranging books by size and colour. These actions may be called concrete actions, as they have to do with the movement of objects in space. More abstract functionally unintended actions are collecting books or even making lists of books.

Functionally intended actions, in contrast, are actions that are invited by the respective book type. For instance, feeling is evoked by the so-called touch and feel books, or a picturebook that may serve as a pillow. Numerous picturebooks are designed for playing with; this observation applies to all movable books. However, we do not know, in fact, how children make use of these affordances. Again, we can call such activities concrete actions and distinguish them from abstract actions like listening

<sup>21</sup> On the notion of affordances, see James Gibson (1977).

to sounds that emerge from the book or smelling the scents some picturebooks emit when children rub their fingers on particular spots. The following draft for a taxonomy of affordances summarises some of the possible actions induced by the materials and types of picturebooks.



Books are usually not for biting, but it is common knowledge that babies and toddlers tend to chew and suck on objects, including picturebooks. Therefore, many cardboard books are wipeable and the producers of plastic and cloth books explicitly announce that the material is non-toxic and can be safely used. Moreover, clever publishers have already created picturebooks for little ones that have small soft parts at the book corners whose surface is a reminder of cookies, as in *Mein erstes Buch zum Anbeißen* [My First Book to Bite Into] (2011) by Regina Schwarz and Katja Senner (Fig. 7). The soft triangular shapes in orange and blue in the right-hand corners of the book cover resemble cookies. The image on the cover indicates that the book may be used by teething children, thus soothing their discomfort. Expressively advertised as books to bite into, this type somehow muddles the activity of looking at the pictures and the activity of biting, which goes against the pedagogical aspiration to teach children that chewing books is not allowed.

Picturebooks can also be used for building and piling up, as in the case of the German book *Bunte Bilderschau für unseren Liebling* [Colourful Picture Show for Our Darling] (1935) by Fritz Westenberger. The book appears as a cardboard box, which includes eight pieces of cardboard with illustrations on both sides, accompanied by a short verse beneath the picture (Fig. 8). As the explanation on the inner page describes, the box mainly serves as a container of individual pieces of cardboard. At the same time, the box fits in with traditional expectations of what a book should look like. Although the separation into single boards goes against common expectations about the character of a picturebook, the explanatory notes printed on the inner side of the box



**Fig. 7.** Cover of *Mein erstes Buch zum Anbeißen* (2011) by Regina Schwarz, with illustrations by Katja Senner. Ravensburg: Ravensburger Buchverlag. The inserted soft triangles in the upper and lower right-hand corners resemble cookies.

**Sl. 7.** Prednja strana korica slikovnice *Mein erstes Buch zum Anbeißen* (2011) Regine Schwarz s ilustracijama Katje Senner. Ravensburg: Ravensburger Buchverlag. Ubačeni trokuti od mekanoga materijala u gornjem i donjem desnom uglu podsjećaju na kekse.

explicitly classify it as a picturebook, which has been separated into individual boards. The main rationale for this measure is the observation that young children like to rip the pages of picturebooks and that even supposedly tearproof books could not escape this fate.

As the photo of the child playing with the boards shows, the cardboard pieces serve multiple functions: they can be looked at in random order, since the single illustrations and verses do not constitute a coherent narrative. Moreover, they may be joined together to build a house, a wall, a road or whatever comes to mind. Since the boards do not have any hooks or slots for connections, it is not so easy to build a



**Fig. 8.** *Bunte Bilderschau für unseren Liebling* (1935) by Fritz Westenberg. Mainz: Scholz. The book consists of a cardboard case with coloured cardboard plates.  
**Sl. 8.** *Bunte Bilderschau für unseren Liebling* (1935) Fritz Westenberg. Mainz: Scholz. Knjiga se sastoji od kartonske kutije u kojoj su kartonske kartice u boji.

house as indicated in the photo. To successfully achieve this goal, the child must have acquired fine motor skills as well as physical knowledge about the correct balance and positioning of the single boards to build a stable construction. Westenberg's book is a perfect example of hybrid artwork that may be regarded as a picturebook and as a learning toy at the same time. The pedagogical considerations printed on the inner side of the box clearly state that this 'picturebook' offers children the opportunity to acquire knowledge about the objects depicted on the cardboard pieces as well as the possibility to develop creative play. In this regard, the accompanying text mentions the notion of "Anschauung",<sup>22</sup> which perfectly describes the main task of the book: it provides knowledge by means of visuals. Yet the German term also points to a crucial aesthetic and educational principle of the Enlightenment, which stresses the significance of pictures for the child's acquisition of world knowledge (see Grenby 2011 and O'Malley 2003). Likewise, by using the boards for building purposes, children are permanently invited to look at the pictures, thus storing their visual codes in their mind.

Another case in point is the picturebook *Knock! Knock!* (2015) by Kaori Takahashi, which is a book folded inside a tiny slipcase (comparable to a Jacob's ladder book). The story centres on a girl who cannot find her stuffed bear and starts to search. She looks out of the window and readers immediately realise that for the story to progress

<sup>22</sup> The notion of "Anschauung" has no exact correlation in English. It is an epistemological term that refers to the sensual-receptive part of recognition: people may gain an insight into things by attentively looking at them.





**Fig. 9.** Pages of *Knock! Knock!* (2015) by Kaori Takahashi. When folded out, the reader is able to follow the little girl's route from her apartment to the neighbours' apartments up to the roof and back again. Original Edition © Tara Books Pvt Ltd, Chennai, India. Reprinted with kind permission of Tara Books.

**Sl. 9.** Stranice slikovnice *Knock! Knock!* (2015) Kaorija Takahashija. Kad se slikovnica rasklopi, čitatelj može pratiti djevojčičin put od njezina do susjedova stana pa na krov i natrag. Izvorno izdanje © Tara Books Pvt Ltd, Chennai, Indija. Objavljeno uz ljubaznu suglasnost Tara Books.

the whole book must be lifted up. On the next page readers see her knocking on a neighbour's door, asking about her bear. Each door-knocking illustration is depicted in grey hues. Yet when she enters the flat of a neighbour, the setting is rendered in full colour. By lifting postcard-size panels vertically and horizontally, an apartment complex is finally revealed, whereas each 'page' has red bricks in between. Once the girl finds the bear on the roof, a long descending staircase unfolds, bringing her back to her bedroom.

In this regard, readers are actively involved as they have to unfold the story page by page, thus following the girl step by step from the bottom of the apartment building up to the roof and back again. When entirely folded out, the book resembles a poster that depicts a wimmelbook tableau teeming with characters, settings, and actions (Fig. 9). The text is quite short, exclusively consisting of the onomatopoetic sound of knocking on doors and the girl's questions and statements. In contrast to an accordion book, where the unfolding of the pages follows a horizontally arranged sequence of pictures, Takahashi's picturebook is rather complex, owing to the horizontal as well as

vertical arrangement of the single illustrations. This strategy demands deviation from the common reading direction from left to right as the child reader is asked to follow the girl's meandering route from right to left, from below to above, from left to right, and so on, and finally top down. The strenuous action of climbing the stairs in an apartment building and asking different neighbours about the bear is thus mirrored in the child reader's action in turning the pages in different directions without losing the narrative thread.

### **Conclusion: Why materiality matters**

In our survey of picturebooks as objects, we singled out three dimensions of materiality. First, the materials picturebooks are made of. Here, we pointed out that different materials allow for different types of picturebooks and different actions; for instance, only books made of wood or plastic can swim in the bathtub. Second, we distinguished diverse types of picturebooks. These types, for instance, the prototypical picturebook vs. the accordion book or the movable book, have to do with the specific way in which the materials are used in the construction of the book types. It goes without saying that for many people peripheral book types would not count as proper exemplars of the category of picturebook. Third, we investigated actions correlated to picturebooks. The materials picturebooks are composed of and the specific book type restrain the types of actions that the picturebook affords. We proposed that some of these actions are functionally intended, while others are not. Biting into a prototypical picturebook is not allowed, while biting into a wooden or plastic book might even be invited (especially in the case of growing teeth).

Without being able to go into detail, we assume that the developmental stages of the child and the typically acquired cognitive abilities play an important role with respect to materiality. Parents would not give a demanding pop-up book to their toddlers because they still lack the necessary sensorimotor abilities. Even the two-dimensional representation of an apple in an early-concept book is hard to grasp for some children, when they try to bite into the apple (see Bloom 2000).

We suspect that the variety of materials, book types, and functions pose a challenge to children insofar as they are invited to reflect on the status of a picturebook as an object. For children's cognitive development with respect to the acquisition of concepts, it is very important to acquire reliable categories, thus allowing the child to subsume things under these categories and to label the categories appropriately. What then to do with hybrid objects like a picturebook in the shape of a toy car or with single pieces of cardboard encased in a box? Can these objects still be classified as books, or do children probably tend to categorise them as toys? These seem to be quite simple questions, but on closer consideration it becomes obvious that these aspects may give an insight into children's gradual understanding of objects in general and picturebooks in particular. Needless to say, there is plenty of research to be done in order to get to the bottom of this crucial issue.

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**Slikovnica kao predmet**

Oslanjajući se na novija istraživanja materijalnosti i slikovnice te na rezultate kognitivne znanosti, ovaj rad istražuje kako djeca opažaju slikovnicu kao predmet i kako opažaju njezina materijalna obilježja. U tom smislu naglašavamo tri dimenzije slikovnice kao predmeta i dovodimo ih u vezu sa stadijima dječjega razvoja. Prva dimenzija odnosi se na materijale od kojih se slikovnice izrađuju, kao što su papir, karton, drvo, plastika i tekstil. Druga se dimenzija odnosi na tip knjige, npr. tvrdokoričena, sastavljena od kartonskih stranica, knjiga od presavijenih stranica, slikovnica-iskakalica, pa i hibridni predmeti kao što su knjige koje su ujedno i igračke. Konačno, rad razmatra i tipove aktivnosti povezane sa slikovnicom kao predmetom, primjerice: grizenje, građenje, stavljanje na hrpu, postavljanje, bojenje, skupljanje i raspoređivanje. U zaključku tvrdimo da je istraživanje kognitivnoga aspekta temeljno za razmatranje društvenih i kulturnih aspekata slikovničke materijalnosti.

**Ključne riječi:** kognitivna znanost, materijalnost, predmet, slikovnica, istraživanje slikovnice