



**HAL**  
open science

# Architectural Toys: The Construction of an Education

Marco Ginoulhiac

► **To cite this version:**

Marco Ginoulhiac. Architectural Toys: The Construction of an Education. 8th International Toy Research Association World Conference, International Toy Research Association (ITRA), Jul 2018, Paris, France. hal-02090933

**HAL Id: hal-02090933**

**<https://sorbonne-paris-nord.hal.science/hal-02090933v1>**

Submitted on 5 Apr 2019

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# Architectural Toys

## The construction of an education

Marco Ginoulhiac

*Italian architect living in Portugal and lecturing at FAUP - Faculdade de Arquitectura da Universidade do Porto.*

### Abstract

Towards the end of the XIX<sup>th</sup> century and the beginning of the XX<sup>th</sup> century, the toy market created a number of toys based on an emerging educational method underlined by a constructivist approach. Indeed, both in Europe and United States, many companies were inspired by what was happening, almost at the same time, in several schools of Art and Architecture, in which the design studio teaching was based on an "atelier" system and pupils developed skills and autonomy through their own action. The paradigm of practice based on task simulation, either scientific or artistic, is still clearly visible in a number of toys which promoted skills development through playing. German Anker blocks, Meccano or Guilbert construction sets, are perfect examples of toys which require intellectual and manual skills to successfully complete a specific exercise or experiment. The design of these kinds of toys reflected the shift in educational paradigms. The classical method was based on reproducing an existing solution, supported by instruction booklets provided by the toy's manufacturer. The new method afforded the user the opportunity to create something novel, not directed or limited by illustrations. These differences were reflected not only in the references provided by the toy companies or filtered through an adult worldview, but also in the toy design itself. Indeed, some construction sets were developed to be assembled in a limited number of forms, while others permitted a wide variety of permutations including the construction of unconventional shapes which may not be recognized as everyday objects like vehicles or buildings. Based on this background, this article highlights the idea that some toys facilitate actions which are similar to the propaedeutic exercises set, for example, during the first year in several architecture schools. Therefore, it is possible to consider specific kinds of toys, called architectural toys, as real educational devices.

Keywords: Toys, Architecture, Education, Teaching, Pragmatism

Since the second half of the XIX<sup>th</sup> century, construction toys are at the basis of a broad narrative associating art and architectural education. Indeed, following the romanticist educational framework, based on Rousseau theories, playing activity was not anymore considered a waste of time, but otherwise as a central and indispensable educational occupation. From the primary needs and the basic social behaviour rules to more complex skills, it became clear that playing had an indispensable role, not only in the development of the self but also in the reproduction of human society.

Being connected to functional, formal or technological ways of architecture discipline, construction toys are a prominent component of the historical narrative in which the adult world changed its own educational effort and ideological position about toys and play.

This narrative is manifested through the toys, as objects, but also through the significant quantity of advertising and publications that successively followed an increasingly expanding market. The slogans, the selected images, as well as the media, where the advertising has been showcased but, above all, the target audience of the message, remained almost unchanged across the entire XX<sup>th</sup> century, illustrating the main educational paradigms until today.

## Discovering play

In the late XIX<sup>th</sup> century, evolutionary theories demonstrated that childhood development is firmly connected with play. J. C. Friedrich von Schiller (1759-1805), Charles Darwin (1809-1882), Herbert Spencer (1820-1903) and Karl Groos (1861-1946), among many others, looked at animal and human development and founded the rules underlying the child growth, stating that “animals cannot be said to play because they are young and frolicsome, but rather they have a period of youth in order to play.”<sup>1</sup> Simultaneously, progressive educators had recognized the relevance of creative actions in improving cognitive skills and the development of social behaviour in childhood. Based on the strong and complex heritage of the kindergarten experience, supported by the theoretical framework of the pragmatist philosophy of John Dewey (1859-1952)<sup>2</sup> or the *Project Method* <sup>3</sup> by William H. Kil-

---

1 Groos, K. (1898). *The play of animals*. New York: Appleton

2 Dewey, J. (1997). *Democracy and education: an introduction to the philosophy of education*. New York: Free Press.

3 Heard Kilpatrick, W. (1918). *The project method: the use of the purposeful act in the educative process*.

patrick (1871-1965), action would be the central component of the learning experience. Academism, on the other hand, once considered as a paradigm of knowledge based on models and on the abstract world of ideas, was losing its prominence in a context where technology and science overlapping the XVIII<sup>th</sup> romantic understanding of life.

Besides, "Freud's psychosexual theory linked early childhood to creativity by emphasizing that children's thought processes are not subject to rules of logic, an important feature of adult creativity, and by establishing a link between cognition and strong emotion, a driving force behind creativity. By stressing the importance of symbolic and fantasy play, during which time children take leave of reality, psychoanalytically oriented theories showed how some of the natural tendencies of young children might play themselves out in adult creativity."<sup>4</sup> During the beginning of the XX<sup>th</sup> century childhood acquired a new assessment on the growing middle-class society, shifting from economical to the emotional role,<sup>5</sup> in contrast to a commodification process.

All around the world, this new sensibility supported a different vision about creativity and the artistic role in the child's world<sup>6</sup> while, at the same time, promoted an educational framework based on creativity<sup>7</sup> and freedom. Indeed, there is no creativity without freedom.<sup>8</sup> In synthesis, the combination of these new concepts allowed the rising of new kinds of activities and toys, focused on playing as educational activity and exercise of freedom.

---

New York: Teachers College, Columbia University.

- 4 New, R. S., and Moncrieff C. (2007). *Early childhood education: an international encyclopaedia*. Westport, Connecticut London: Praeger Publishers. P. 167
- 5 About this subject: DeMause, L. (1995). *The history of childhood*. 1st ed. Northvale N. J.: J. Aronson. Ariès, P. (1962). *Centuries of childhood: a social history of family life*. New York: Vintage Books.
- 6 In 1887, the Italian art historian, Corrado Ricci, wrote an innovative book about childrens' drawings inspired by a collection of sketches he collected during several years. See Ricci, C. (1887). *L'Arte de Bambini*. Bologna: Zanichelli.
- 7 Ogata, A. F. (2013). *Designing the creative child: playthings and places in midcentury America*. Minneapolis: University of Minnesota Press,
- 8 Ginoulhiac, M., (2017). Brincadeira, projecto e Liberdade, *Revista Internacional de Educación para la Justicia Social*. Vol. 6, nº 1.

## Fröbel

In 1826, the German educator Friedrich Fröbel<sup>9</sup> (1782-1852) published the book *Die Menschenerziehung*<sup>10</sup> (The Education of Man) about his revolutionary approach on education. The book stressed a whole articulated and complex theory, based on three concepts: places, objects and methods. The main subject, that is still frequently referred today, is the spatial environment which Fröbel coined as *Kindergarten* (children garden)<sup>11</sup>. The first *Kindergarten* was opened in 1837<sup>12</sup> and, after that, thousands were successively opened all around the world under the same belief: children should be nurtured in a specific place, “like plants in a garden”, with precise conditions and cares (in order) to reach a fruitful adult life.

Some years later Fröbel wrote on the *Sonntagsblatt*<sup>13</sup> articles describing the methodologies and devices which should be used in a Kindergarten context by educators, in order to archive the full development of intelligence and competences: *Gifts* and *Occupations*. These ideas were not only addressed to the institutional educator; indeed, Fröbel defended the main relevance of domestic education and, because of that, would involve parents.

*Gifts* and *Occupations* are both based on the natural appetite of the child to play and to create in tri- and bi-dimensional environments. The first ten tools designed by Fröbel – the *gifts* – were sets of wooden solids designed according to strict geometrical rules. These objects introduced the child to knowledge of the surrounding world, from a tri-dimensional approach, through the plane, the line and, finally, the point. *Occupations* were conceived in an opposite narrative, start-

---

9 Fröbel was strongly influenced by the Swiss pedagogue Heinrich Pestalozzi (1746-1852). Pestalozzi created an educational method based on the Jean-Jacques Rousseau ideas about the importance of improving the faculties of children instead of imposing knowledge.

10 *Die Menschenerziehung, die Erziehungs-, Unterrichts- und Lehrkunst angestrebt in der allgemeinen deutschen Erziehungsanstalt zu Keilhau* - (The education of man) was edited by Fröbel in 1826 in Leipzig.

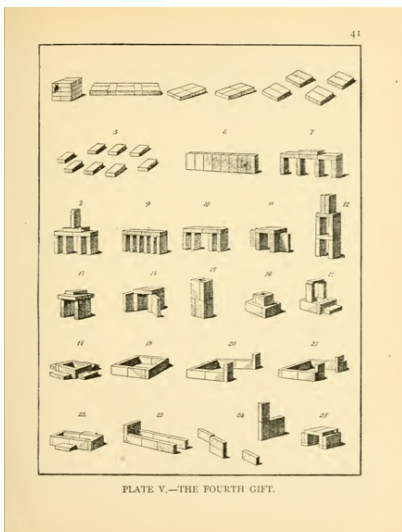
11 The Fröbel experience was not unique, almost at the same time in other countries were establishing several other schools based on similar principles: The Slyod system in Finland, the J. Liberty Tadd method in USA or, later, even the Montessori method.

12 The very first Kindergarten was founded by Fröbel together with Wilhelm Middendorf and Heinrich Langenthal, two Fröbel's most faithful colleagues, in 1837 at Bad Blankenburg, a small city in Thuringia, Germany

13 *Sonntagsblatt* (also known as *Sunday Journal*) was a small bulletin edited between 1838 and 1840. The articles were quite important also because they were wrote after the first years of Kindergarten functioning.

ing from the point to the solids, which also allowed the child to acquire crafts and artistic skills.

The whole educational method was based on specific processes and sequences, following several steps of increasing complexity. Additionally, they could be used in a domestic environment, indeed “The gifts were toys, the teacher was the loving mother, and the schoolroom was an extension of the garden”<sup>14</sup>.



Frances Post Van Norstrand. 1889. Royal Gifts for the KinderGarten. Chicago: Standard Publishing Company. p. 41

The Fröbel’s Gifts were based on the idea that children can reproduce some existing image, but also compose something new. Fröbel, in his manuals, stressed the importance of the reproducing process inspired by Nature’s shapes and forms in order to understand the three classes of “forms”: the *forms of life* (*Lebensformen*), that help the child to better comprehend nature and environment; the *form of “knowledge”* (*Erkenntnisformen*) that supports the ideas of number, order and proportion; and the “forms of beauty” (*Schonheitsformen*) that encourages the fantasy through the creation of models, rules and symmetry. As a matter of fact, Fröbel was strongly inspired by mineralogy and crystallography for the design of his educative artefact. Fröbel created a set of precise objects that could be used both as tools to understand the physical world and its rules, and also to create new shapes and forms as well. In his own words,

“The purpose of education is to encourage and guide man as a conscious, thinking and perceiving being in such a way that he becomes a pure and perfect representation of that divine inner law through his own personal choice; education must show him the ways and means of attaining that goal”<sup>15</sup>.

Fröbel’s toys can be considered as construction sets based on an academicism paradigm - knowledge prior to action - and, simultaneously, on a pragmatism paradigm - knowledge created by action. While playing, it is possible to spontaneously switch between the two cognitive models, as it would happen in a standard design process, where each solution is, at the same time, a creation or something new and a verification of correspondences with something that already exists, both

14 Brosterman, N. (1997). *Inventing kindergarten*. New York: H.N. Abrams, p. 35

15 Fröbel F. (1826). *Die Menschenerziehung*. p. 2

in the real world or in the subject's mind.

As consequences of Fröbel's method spreading, a business was created around this new educational technique and the use of Fröbel's Gifts was not just limited to schools but also used within the domestic space<sup>16</sup>. This coexistence also allowed the publication of manuals for familiar usage<sup>17</sup> and the fabrication of a massive quantity of objects which influenced, directly and indirectly, the production of a specific kind of toys under the flag of "educational toys" or, in a more commercial expression, "construction set" or even "construction blocks". We can still observe this phenomenon which is more than a century old.

Some companies, such as Milton Bradley in the USA, faithfully reproduced the Fröbel's Gifts, "A strong alliance develops between the educator and the specialized toy manufacturer in defining 'legitimate' education products"<sup>18</sup>. Boxes were sold as toys but always underlying the idea that they were educational devices based on the Fröbel method, frequently with an explicit reference to Fröbel. "There was no patent in the United States on Fröbel's original designs and the Milton Bradley Company developed its own version by copying illustrations from German kindergarten guides and samples from Europe"<sup>19</sup>.

---

16 At the time several booklets were published demonstrating the importance of play and toys. One example is the book of 1891 *Toys and their place in the Education of the child*, presented to the Members of the mothers' department, Chicago, by Elizabeth Harrison. This book was not only a scientific approach to play utility but also a patriotic slogan for the American toy producers. For example, at page 11 is possible to read "The German toys take another tone. They are heavier, stronger, and not so artistic, and largely represent the home and the more primitive forms of trade -life."

17 Shirreff. E. A. E. (1884). *The kindergarten at home*. London: J. Hughes - Wiebé, E.. (1869). *The Paradise of Childhood: A Manual for Self-instruction in Friedrich Fröbel's Educational Principles, and a Practical Guide to Kindergartners*. Springfield, Mass.: M. Bradley & Company

18 Hartmann, W. and Brougère G. (2004). "Toy Culture in Preschool Education and Children's Toy Preferences" in Goldstein J., Buckingham D., and Brougère G. (ed.) *Toys, Games, and Media*, Mahwah, NJ: Lawrence Erlbaum, p.50.

19 Prochner, L. (2011). "Their little wooden bricks": a history of the material culture of kindergarten in the *United States*. *Paedagogica Historica* Vol. 47, No. 3, June 2011, pp. 355-375

## The reaction of Architectural Culture

In this cultural and educational framework, several professions saw in the toys and play the potential to preserve and reproduce their cultural heritage. As a matter of fact, during the early XX<sup>th</sup> century, toys were bought by parents as a reflection of their own sensibilities and interests. As Roland Barthes asserted "All the toys one commonly sees are essentially a microcosm of the adult world; they are all reduced copies of human objects, as if in the eyes of the public the child was, all told, nothing but a smaller man, a homunculus to whom must be supplied objects of his own size."<sup>20</sup> Toymakers provided parents with goods that, in several ways, allowed them to keep alive traditions, knowledge and costumes from different generations. However, as educational devices they should help parents to educate their children with the same methods and objects used in the official school. Not only the traditional war culture, that supported the production of leaded soldiers<sup>21</sup> since the XIX<sup>th</sup> century, or the transportation(s) world of trains<sup>22</sup> and airplanes, but different fields of knowledge found in toys, tools for creating familiarity within the new generations.

This process was included in a wider narrative that covered all the ages and social classes and that was made clear, for instance, in the *Popular science*<sup>23</sup>, *Popular Mechanics*<sup>24</sup> or, specifically connected with the toy world, in the *Meccano Magazine*<sup>25</sup>



The Meccano Magazine. Sept-Oct 1916. Vol. 1. No. 1.

<sup>20</sup> Barthes R. (1984). *Mythologies*, translated by Annette Lavers, Hill and Wang, New York

<sup>21</sup> In 1913 was published the book: Wells. H. G. (1913). *Little Wars* (A game for boys. From twelve years of age to one hundred and fifty and for that more intelligent sort of girls who like boy's games and books). London: Frank Palmer. The book is a sort of game/instruction about war culture and games.

<sup>22</sup> The model electric train appeared only in 1906 with the development of modern transformer. Before that toymakers were producing miniature of steam trains that worked with real steam power.

<sup>23</sup> 1872 and still published

<sup>24</sup> 1902 and still published

<sup>25</sup> *Meccano Magazine* was published between 1916 and 1963 and, by other companies, between 1963 and 1981. The magazine was launched by Frank Hornby, the inventor of Meccano, as a bi-monthly publication in 1916 in the United States as *Meccano Engineer*, and was a month ahead of the UK is-



or the *“Erector Tips”*<sup>26</sup>. These publications were spreading scientific knowledge and, at the same time, were used as a vehicle to advertise toy novelties to the growing middle class. The “new” child should be creative<sup>27</sup>, for sure, but also should aim to the paradigm of the new scientist: the child should be “working in the loneliness”<sup>28</sup> of a family, in which and during the week, all the elements were working and there was no more time for sharing play or collective activities.

Toy producers and sellers correctly understood the new educational framework and, more than that, the leading educational paradigms; since the second half of the XIX<sup>th</sup> century, a stable and coherent narrative to create a theoretical support mainly for architectural toys, was used. Based on the Fröbel methodology and devices, the toy industry started to develop a massive quantity of different construction systems, using different materials and joining systems, and, above everything, a specific relationship with academicism or pragmatism frameworks. Indeed, even when the systems allowed a considerable freedom on formal solutions, companies usually printed instruction booklets to display numerous examples, either to show the possibility of the set, or to provide models and inspirations.

### **Construction toy as the perfect toy**

In the construction set toys market, advertising represents a very rich and meaningful field of research for those aiming to find the connections between the producers, the market and educational framework, from several points of view.

To reach the customers - the parents - the largest companies published their own catalogues while smaller producers used the resellers’ catalogues to show items, images and characteristics. The toys catalogues and the advertising booklets were the medium through which Fröbel’s method, as well as professional knowledge, were inserted in the domestic environment, through play.

Indeed, “The catalogues were distributed as trade catalogues to dealers and provided directly to teachers and buyers for school districts. They were written in the authoritative style of popular teaching guides: descriptions and illustrations of

---

sue. The first copies were given away free but in 1918 readers had to pay two pence for postage for four issues.

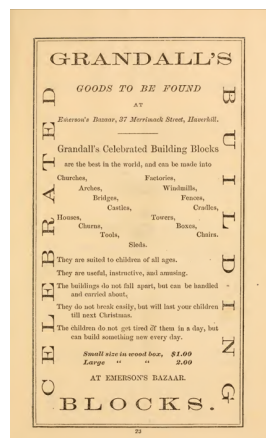
26 *Erector Tips* was a magazine first published in 1915

27 Colomina, B. (2003). *Cold War hot houses: inventing post-war culture, from plastics to Playboy*. New York; London: Princeton Architectural; Hi Marketing.

28 Sutton-Smith, Brian. 1986. *Toys as culture*. New York: Gardner Press.

the materials were initially taken from Wieb's Paradise of Childhood. The impression given was that the company and teachers were in a partnership, with each being 'diligent students of the kindergarten system', as one catalogue put it."<sup>29</sup>

In an 1879 Christmas catalogue, the Crandall's Sectional ABC Blocks were presented with the slogan "happy times for little scholars, they learn while play"; a clear statement to the utility of these toys. In the toy description: "The ingenuity of the young operator is developed (...)" explains that it was not just about playing but also about developing boy's cognitive skills. Sometimes this theory was reinforced through Fröbel's reference. To exemplify, in an 1881 Bradley's catalogue<sup>30</sup>, it was possible to read that those toys were the resolute of a "long experience and study of the principles of Fröbel's method". All these principles were synthesized in an 1871 Grandall's catalogue<sup>31</sup> with the motto: "They are useful, instructive, and amusing".



1871 Grandall's catalogue



1893 Richter advertising

Anchor was probably the first multinational toys producer branding. Based in Rudolstadt, in Germany, this company was selling its *Architectural Composition Stone Blocks* all around the world. The distribution was very complex, made through catalogues and intensive advertising, to sell 600 different sets during several decades.

In a small American newspaper advertisement, published in 1886, it was stated that Architectural Composition Stone Blocks:—"educate your children, while you amuse them". "The immense value of these instructive and amusing blocks has been generally acknowledged and appreciated, not only by the public at large, but also most eminent pedagogues have without reserve declared these boxes to be 'the very best Christmas present' par-

29 Prochner, L.. (2011). "Their little wooden bricks": a history of the material culture of kindergarten in the United States. *Paedagogica Historica* Vol. 47, No. 3, pp. 355–375

30 Bradley's Games, Toys, Industrial Amusements and Novelties (Springfield, MA: MBC, 1881/1882)

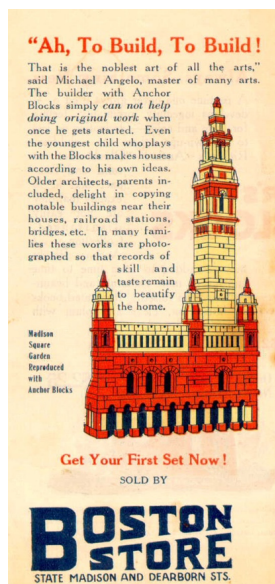
31 Grandall. Annual catalogue of staple fancy goods, novelties, Christmas presents, French and German toys. Haverhill, Massachusetts, USA.

ents could give to their children.”

Some years later, in 1893, in another Richter advertising, the question was “Why, it may be asked, have the ‘anchor boxes’ gained favour with the public?” The answer was meant univocally: “Because they are not only a toy for children but at the same time a pleasant pastime for grown people (...), because they are no mere toy, but a first-class educational factor”. All the punch-lines had been formulated as factual, to make them sound like real scientific statements.

Even more powerfully, when referencing Fröbel again, as happened in an 1897 advertisement, for Richter Anchor Blocks that are defined as “An educational factor, for children’s mental development, as advocate and introduced by ‘the great Fröbel’ founder of the Kindergarten System.”

At the very beginning of the XX<sup>th</sup> century, in 1903, the Wright Bros advertising stresses the importance of creativity: “25 pounds of mathematically perfect hardwood blocks (...) germinate creative faculty, expand originality, develop ingenuity, and exercise calculative instinct”. Later, in the same text the company is comforting the parents about leaving kids alone but busy: “A treatise of importance to anyone concerned with the mental occupation and development of faculty in children. Based on experience it is laden with information that is most valuable in regard to benefitting amusement of little ones”.



1917 Anchor Blocks advertising

In some case, like in a 1915 Erector Set advertising, the construction set becomes a strong tool to resolve also the “boy problem”: “What the boys all like about Erector is the fun they have with it. What the fathers and mothers like about it is the fact that it solves the boy problem. It gives an outlet for the boy’s energy – keeps him busy with constructive work of practical value – teaches him the principles of construction and engineering”. So not only the solution for excess energy, but also the way to keep the boy busy with a constructive task.

The rhetoric was similar for the mechanical steel construction kits “American Mechanical Toy Company”, advertised in Toronto, Canada, in 1913, when the advertising said that: “Boys are instructively amused by the hour. (...) Boys like to build – to create – not simply play. Here is a wonderful new game that will completely fascinate them – hold them entranced by the hour. It takes them into the stirring realm of steel – the gigantic

building operations of this great age.”

During several years Anchor Blocks was employing architects for the instruction booklet design that were translated into 12 different languages. Maybe because of that, in 1917, an advertisement in the Boston Store booklet talked about, “A pastime one never grows tired of – develops ingenuity, originality, feeling for form and colour – fascinating no less to grown-ups than to children.” The same company was using historical and artistic references saying “‘Ah, To Build, To Build! That is the noblest art of all the arts.’ said Michelangelo, master of many arts. The builder with Anchor Blocks simply cannot help doing original work when once he gets started. Even the youngest child who plays with the Blocks makes houses according to his own ideas. Older architects, parents included, delight in copying notable buildings near their houses, railroad stations, bridges, etc. In many families, these works are photographed so that records of skill and taste remain to beautify the home.”



1920 KLIPTIKO advertising

A 1920 advertising of the British metal construction set KLIPTIKO says that: “KLIPTIKO is much more than a toy. It is a practical educator for all boys, and a boon to a “budding” engineer. A toy that is so wide in its scope, so instructional while being amusing, so suggestive of ideas, it is really a necessity for the fullest happiness of the rising generation.” In the same year an advertisement for Built-E-Z, a construction set called “the boy builder” produced by Scott Manufacturing Company from Chicago was announced with a slogan strongly based on pragmatism: “As The Boy Builds the Toy The Toy Builds The Boy”<sup>32</sup>.

Big shops and department store like *Au Bon Marché*, *Printemps* or *La Samaritaine*<sup>33</sup>, very popular sellers in France since the beginning of XX<sup>th</sup> century, were also issuing toys catalogues over the Christmas period to show their products and novelties. In all the catalogues is it possible to find a section with different types of building boxes and constructions kits. In a 1937 catalogue by *Printemps*, the page dedicated to the construction kits has the slogan: “*Souvent des vocations se révèlent*

32 Later, in 1972, Lego will use almost the same sentence for an advertisement.

33 Au Bon Marché is a department store founded in 1838 in Paris. Printemps was founded in 1865 in Paris and La Samaritaine was founded in 1870, also in Paris.

*en jouant!*"<sup>34</sup>. Also, in French *L'Edifice*, a wooden toy dedicated to the construction of building miniatures, was announced in 1929 as "one entirely new conception, this new toy, real architectural Meccano, allows to build, step by step, buildings of all form, all styles and unlimited dimensions, based on the principles of modern architecture."



1937 Au Printemps catalogue

Also, F.A.O. Schwartz, a famous toy shop in New York founded by two German brothers in 1862 and closed in 2015, used to publish their catalogues with an explicit reference to Fröbel and to educational toys grouped by age and skills, starting in the wooden blocks. At page 4, for instance, with the number 11 – 40 appeared the Educational Group n° 3 - A that is "a combination of attractively

finished wooden toys for the kindergarten child to continue his happy and progressive occupation at home". Further on in the same page, it is possible to find a reference to the Jumbo Beads, "An excellent toy for a quiet play period to keep children busy and happy for hours at a time and teach them muscular control and eye-hand concentration". Also in a Billy and Ruth catalogue<sup>35</sup>, from 1942, American Bricks, a construction kit made to build buildings, is advertised with the sentence: "Build for the future, boys!" and "The ideal building toy".<sup>36</sup>

34 "Many times vocations are discovered while playing"

35 "Billy and Ruth" catalogues were distributed by and imprinted with the names of various local toy stores. They (started publishing in 1929

36 Meanwhile in 1916, in New York, is founded The Bureau of Educational Experiments with a staff of researchers and teachers. The main aim of this nonprofit institution was to find out the best environment for the children learning and growth. The Bureau published a bulletin with the title: "A Catalogue of Play Equipment" (compiled by Jean Lee Hunt. New York: Bureau of Educational Experiments, 1918) where was listed and explained several out-door and in-door toys and games with explicit references with their use, utility and sellers "To indicate some fundamental rules for the choice of furnishings and toys and to show a variety of materials illustrating the basis of selection has been our aim in compiling the following brief catalogue." This book is a clear institutional and scientific support to the families (in order) to choose the right toys for their kids. In the part reserved to the "Floor Games" the novel "The New Machiavelli" by the British writer H.G. Wells is cited several times and commented: "In his reminiscences of his boyhood play Mr. Wells lays emphasis on his great good fortune in possessing a special set of 'bricks' made to order and therefore sufficient in number for the ambitious floor games he describes."



In the post war period, the toy market exploded. New technologies, like plastic injection, made it possible to produce cheap and safe toys, for the large number of babies being born. In USA<sup>37</sup> “The promises of the educational toy, established during the interwar period, re-emerged in new and particularly forceful ways in the post-war era. The changes in American society, especially the swelling birth rate, meant new commercial opportunities for toymakers. As a writer for Playthings, the trade journal of the American toy industry, proclaimed in 1945, ‘Millions of War Babies Should Have Educational Toys.’”<sup>38</sup>

In the 1954 Schwarz catalogue, the Playschool Kindergarten Blocks are described as: “Building Blocks are the most important single tool of play for youngsters from the age of 18 months to 9 years. Through the use of blocks a child can recreate the setting he sees in the grown-up world, and no other media combines such a diversified pattern of enjoyment, as well as educational value. “



1972 Lego advertising

Besides that, companies started talking directly to children, as happened in a 1958 Brickplayer advertisement: “You can build Houses, Garages, Railway Stations, Fire Stations, or from your imagination.” In a 1964 Tinkertoy advertisement the discourse involves both parents and grandparents, in order, to help the buying process: “Why? That’s easy. There’s a booklet in every can, showing how to make hundreds of interesting toys. And you can also invent your own toys and animals and games. The hours whiz by before you know it. Ask Mom and Dad. Or Grandma and Grandpa. They knew the special fun only Tinkertoys bring. Fun is another name for Tinkertoy.”

Even a 1969 French advertisement by Fischertechnik, a complex and still produced German construction kit, talks directly to child: “*celle où le LEM Fischertechnik a vu le jour, celle où, à ton tour, tu construiras n’importe quell engin d’exploration lunaire: fusée, lem, tracteurs...*”

37 Only In 1946 the Baby Boom registered 3,4 million birth in USA

38 Ogata, A. F. (2004). *Creative Playthings: Educational Toys and Post-war American Culture*. Winterthur Portfolio 39 (2/3): 129-156.

The Danish company Lego, which was founded in 1932, as a wooden toy maker, became what we know today, during the 1950s as the “Lego System” brand. The advertising strategy was based on the capacity of this construction set to allow the child to be creative and free to build anything the child. In a 1972 USA advertising the sentence is “Kids build Lego. Lego builds kids”. A little further in the same advertising it says that: “The two ways your child can make his mark in life are with his mind and his hands. And if he can develop his mind and his hands doing something he enjoys, all the better. That’s what LEGO is about. More than just a building toy, LEGO makes anything your child’s mind imagines, anything his hands build” condensing the entire educational paradigm of XX<sup>th</sup> Century.

Construction toy advertising history represents a historical section through various narratives which accompanied not only the general play and toy development during the century, but also, and above all, the tortoise line between pragmatism and academicism educational frameworks. Both approaches are present in the discourse that contains a model of learning which is not based on a simple knowledge transfer, but also on the action. Looking at the companies and sellers discourse is to look at a complex balance of wills and desires which each generation used to relate itself with the next. Concepts like creativity, intellectual and manual skills, but also social behaviour and self-construction are all connected with the way each parent educate his/her children by some specific artefacts. In this sense construction toys, and the play afforded by them, are much more complex than traditional toys which reproduce an image, or are used in a role-game like are dolls, cars or, in general, toys that do not permit, in an explicit way, a formal change or creation. As Fröbel taught, construction toys are designed, produced and expected to create the physical and intellectual condition for children to fit themselves with the surrounding world and with their own creation skills and capacities. In other words: to create knowledge in a balance between an exterior and an interior, personal and transmissible truth.

The advertising narrative highlights not only this balance but also how it was observed, fed and managed by the social system. Starting with Fröbel’s heritage in toy production advertisement records the ultimate comprehension of play as educational activity in a strong connection with artistic action and social behaviour as it was considered during the XX<sup>th</sup> century and so continues.