





Proceedings

# Images for Little Architects. Architecture and Architectural Drawing in Children's Books and Comics: An Interesting Case Study †

#### Camilla Casonato

Polytechnic of Milan, Department of Architecture and Urban Studies, via Bonardi 9, 20133 Milan, Italy; camilla.casonato@polimi.it; Tel.: +39-02-2399-9409

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**Abstract:** Literature for childhood, in its various expressions, is undoubtedly an important source of spatial and architectural education: children books indeed are rich in spatial references and frequently intercept the theme of dwelling. In 1970, Tison and Taylor, an architect and a professor of mathematics, created the popular Barbapapapa series, which is an extraordinary example of architectural pedagogy. This study aims to investigate the way architecture is explained and communicated through text and illustrations, considering in particular the following aspects: the role of pictures, the representation of space, the use of technical drawing and the transmission of a geometric content.

**Keywords:** architectural education; architectural pedagogy; illustrations for children; teaching of drawing; architectural drawing; spatial representations; cultural heritage education; geometry; topology

#### 1. Introduction

The literature for children in its various forms is rich in spatial references. Illustrated books also intercept with great frequency the theme of dwelling, first of all through the symbolic and narrative element of the house. These representations enter into relation with the real experience of space of the child and certainly play a significant role in the construction of the idea of space and dwelling of small readers.

Some countries like France already have a tradition in architectural education for children and there is a growing interest in raising the children's awareness of architecture, also in the aim of training future aware citizens and promoting the social demand for architectural and urban quality [1–3]. Despite this children's education in architectural disciplines is still an area of experimentation. In the absence of a strong and widespread educational structure, moreover, it is evident that the illustrated book, thanks to its diffusion and to the possibility of influencing spatial thought and the idea of dwelling, is a basic source of education in architectural thought in childhood. The images, in particular, end up being the primary vehicle through which the reflection on space and the relationship between the individual and the places, are proposed. Images often take on a predominant graphic weight and a fundamental role in narration, not only naturally in the comic book, but also in the illustrated book [4].

It is interesting to note that this topic has rarely been an object of reflection, especially from within the discipline of architecture, apparently not very interested in intercepting the child world in research as well in didactics. This work, therefore, without going into specific questions related to pedagogy and evolutionary psychology, aims to address the themes outlined starting from the

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specific disciplinary point of view of architecture and architectural representation, in comparison with some critical studies, in particular of geographical scope, which focus on the way in which the idea of space is conveyed through illustration for children [5–7]. The paper focuses, in specific, on a case study of particular relevance, with the aim of reflecting on three aspects in particular:

- how the case study deals with the topic of architecture and according to which thematic aspects;
- what role do drawings play in the narrative, and how they convey an articulated representation
  of the architectural space, shapes and constructive elements;
- how, in the publications examined, drawing itself becomes a theme and the vehicle of the transmission of a geometric thought.

#### 2. Space and Architecture in Children's Picture Books

The French geographer Christophe Meunier, in his book *L'espace dans les livres pour enfants*, looking at a specific sample of illustrated books that have appeared or reissued in France over the last four decades, questions how space is represented in this particular type of cultural object that match images and text [5]. The researcher starts from the assumption that books allow children to familiarize with spatial representations, even complex, to appropriate this representations and to orient themselves in the spaces they live in and they imagine, thus preparing to act on real space. Moreover Meunier also underlines that, not only do children's picture books generate new spatialities, but also that they can modify the initial spatial representations of their young readers by transmitting them new space representations. Children's books propose some forms of spatiality that readers can make their own, try to reproduce or manage and that will serve as a permanent reference, often unconscious, in their relationship with the world [5] (p. 1). These observations show that Meunier's studies, carried out from the geographer's point of view, offer a lot of suggestions for a study on architecture in childhood publishing.

Actually architecture is quite present in this kind of book: the house and the city for example are certainly important subjects in the tradition of illustrated stories for children, even if the relationship between the individual and the environment is addressed mainly in an affective dimension and references to specific technical and disciplinary content, as construction, design and planning issues, remain rare. The illustrated books surely play an important role in bringing the young public closer to the architectural drawing, even if they simplify and adapt it to their narrative and expressive needs. In this way they help children to familiarise themselves with the technical drawing and, at the same time, encourage awareness of the expressive potential of different types and methods of architectural representation, such as linear perspective, paraline and orthographic drawing. The ways in which architectural space is represented in children's books would certainly merit a wide and systematic study. In this this work we will only propose some considerations about a specific case study, which may represent however a good starting point because of its relevance to the subject.

# 3. An Extraordinary Lesson about Space: Architecture and Geometry in Annette Tison and Talus Taylor's Works and Illustrations

In 1970, with the publication of "Barbapapa" [8] Annette Tison and Talus Taylor, a French architect and an American professor of mathematics and biology, created a character who conquered two generations and whose popularity still remains unchanged. The first illustrated books (published in thirty languages) tell the story of the protagonist from birth to the formation of his large family have been followed by numerous other stories, dedicated to different adventures and activities of the family. Since 1976, then, a large sequence of comics—less well-known outside France—and more series of episodes of animation contributed to spread the popularity of these pleasant characters.

The two authors, husband and wife, sign together (without ever disjoining the authorship of texts and drawings) a vast production, even outside their most famous series. In their works texts and drawings seem to reflect the authors' interests strongly: on one hand stories are characterized by a constant consideration to nature and the environment and on the other and there are many references to architecture, art and cultural heritage in general. In the series dedicated to Barbapapa,

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in particular, we can find a multifaceted and rich reflection on space and its representation and also on architectural design and construction. The case moreover is particular interesting due to the age group to which the stories are aimed which includes pre-school and primary school children.

The protagonist of the stories is a tender and resourceful father of the family, whose huge pink body looks like a big soft candy cotton (in French "barbe à papa", hence the name of the character) accompanied by a Barbamama and seven Barbabébé. The Barbapapapa (the name of the protagonist indicates at the same time the "species" and the whole family) raise from the ground, like the trees, move, breathe and eat like the animals, they speak and have feelings like the human beings, but they have a large coloured shape-shifting body which distinguishes them from any other living being.

The story of these cute characters from its first steps contains an implicit question about dwelling: what is the right house for *a* Barbapapa? In his first adventure in fact the character goes looking for a home. First the zoo hosts him, but he feels lonely in his cage and his fluid body soon glide between bars in search of the company of other animals. Hunted away from the zoo and rejected by a hotel and even a cinema, he wanders sadly through the streets, hampering traffic: in the inhospitable and indifferent town there is no place for him [8] (pp. 7–16). From the very beginning therefore the theme of the unusual nature of this character and his emotional and social needs immediately overlaps with that of the search for a place to live, putting the subject of dwelling in connection with that of the identity and placing it at the centre of the tale.

In "La poétique de l'espace" — often referred to by authors who deal with spatial representation in children [5,9]—Bachelard highlights the links between the affective dimension and the evocative capacity of familiar spaces, when he states that 'tout espace vraiment habité porte l'essence de la notion de maison' [10] (p. 24). The house is also, for obvious reasons, the architectural theme most present in children's literature in general and the most direct vehicle for linking the spatial and living experience (as well as the existential experience) of the young reader with the representations offered by literature.

Indeed an analysis of the architectural theme in Barbapapapa could range from steel construction techniques to greenhouse heating systems or to the construction of arches. Nevertheless, necessarily having to make a selection of topics, this analysis can only start from the fundamental theme of the house, seen also in its connections with the experimental and provocative character of the culture of those years. The theme of the house then connects with that of the city and finally with that of historical and traditional architecture which leads, among the subjects covered by the series, to the protection of cultural heritage and even architectural restoration.

#### 3.1. From the House to the Castle

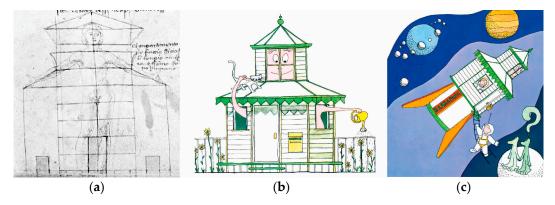
# 3.1.1. A Tailor-Made Hut for Barbapapapa

The first two books of the serie tell how Barbapapa, finally welcomed into the society, embarks on an adventurous journey in search of a Barbamama and finally he builds his own family [8,11]. At the end of the first book, Barbapapapa's little friend François welcomes him into his family and his accommodation becomes a small pavilion "tailor-made" for him in the garden. It is an essential refuge, the first for its species, a sort of shell, an architecture/dress, in which the windows become openings for the arms and a façade view: body and building therefore respond in an almost perfect overlap [8] (p. 28). The somewhat paradoxical character of the image seems to indicate its symbolic and theoretical meaning, which seems to prevail over its narrative function. The figure, in fact, seems to illustrate the relationship that should ideally link body and architecture and curiously recalls the famous illustration of the Vitruvian man in the treatise by Francesco di Giorgio Martini (Figure 1a,b).

In the development of the tale, on the long journey in search of a Barbamama [11], this sort of archetypal cabanon takes on a thousand functions. In fact, it becomes from time to time caravan, railway wagon, boat and even space rocket, confirming its nature as prosthesis of the body, whose housing function is symbolic and existential long before it is functional. Actually it is the home of the body in its essential dimension and therefore can assume all functions remaining itself (Figure 1c). Its usefulness is exhausted only when the unitary body becomes multiple, that is, when the

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protagonist finds himself having to accommodate his large family and the pavilion gives way to the pressure of too many guests.



**Figure 1.** (a) Francesco di Giorgio Martini's famous drawing illustrating the relationship between body and architecture (15th century); (b) A. Tison, T. Taylor, *Barbapapa* (1970), p. 27, detail; (c) A. Tison, T. Taylor, *Le Voyage de Barbapapa* (1971) p. 21, details.

# 3.1.2. Escape from the Expanding City

The third illustrated book in the series, "La maison de Barbapapa" (1972), is entirely dedicated to the theme of the house [12]. The Barbapapa, having abandoned the first hut which has become too small, find accommodation in a beautiful abandoned villa from the early 20th century in a quiet charming neighbourhood. The whole family is passionately committed to restoring the old abandoned house and furnishing it with objects of recovery, taken at the flea market. Soon, however, some menacing machines (significantly represented without driver) raze to the ground their new beautiful house to make room for the new "Residence des jardins suspendus". It is, indeed, a series of anonymous buildings in a modern neighbourhood without qualities (and without green spaces), which effectively represents the worst interpretation of modern style, typical of the speculative building expansion of those years [12] (pp. 8–16) (Figure 2). In the figure the Barbapapa's family, disconsolate and stacked in her new apartment, appears from some square windows that open into a unadorned and sad front. The life of the other inhabitants also appears to be sad and monotonous, stigmatized by the presence of numerous tv screens that can be seen through the windows. There is clearly no trace of the "jardins suspendus" and Barbapapa decides to leave: in the next illustration thus we can see the family in a merciless procession crossing an industrial polluted suburbs, in search of a place to live [12] (pp. 17-18). The story therefore proposes to young readers, in an indirect but effective way, an explicit critique of the urban transformations of those decades, which is opposed, in the following narrative, by an alternative proposal in terms of architectural design and in terms of the relationship between nature and built environment.

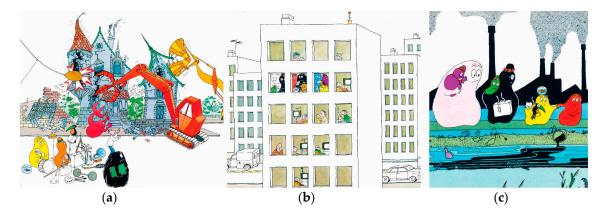


Figure 2. (a-c) A. Tison, T. Taylor, La maison de Barbapapa (1972) pp. 13, 14, 16, details.

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# 3.1.3. The Vital Role of Architectural Design

After trying (as we have seen with disappointing results) to live in the city, the Barbafamille decides therefore to build its own house by itself, beginning a new life starting from the immersion in nature and the design of a new space. The significance of this act of foundation is also underlined, in the illustration, by the archetypal nature of the landscape: the family, exhausted for the escape from the city, finally stops in the countryside, on a hill, next to a source from which a stream comes to life, crossed by a small bridge, the only anthropic sign in a gently rural landscape [12] (p. 19). The first refuge for the babies is the body of their parents who make themselves into tents to protect theirs children when they camp in the countryside. When the day comes, they start building their dream house, using the parents' bodies as a mold: Barbapapa and Barbamama change their shape to become improvised formwork for the Barbaplastic that they use to create their new abode, a unique, multicelled, bubble-shaped house with a separate, appropriately fitted out room for each family member [12] (pp. 20–21) (Figure 3). In this way, the story—mainly through the images—conveys the idea of the project as a founding act of living, which represents an ideal arrangement between body, community (the family), natural elements (soil, water, sky), artificial materials (barbaplastique) and a form that is shaped as negative of the body itself, inverting the relationship between full and empty, between body and space.



Figure 3. A. Tison, T. Taylor, La maison de Barbapapa (1972) pp. 18, 19, details.

The basic cell is repeated several times with variations that follow the peculiarities of the individual characters, adapting the initial prototype to each child's talents and interests, in order to allow them to inhabit the space according to their nature. This process gives rise an entire home of interconnecting pods where the furnishing is minimal and *de facto* inessential, because the space itself, namely the shape of the room, conforms to the activities that everyone loves to devote himself to, as shown in the well-known section drawing of the *barbabébé*'s rooms. This image thus effectively expresses the ideal connection between form and function and between space and habits [12] (pp. 22–23) (Figure 4).

Meunier pointed out that the house is often represented in children's picture books as an *archetype*, a model that is out of time. At other times it voluntarily embodies a *stereotype*, in the sense of a specific model that generalizes the housing situation in a peculiar culture in order to make it known. In Barbapapapa, the house is a given space destined to be generalized, i.e., it is proposed as a new model and a prototype [5] (pp. 209–211). Therefore it will be interesting to investigate the connections between this idea of prototype and the architectural thought of the period.

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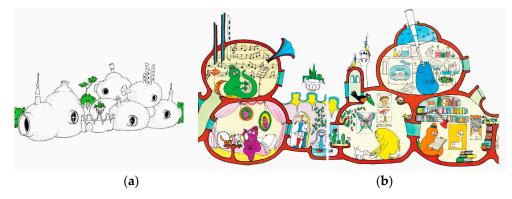


Figure 4. (a,b) A. Tison, T. Taylor, La maison de Barbapapa (1972) pp. 20, 21 details.

#### 3.1.4. An Envelope to Embrace Human Needs

The Barbapapa's house has often been described as homage to the concept of *maison bulle* and to the experiments carried out in those years by architects such as Antti Lovag, Jean-Louis Rey Chaneac e Pascal Häusermann. Unlike a traditional house, designed as a volume to be divided, the "bubble house" is constituted by the juxtaposition of spheres open to each other. It can be expanded, according to the needs of its inhabitants, by simply adding new "bubbles" [13]. These architectural experiments are based on the idea that architecture must be an envelope created around man's needs and on the ethical principle according to which the final recipient can be both creator and builder of his own living space [14]. It is difficult to ignore the assonance between these assumptions and the "lesson of architecture" contained in Barbapapa. Certainly, the evocative project of housing (and of lifestyle) that has marked the childhood imaginary of two generations brings with it the libertarian and innovative charge of the culture of those years.

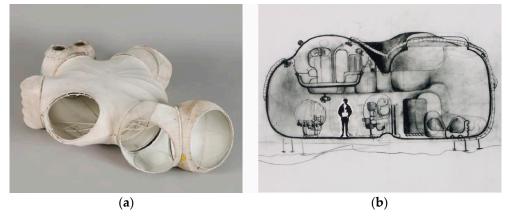
Moreover some reflections from the previous decade are echoed in the project (*La maison de Barbapapa* is published in 1972), such as those proposed by Archigram with a strong theoretical and provocative connotation and rich in references to pop visual culture and comic aesthetic. The instability, transformability, the possibility of organic growth by aggregation and adaptability to any environment are some of the characteristics that the Barbapapap's house has in common with some architectural experiments of the time: significant similarities can be found, for example, with the characteristic' stomach-shaped shell-abitacles' of *Bowellism* [15,16] (Figures 5 and 6).

In other words Barbapapapa proposes an authentic and original approach to contemporary architecture and does not simply illustrate episodes of architecture as other children's books have done (in a much more recent time), but rather proposes an idea of architecture from within the narrative. Moreover it directly involves the young reader in the environmental reasons of this idea, in the formal genesis of the project and finally in its technical and material translation.



Figure 5. Antti Lovag, Espace Cardin, Théoule-sur-Mer, 1988–1992, Frac Center Collection.

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**Figure 6.** (a) Antti Lovag, Without title, Maquette, 1966, Frac Center Collection.; (b) David Greene (Archigram), Living Pod, 1967.

#### 3.1.5. Ruskin/Barbidou vs. Viollet-le-Duc/Barbouille: Cultural Heritage in Barbapapa

In the whole series, but in particular in the long sequence of comic book adventures published in Italy since 1976 [17], the references to the most recent and experimental architecture are accompanied by an engaging look at traditional and historical architecture, proposed through the expedient of the family's innumerable travels around the world [18]. It ranges from the presentation of the great monumental architecture (the Egyptian pyramids, Mayan and early Christian architecture, etc.) to the European art cities (Venice, Rome, Paris), to the rural dwelling houses all over the world (the alpine hut, the Mexican house, the Dutch mills, the Eskimo village ...), up to the palace made of clouds (but an example of "pure Gothic architecture") of Santa Claus [19] (p. 4). Often, the adventures even seem pretexts for creating the chapters of this great history of architecture booklet for children. There is then a frequent reference to the issues of the protection of architectural heritage, which can already be seen in the first books, starting with the story—mentioned above—of the demolition of historic quarters [12] (pp. 10-14) and which remains a constant of the whole series, along with the strong environmental message. Finally, it is interesting to note the widespread and programmatic attention paid to all aspects of cultural heritage, including the intangible heritage (craft skills in particular) [20] and even a surprising insight into the theories and techniques of architectural restoration.

In the comic book story "Le château fort" [21] (pp. 3–22) during an excursion the Barbapapa find a ruined medieval castle and decide to restore it. Along the story the book illustrates through accurate drawings the comparison between the ruined building and the new project. Then indications are given on the historical motivations of the choices of intervention and ancient construction techniques used to reconstruct the missing parts of the building (like roofing) are illustrated. Finally the organization of shows in medieval costume exemplify a strategy for the henancement of built heritage (Figure 7). The restoration design proposed by the fine art "baby-expert" Barbouille basically follows the restoration approach of Viollet-le-Duc, based on in-depth knowledge of the architecture of the time and aimed at bringing the building back to a condition of completeness. However, the story also includes another point of view: that of little Barbidou who is in love with nature and sensitive to the romantic charm of the ruins and suffers to see it alterated by the reconstruction process. Therefore one of the four towers is not restored, providing an example of a ruskinian restauration approach. Although the references are not explicit, the different theoretical approaches and the results of their application are perfectly illustrated and the episode becomes an extraordinary (and unpublished) lesson on architectural restoration.

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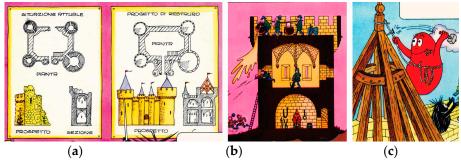


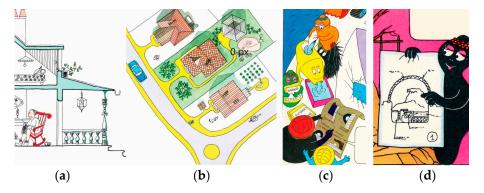
Figure 7. (a-c) Talus Taylor; Tison Annette. La torre antica. Barbapapa, 1981, n. 58, pp. 7, 9, 20, details.

## 3.2. Technical Drawing and Geometry in Barbapapa

#### 3.2.1. Drawing as a Tool and Theme

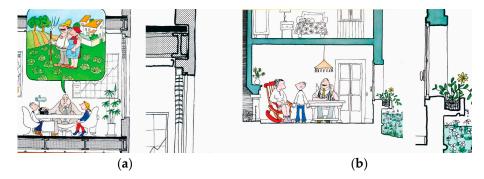
There is something quite striking talking about how Barbapapa's characters are sketched: these shape shifting blobs look very sculptural and malleable, though in the draws there is no "chiaroscuro". In the illustrations the shadows are few and geometric: they are used indeed only for architecture, whereas the characters are sketched with a few pencil strokes and fields of flat vivid colour. Thanks to the talent of the artist and the expressiveness of his stroke, these simple spots of colour acquire volume and take on an infinite number of postures and different shapes always clear and immediate in their articulation in solid space, to the point that one has the constant impression of being able to touch them (or perhaps better "embrace" them).

Undoubtedly, the three-dimensionality of the drawing is also suggested by the context, which is characterized by an extraordinary attention to space and architecture in a broad sense, from details to landscape, although the drawing is simplified and essentially without shadows. Interesting to note, however, how rarely, especially in the first books, the spaces are portrayed using linear perspective (or paraline drawing), most of the spaces are in fact represented using orthographic drawing, like front elevation or section. The sections, in particular, while maintaining the naive freshness of freehand design, impress with the precision of detail, often comparable to that of a 1:20 scale drawing, and for the strict application of the technical drawing codes (distinction between projected and sectioned elements, scale variations, careful description of windows and doors and of the different building construction techniques) (Figures 8 and 9). Besides Tison and Taylor published in 1973 an entire book centred on the section as a representative medium capable of explaining architecture to children. The first title of the book was "Un Château pour Angelo", then significantly changed in "Dedans et dehors" ("Inside and outside" for the English version) [22].



**Figure 8.** (a,b) Section and planivolumetric view of a house. A. Tison, T. Taylor, *Barbapapa* (1970), pp. 2, 32, details; (c,d) Examples of technical drawing: (c) A. Tison, T. Taylor. Brava Barbamamma! *Barbapapa*, 1978, n. 18, p. 14, detail. (d) A. Tison, T. Taylor. I Barbabebé allo zoo. *Barbapapa*, 1980, n. 46, p. 12, detail.

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**Figure 9.** (a,b) Esempi di dettagli costruttivi in Barbapapa. A. Tison, T. Taylor, *Le Voyage de Barbapapa* (1971) pp. 8, 18, 21, dettagli. (a) Sistema costruttvo in acciaio; (b) Sistema costruttvo in muratura.

To exemplify the technical content of the drawing since the first books, we can cite the last illustration of the first book, which shows the Barbapapa's garden pavilion inside his urban context [8] (p. 32). The neighbourhood is represented by a rigorous planivolumetric, with the building's shadows properly drawn, the indication of roofs pitches and of different roofing membranes, the roads, the agricultural land, gardens and plants. This picture resembles more a technical drawing made by an architect or by a urban planner than a landscape painting and it is different from most children's illustrations, which usually are less technical and more descriptive, like, for example, a bird's eye view (Figure 7b). The drawing legibility is certainly facilitated, in this case, by the characters, also present in the picture and very unusually represented in orthographic projection while looking upwards and greeting the young readers from the book page. The interpretation of this image requires a good capacity for spatial abstraction, especially to recognize buildings and in particular the hexagonal pavilion, which is always shown in the previous images of the book by front elevation. Nevertheless, the image seems to be clear to small readers—as has also been observed in specific studies [23] (p. 79)—and this is perhaps also due to its technical accuracy.

In subsequent books and comic book stories, this attention to architectural drawing remains constant and in some cases becomes even a theme within the narrative. Indeed Barbamama often shows a vocation as architect-engineer and the two *barababebe* Barbibul (the blue one) and Barbouille (the black and hairy one), are respectively a scientist-inventor and an artist. In the following pages the reader can follow the realisation of the project and better understand the content and meaning of the project drawings. During the adventures they often design machines or buildings to solve technical and housing problems for family and friends. In these cases they always illustrate their designs to the others characters (and to the readers) through accurate drawings showing plans, front elevations and sections, with a coherent layout and captions. In the following pages the reader can follow the realisation of the project and better understand the content and meaning of the project drawings (Figure 7c,d).

# 3.2.2. Technical Drawing and Geometry in Barbapapa

References to geometry are frequent in Barbapapapa's stories and the theme of form is central, starting from the characteristic ability of the characters to change their shape at will. The didactic-educational vocation of the books, above all, makes reference to the shapes of Euclidean geometry frequent [24]. The projective geometry is also implicitly present in the illustrations as the foundation of the construction of the image itself. There are also explicit links with descriptive geometry and its applications to technical drawing. As we have seen, the technical drawing is proposed to the child as a tool to solve problems and to design machines and buildings. We have also already pointed out the attention paid to the theory of light and shadows in the representation of architecture. The most significant geometric reference in Barbapapapa, however, is actually to topological geometry, which is also the one most immediately referable to the experience of space in early childhood. Within the topological geometry the notion of measurement assumes exclusively qualitative and non-metric values; moreover, it refers to a knowledge of space that does not require the application of the notion of distance and privileges touch over vision, as in the first babies' explorations of real space.

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Vittorio Ugo stressed how the sequence with which the child, during his development, meets the topological, projective and finally Euclidean space, is inverted to the chronological order of the historical elaboration of the different geometries. In this sense, the most recent geometries (in terms of scientific elaboration) are also those that intervene first in the relationship that the child establishes with the space around him/her [25] (pp. 50-51). Ugo defined topological geometry as a "touch geometry", projective geometry as a "vision geometry" and Euclidean geometry as a "mind geometry". In this sense we can say that geometry in Barbapapa is a "touch geometry". Virtually a Barbapapa can deform his body into anything without cutting or gluing, so the transformations that the characters make to the cry of "Hula hup Barba-truc!" are very similar to continuous deformations (homeomorphisms) studied by topology, even if they do not always meet the specific criteria (a Barbapapa can easily assume both the shape of a sphere and a torus, without worrying too much about how many sections would be needed to divide it into two bodies). As a result of all these considerations, it can be argued that the geometric concepts indirectly transmitted by illustrations recall, despite the two-dimensional nature of the images, the first spatial experiences inscribed in the child's history and perhaps also for this reason are so universally loved by children since the very first years. Indeed, these characters have an evident "tactile quality": their plasticity directly recalls manipulation and for this reason we can also define them as vehicles of topological concepts, as topology is a geometry "of the touch".

It is interesting to note how, in the French original version, the famous *motto* that accompanies the transformations recalls, by the term "*Barba-truc*", not only the concept of "trick", in the sense of joke or of action that is meant to deceive someone, but also the concept of "thing" or "stuff", which is inherent in the French term "*truc*". The "*Barba-truc*", therefore, does not have much to do with the illusory nature of a magic trick, but on the contrary recalls the idea of an object: a new objective reality, solid and tangible, in which the original body can be translated, inviting the young reader to imagine a new tactile exploration and thus evoking a different spatial experience. The translations, in this sense, have somewhat betrayed this nuance by replacing the original expression, such as in the English version "Clickety-click ... Barba-trick!" or in the Italian version "*Resta di stucco ... è un barbatrucco*!".

Finally the house designed and built by Barbapapapa to live there also produces a spatiality that recalls topological geometry due to its characteristics of spatial continuity (also evident in the distribution system) and to the fact that it is the result of the fluid concatenation of spaces derived from an initial solid form through metamorphoses (like those of its singular inhabitants) that make us think of the topological homeomorphic transformations.

## 4. Conclusions

The richness and variety of references to architectural themes in the Barbapapa series are such that one could even imagine building an entire course of architecture for children using only illustrations and contents of the series. It would also be possible to address many other issues besides those mentioned here, such as contemporary and traditional construction techniques, engineering techniques and even plant engineering or urban and environmental policies.

It would also be interesting to extend the analysis to other contemporary and more recent examples of illustrated book for children, in which reflection on space, form and architecture plays an important role, comparing them with the proposed case study. Illustrated books, as mentioned above, play a significant role in the training of future adults, through the construction of a spatial imaginary in the broad sense, but also by influencing, in particular, the perception and mental elaboration of the architectural and urban space, especially through the illustrations. These texts, therefore, which are of course already subject to psychological and pedagogical analyses, perhaps deserve greater attention from the disciplines of architecture and architectural representation.

Returning finally to Meunier's reflections, it can be observed that since children's books offer stories about the relationships between space and the people who live in it and represent these relationships through illustrations, they should be assumed as "objet culturels qui produisent de l'habiter" [2] (p. 212).

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