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Evolutions in the Multimodal Design of Italian Textbooks

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Abstract: In the Italian school system, the textbook is an essential scaffolding tool for the teacher both in the phase of the design of didactic paths and for the action in class, and the retracing and the documenting.

This role is therefore an international phenomenon: it can be considered as a planetary object and for this it seems appropriate to highlight its impact of the teaching-learning process on the whole.

In this perspective, it is possible to observe how the textbook is evolving in a multimodal object, where the textual dominance, typical of last century’s textbooks, leaves the way to iconic, visual, graphic forms concurring to the building of meanings.

This contribution aims at analysing such a transformation, comparing three primary school Italian textbooks dating back at the end of the XX century and three published after 2010.

The questions we would like to answer are basically two:

- How do the representation of consciousnesses and the organisation of contents evolve from a textual and narrative dimension to a visual and multimodal one?
- How do the layout, the page composition influence and are influenced by the didactic transposition of knowledge?

The conclusions of the analysis open new research leads, concerning the need of facing didactics of multimodality, both in the classes and in the teachers’ training.

In addition, the multimodal analysis points out that the aspects characterizing the epistemological content determine the layout and it is possible to see how they are underlined, framed, meant by the modes.

Keywords: textbooks, multimodality, layout, didactic transposition, didactic mediation, visual communication

INTRODUCTION

In the Italian school system, the textbook is a mediation tool having a pivotal role in the learning-teaching process. Researches based on the teachers’ habits (Pentucci, 2018a) confirm such a perspective, highlighting how the textbook is an essential scaffolding tool for the teacher both in the phase of the design of didactic paths and for the action in class, and the retracing and the documenting.

The pivotal role of the textbook as an object mediating knowledge is therefore an international phenomenon: it is present as the protagonist in almost all the formal educational situations activated at a world level (Lebrun, 2007; Swartz & Perkins, 2016; Bikos, 2018).

According to the definition by Choppin (2008) therefore the textbook can be considered as a planetary object and for this it seems appropriate to highlight its impact of the teaching-learning process on the whole: on the students, to understand how they approach communication, the ways and the organisation of the textbook itself; on the teacher, to understand its influence on the activated didactic methodologies, on the teachers’ thought and finally on knowledge, to see how knowledge is operationalised and how the ecosystems of generative thought for knowledge are created (Bruillard, 2010).

In latter perspective the exploration of literature enables to single out a feature marking the contemporary school textbook at an international level: it is evolving, through different ways, in a multimodal object, where the textual

dominance typical of last century’s textbooks leaves the way to iconic, visual, graphic forms concurring to the building of meanings (Kalantzis & Cope, 2012; Godhe & Magnusson, 2017; Elmiana, 2019).

This contribution aims at analyzing such a transformation, comparing three primary school Italian textbooks dating back at the end of the XX century and three Italian textbooks published after 2010.

The questions we would like to answer are basically two:

1. How do the representation of consciousnesses and the organisation of contents in the Italian textbooks evolve from a textual and narrative dimension to a visual and multimodal (Bezmer & Kress, 2008) one?
2. As a consequence, how do «the pedagogical interests realise geographically on the paper» (Machin, 2011, p. 18)? How do the layout, the page composition, in its meaningful elements, that is salience, spatiality and framing (Kress & Van Leuven, 2006) dialogue, influence and are influenced by the didactic transposition of knowledge?

THEORY

The researches on multimodality of communicative artefacts show some different theoretical lines (O’Halloran & Smith, 2011), all hinged on four fundamental assumptions (Jewitt, 2014):

- All communications are multimodal.
- All the modes, the verbal included, are biased communicative ones and they do not give back the wholeness of meaning.

- Any mode is located on the historic and social plan.
- To understand the communicative requests it is not possible to individually analyze the modes, but we have to deal with the relationships among them.

We mean to perform the textbooks analysis within such a perspective. The font, the style, the spatial design of the page grant the written text a new materiality, but most of all they are semiotic resources contributing to the construction of knowledge and to the definition of meanings (Bezmer& Kress, 2016): the specific affordances of which the different types of knowledge are gifted can satisfy the multiple and sometimes not coinciding interests typical of the one that communicates, of the one who enjoys communication and the topic to be communicated (Bezmer& Kress, 2010).

The newest textbooks, in particular those devoted to primary school, tend to reconfigure as hybrid devices, multiple and different aggregators and mediators, rich in recalling hints and references, on the organisational and structural plan, to the language and the ways typical of multimodality and of the digital (SvårdemoÅberg&Åkerfeldt, 2017). They go further though, both from the idea of generalist book, and from the classic schoolbook, whose purpose was those of containing standard knowledge ready to be studied, meanings and interpretations already mediated for an expositive/acquisitive use.

«The visuals in their different forms such as photographs, diagrams, tables, are not only used to serve as decoration but they are actually co-deployed with the verbal-based semiotic resources on the belief that they will facilitate readers' understanding of the scientific messages communicated in the textbooks» (Hermawan&Rahyono, 2019, p. 38).

The modes (Kress, 2010) and the relationships among semiotic resources in a given layout do not denominate (as words do) nor represent (as images do) rather they orientate and support the rebuilding of knowledge through categories like centrality and marginality, given and new, before and after, real and ideal.

«A prominent point of departure is the layout. A textbook presents various levels of layout, some of which span the entire book, creating its "look and feel"—a general impression that guides the perception of its content—while others organize smaller entities such as a double page, map, or source. Layout differentiates didactic entities, and thereby explicitly tells the reader how important a particular subject is. For example, it indicates whether the reader is looking at essential or supplemental material». (Binnenkade, 2018, p. 133)

The layout helps to get to the deepness of contents: we can notice a renown conception of knowledge, no longer meant as a given and validated constructs, but as a complex net of meanings, aggregated by the layout and liable of different approaches and interpretations.

In fact, also the students' way of approaching knowledge changes: they are accustomed, by the habits with the net, to appreciate the fragments they have to connect

autonomously, knowledge that is often disintermediated and therefore to be conveyed. The exploration goes on no longer linearly or hierarchically, but in a rhizomatic way, with no entrances nor exit points, establishing well-defined productive paths and connections in multiple directions, which can also be broken and retaken at any point (Deleuze &Guattari, 1980).

Such a change in the concept of knowledge inevitably influences the teaching-learning processes: in fact on one side the lesson meant as unity of communicative and interactive action can be managed as multimodal object, within which the different modes concur to co-build meanings and interpretations, in the interactions among students, teacher and knowledge. «Learning can no longer be treated as a process which depends on language centrally, or even dominantly. Learning is thus much more than a matter of speaking or writing the language of science; it is a dynamic process of transformative signmaking» (Kress &coll, 2014, p. 2).

The same way, Jukes, McCain and Crockett (2010, p. 67): «It is important for educators to see that excellent writing skills are not enough to be good communicators in a multimedia world».

In such a context it is advisable also to investigate if a didactic of multimodality is no longer essential: in the case of textbooks for example, are they still self-evident, like when the verbal part was preeminent and the contents got a descriptive and narrative form in a standardised way and universally known and comprehensible, or do they open to new didactic needs? Recent literature shows cases where the textbooks are introduced by didactic units functional to explaining how their multimodal dimension works (Leitao, Ferraz& Nunes, 2018).

Townd row and Pereira (2018) talk about the need to develop a semiotic awareness, understood as an alertness to the representational possibilities that any mode can afford, in which contexts and for whom and how and why. In this context, the audiences/readers must engage (in a remote collaboration with the author/designer) their own semiotic capacities toward actualizing the intended meanings.

MATERIALS AND METHODS

The survey was carried out on a total of six Italian textbooks, three published in the last decade of the 20th century and three printed from 2010 to today, listed in detail in the table nr. I.

For a more coherent analysis we decided to focus on the comparison of subjects and/or topics that were similar between the old and the contemporary books: dealing with the auditory system in the subject Science, the description of an Italian region (Puglia) in the subject Geography, two pages of history for the fourth year at elementary school. In this latter case it was not possible to compare the same content of knowledge as in 2004 the historic timescale changed in the school programs¹.

Table nr. I: the analysed textbooks

Nr.	TEXTBOOK	School grade	YEAR OF EDITION	SUBJECT	TOPIC TITLE
1	Capire il nostro mondo	Primary school, V class, 10-11 years	1976	Sciences	The mysteries of sound
2	Mondo a colori	Primary school, V class, 10-11 years	2015	Sciences	The hearing
3	Panorama	Primary school, V class, 10-11 years	1981	Geography	The Puglia region
4	Immagina un pianeta	Primary school, V class, 10-11 years	2016	Geography	The Puglia region
5	Scoprire perchè	Primary school, V class, 10-11 years	1989	History	The Risorgimento in Italy
6	Scoperte	Primary school, V class, 10-11 years	2011	History	The ancient Italian people

The research method was inferred by the work by Danielsson & Selander (2014; 2016), who have fine-tuned a model for reading textbooks in a multimodal perspective in order to have a *multimodal literacy* need emerge in the learning-teaching processes, as the publishing products for

learning are bearer of multiple modes, intersected among them.

The authors propose a four-steps analysis to focus multimodality in textbooks, shown in table II:

Table nr. II: Model of the multimodal texts analysis (Danielsson & Selander, 2014)

Elements to focus on	Ways of analysis
General writing of the page - Setting	-What is it about? How are the contents organised? -What does each of the semiotic resources express?
Interaction between the parts of the page	-Proximity and coherence between writing and other semiotic resources. -Congruency and coherence between concepts, descriptions, representations
Figurative language	Which analogies and metaphors are used?
Values	-Explicit -Implicit

For this analysis, centred on the composition of the page, we thought that it was suitable to focus on the first two:

1. In the planning of artefacts for the learning-teaching, the analysis of the structure of the text can be connected to the notion of setting (Selander & Kress, 2012), meant as a learning space to which also the interactions and the interpretations of the readers in comparison to the present resources. In such a phase we notice the modes a text invites the reader and requires through the affordances given types of activity, through the different representations of the contents.
2. The analysis of the semiotic resources enables to understand the extent of use the resources either concur to the same contents, they diversify or superimpose, they integrate or contradict (Unsworth, 2007). Understanding how these resources interact puts into sharper focus the systemic dimension of the page: the *spatialization* of the elements supplies some information on the values they are given. The *salience* identifies their attractiveness towards the reader. The *framing*, that is demarcation lines, framings, structures either disconnects or connects the different elements in terms of meanings (Kress & Van Leeuwen, 2006).

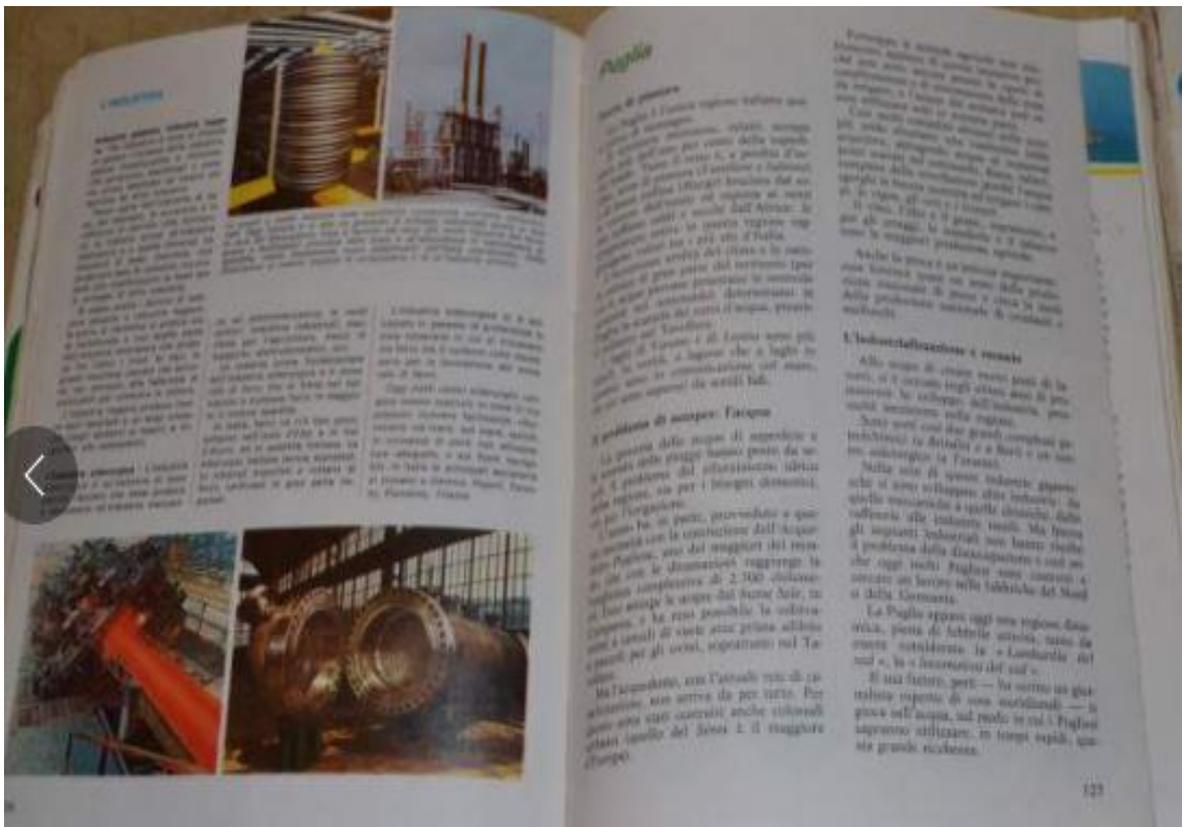
RESULTS

A first comparison among Italian textbooks far in their timescale makes the transformation that has taken place in the last 30 years clear: the iconic and visual dimension becomes preminent in comparison to the verbal one, giving the teachers and the students a textbook more to look at and to analyze than to read.

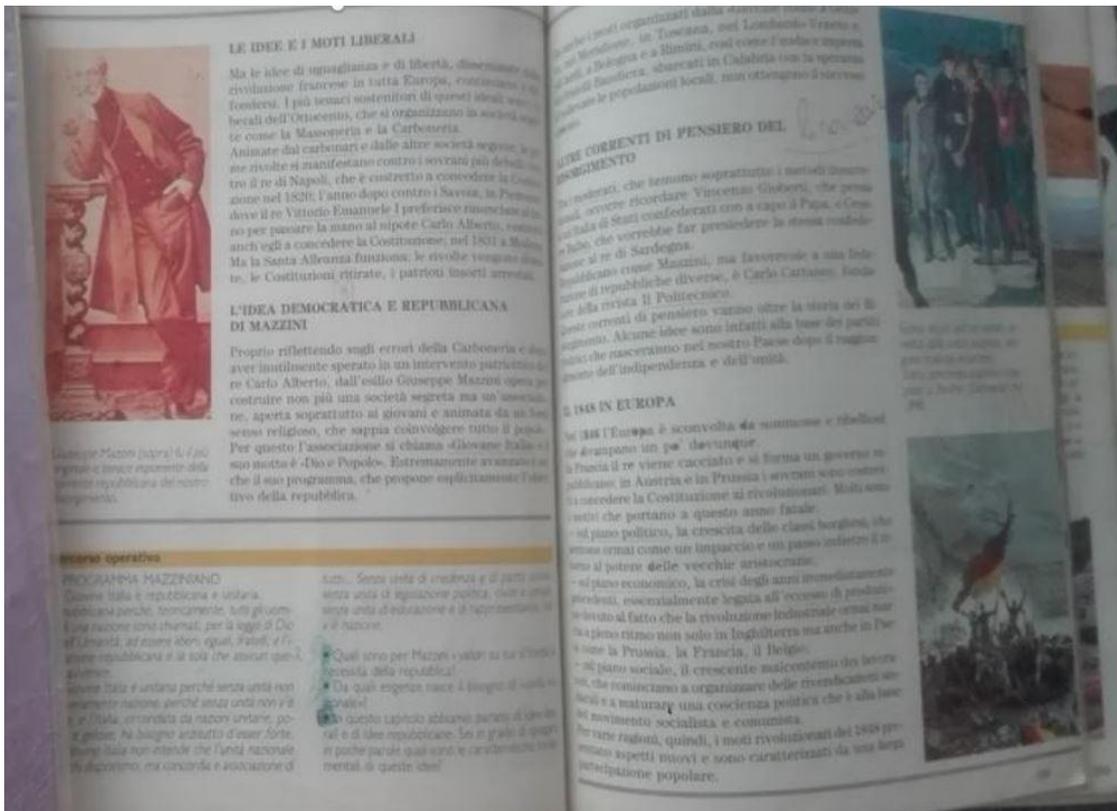
Until the Nineties most of the information was trusted to the written word, in form of expository text, of encyclopedic/educational type. The main unit is the chapter, divided in paragraphs in its turn, independently from the space of the page, a mere physical support to the text. Its prevalent structure, as one can see in pictures I and II, referred to the textbooks edited in 1976 and in 1981 is the one in columns. In the first case the two central columns, wider and written with bigger fonts, get a greater preeminence in comparison to the two external columns, which are marginal, having either notes or captions. In the old textbooks the pictures are like a crown framing the text, which has a greater relevance, and they are placed either below (pic. I) or on the edges (pic. III), in a reduced dimension.



Picture I: textbook edited in 1975



Picture II: textbook edited in 1981



Picture III: textbook edited in 1989

In the comparison with the textbooks dated after 2010 (pics. IV, V, VI), we can see not only the lessening of the quantity of the text, but also its lower preeminence in comparison to the images. In picture II the position, the occupied space, the colour make the images remarkably predominant. The central image, enlarged and clear, primarily catches the reader's attention. Such an invitation to be read first is confirmed by its position: not only it is in the middle of the page, in a central position also in comparison to the two other images, but placed on the left: it follows the natural flow from left to right belonging to reading in the western cultures and languages. In addition, the composition is the

triptych one, placed from high to low: in the triptych the central element has the role of the focus in comparison to all the other pieces of information and it is what grants a sense to the rest of the elements surrounding it (Machin, 2011), it has a greater semiotic value. The triptych composition is retaken also by the column in writing, on the right, organized not as an ongoing text but as three different informative spots. These are connected by the graphics: the colour and the framing, that is the lines framing them and charactering as self-conclusive, not necessarily aimed at either a further or a linear/hierarchic reading.



Picture IV: text edited in 2015

PUGLIA

Gli antichi Romani chiamarono Apuli gli abitanti della regione. Apulia era la loro terra e da questo deriva il nome attuale.

Capoluogo di regione: Bari
Città principali: Andria, Barletta, Brindisi, Foggia, Lecce, Taranto, Trani



IL TERRITORIO

• Osserva la carta, poi completa le frasi. Il testo che hai ottenuto descrive il territorio della Puglia.

La Puglia è una regione dell'Italia meridionale. Confina con _____ e _____ e _____.

Questa regione è bagnata a nord e a est dal Mare _____ e a sud dal Mar _____.

Gli unici rilievi si innalzano a nord, nel promontorio del _____ e nell'interno, con Monti della _____.

Il resto del territorio è soprattutto pianeggiante. Il _____ sempre a nord, è la pianura più estesa d'Italia dopo quella Padana. Una vasta area centrale collinare è costituita dalle _____.

I fiumi più lunghi sono l'Ofanto e il Fortore, che sfociano nel Mare Adriatico. Sul versante nord del Gargano si trovano il Lago di Lesina e quello di _____.

Di fronte c'è l'arcipelago delle isole _____.

Le coste sono rocciose nel Gargano e nella Penisola Salentina, basse e sabbiose nel resto della regione.

LE CITTÀ E LE ATTIVITÀ DELL'UOMO

• **BARI** (foto a destra), il capoluogo, era una città commerciale già in epoca romana e oggi è uno dei più importanti centri economici del sud Italia. Il suo porto è molto attivo: lo circonda una **zona industriale**, con fabbriche meccaniche, chimiche e alimentari.

• **BARILETTA, ANDRIA e TRANI** sono tre città vicine, con un ricco patrimonio storico-artistico. Uno dei monumenti più interessanti è **CASTEL DEL MONTE** (foto sotto): un antico castello costruito con otto torri e otto torri in questa zona si trovano le **saline**.



Le regioni italiane

• **Pensiamoci un attimo...**

La Puglia ha un patrimonio storico-artistico ricchissimo.

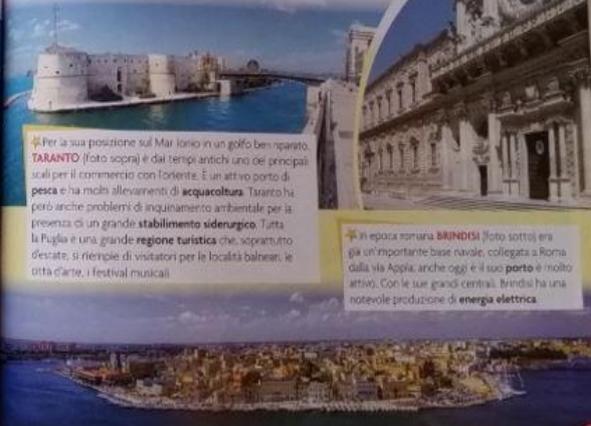
• Conosci altre località importanti della Puglia? Quali? Parlane con i compagni.

• **LECCE** (foto sotto), è situata nel cuore del Salento. Bellissima per le sue architetture ricche di decorazioni, richiama molti turisti ed è un importante centro culturale. Ospita **botteghe artigianali** (ceramica, cartapesta) e aziende alimentari.



• Per la sua posizione sul Mar Ionio in un golfo ben riparato **TARANTO** (foto sopra) è dai tempi antichi uno dei principali scali per il commercio con l'oriente. È un attivo porto di **pesca** e ha molti allevamenti di **acquacoltura**. Taranto ha però anche problemi di inquinamento ambientale per la presenza di un grande **stabilimento siderurgico**. Tutta la Puglia è una grande **regione turistica** che, soprattutto d'estate, si riempie di visitatori per le località balneari, le città d'arte, i festival musicali.

• In epoca romana **BRINDISI** (foto sotto) era già un'importante base navale, collegata a Roma dalla via Appia, anche oggi è il suo porto è molto attivo. Con le sue grandi cantine, Brindisi ha una notevole produzione di **energia elettrica**.



154
155

Picture V: text edited in 2016

ORA IMPARO

• Orientati nel percorso di studio dei popoli italici: leggi i testi nei riquadri colorati. Studiando ciascun popolo evidenzia con i colori degli argomenti di questo quadro di civiltà (100) le parti di testo relative. Completa, dove puoi, il quadro con i titoli e i numeri di pagina.

Per gli Etruschi colorala tu i tesselli (100) accanto ai titoli.

Quadro di civiltà

Osserva la carta e cerca quali popoli vivevano nelle diverse regioni italiane.

I popoli italici

100 TERRITORIO

Il territorio dell'Italia ha pianure coltivabili e abbondanti risorse d'acqua. Le coste sono ricche di insenature, adatte all'attracco delle imbarcazioni. Queste caratteristiche favorirono l'insediamento di diverse popolazioni nel nostro Paese. La **catena montuosa**, però, rendendole difficili gli spostamenti all'interno della Penisola.

100 GOVERNO

Nelle prime popolazioni italiche le decisioni venivano prese dai capi delle famiglie. Il primo popolo a dare forma organizzata di governo furono gli Etruschi.

100 SOCIETÀ

Le società dei primi popoli italici, esclusa quella etrusca, non erano divise in gruppi sociali rigidi. I contadini e i pastori erano anche guerrieri e insieme collaboravano alle costruzioni e alla difesa del villaggio. Nella maggior parte dei casi, i diversi popoli erano nomadi. Presso gli Etruschi la società era divisa in due grandi gruppi: coloro che avevano delle proprietà e i lavoratori alle loro dipendenze.

100 ECONOMIA

In generale i popoli italici ebbero forme di economia semplici. L'agricoltura e la pastorizia erano le attività principali. Era sviluppato anche l'artigianato della ceramica e dei metalli. Il commercio veniva praticato nella forma del baratto con le popolazioni vicine. Gli Etruschi, esperti navigatori, commerciavano lungo le coste di tutto il Mar Tirreno.

100 RELIGIONE

Per quel che riguarda la religione, sappiamo che gli antichi italici erano politeisti e veneravano come loro dei gli elementi della natura. Gli Etruschi invece avevano divinità simili a quelle greche.

100 CULTURA

Sulle culture di questi popoli abbiamo solo informazioni che provengono dagli oggetti di uso quotidiano ritrovati, perché mancano quasi del tutto documenti scritti. L'uso della scrittura si diffuse solo con gli Etruschi.



Legenda

- Popoli italici
- Culture greche
- Culture etrusche

• Bronzetto etrusco ritrovato in una tomba.

• Stele del Gargano appartenente alla civiltà nuragica.

• Le tombe di Grotte sono monumenti preistorici della civiltà nuragica.

2000 a.C. 1500 a.C. 1000 a.C. 500 a.C.

CIVILTÀ DELLE PALMITE	CIVILTÀ DELLE TIRRENE	CIVILTÀ APPENNINICA	CIVILTÀ NURAGICA	CIVILTÀ VILLANOVANA	CIVILTÀ	CIVILTÀ
ETRUSCHI	ETRUSCHI	ETRUSCHI	ETRUSCHI	ETRUSCHI	ETRUSCHI	ETRUSCHI

QUANDO

TARANTO & ORTIGIA

Picture VI: text edited in 2011

These comparisons make the first characteristic of the transformation of the textbooks evident, that is the importance of para-text and the dominance of the graphic/iconic system in the page. The reflection deriving from it is the one concerning the function of the images and the role of the graphic items in the teaching-learning process (Clarks & Lyons, 2004), amply explored by didactic research: the images can have a function of support to the learning processes, that is directing the attention, underlining the crucial points, helping memorization, conveying the written text so that it can meet different ways from the symbolic/verbal one of the study and comprehension of the contents (Calvani, 2011). They can also be placed as an endowment of the text or a simple decorative symbol, but in this case too they can be used didactically to get into the topic at a perception level or to drive the attention on a given message.

The same studies have warned on the risks of an excessive overexposure of the images, when they seem excessively self-evident and can propose excessively easy or banal interpretations. Vivid images or little linked to the focused topic, both for the content and for the ways of composition and exposition of the page, can make the information banal and favour stereotypical inferences, as well as they can act in negative terms on the cognitive charge if they are not functional to the objective of the considered work-session, either compromising or deviating the process of learning (Pentucci, 2015).

Which role does the paratext have on transposition?

We get into the complex relationship between the textbook and knowledge and the attention moves to the teaching process: the transposition of knowledge in the textbooks dated back in last century is entrusted to the symbolic mediator, the text, which has the capacity of «condensing and evoking in a concise and economical way some even very complex sceneries and situations, often replacing other more uneconomical forms of knowledge of the world » (Rivoltella, 2014, pp.78-79). The relationship of the teacher with a mainly textual textbook can replace both the didactic transposition, already prepared and arranged in a hierarchy in the structure divided in chapters, and the planning of the curriculum of the subject.

The contemporary textbooks instead show as aggregators of mediators, organized in the page in an alternation of cold and warm mediators. It is the case of picture 6, where the analogical mediator, proposed in terms of an experiment to be performed illustrated in its being a process, was sided to the symbolic and the iconic mediators. This way the book becomes an accomplished device for the teaching, suggesting a guideline to the teacher, organizing also the action and its phases (Pentucci, 2018a).

DISCUSSION

The idea of textbook as an aggregating device enables a step forward in the reflection on multimodality and layout: the examples in pictures IV, V and VI confirm what Kress (2010) highlighted about the change undergone by the textbook in its multimodal composition: the structure of knowledge is no longer organized in fact, as in the traditional publishing, in chapters and paragraphs, but it is

realized on the page or on the double page. It appears as a composition of inbuilt structures, where not only the mediators mix but also different modes and mutually dialoguing. The modes, according to the definition by Kress, are the result of a social and historic modeling of the materials chosen by a society to represent. In the semiotic unity of the page, modeling and determining the content, there is the specialization like a resource (or a mediator) in comparison to the represented type of knowledge or to the operation (e.g.: descriptive information: images; logic connections: maps; etc.) because the meaning is given by the relationships creating the semiotic system: the modes are actors not bearing their share of knowledge, but a true perspective of the whole knowledge put in a discourse (Kress, 2003).

The interest is therefore shifted on the layout, meant as unity of composition, as a systemic combination ruling the reconstruction and the organization of knowledge.

As the layout is itself a mode, it has a strong social and historic situation, it can be read and interpreted here and now and anyhow it bears a series of implicit that can be variously solved by the reader depending on his/her culture. The layout keeps the fragments united, explicated through different semiotic materials, but it does not drive neither the reading nor suggest the paths of the sense: it leaves the reader «multiple entry points» (Delin& coll., 2003, p. 60) and lessens the distinctions between production and consume, between reading and writing.

In picture VI we can see how in the double page neither the logic of the text nor the one of the image dominate, but rather the logic of the layout: the functional tasks granted to the modes are different and deeply interrelated among them. The image does not only have the function of illustration but it is also the vehicle of information, the text on the spatiality and on the preeminence plan it is not excessive: the title of the work session for example is not the first element to appear on the page, it has got a font that is not particularly big nor evident, it is graphically linked to the map framing the text. The topic of the session is equally deductable from the map on the left where, in a more evident way, the images describe a localize the Italic populations and from the following graphic organizer, where all the civilizations are within a timescale. In addition, making a further connection between layout and subject, one can see how the *localizing* and *periodising* operations, typical of the didactics of history, are granted to the graphic-iconic dimension and only integrated in the textual one. To understand space, time and thematic one needs to explore the whole page, combining and relating the different information, which the layout makes anyhow coherent, compact and correctly interrelated.

Ontologically it implies a shift in the evaluation of the modes and of the knowledge: from an ontology where the knowledge built in written form dominates on the knowledge built on images, to an ontology where the two basis of knowledge have equal dignity. (Kress, 2010).

Such a compositional way is well aligned with the ideologies of knowledge made explicit in the first chapter

and with the learning's need of finding its own autonomous approach to knowledge taking into account its personality, its attitudes and the social contexts. The asymmetry between author and reader is lessened, the dyadic and hierarchic relationship fails when the reader accedes in a non-guided way to the page, she/he can choose the access, the inner path, what to deepen and what to leave out. He/she interprets, more than reading and observing. «the semiotic work of transformation and transduction underlying the interpretation is the site of the production of the new. It is a work bringing to semiotic entities that are always new, innovative, creative, not because they are produced by brilliant participants but for the same characteristic shapes of these interactions, in which the conception of the world – the ground expressing the interest of a participant – meets the different interest of the interlocutor» (Kress, 2010, p. 53).

What changes in terms of transposition and didactic mediation, for a teacher facing these tools?

In the textbook the teacher finds again a form of external transposition (Pentucci, 2018b), which needs the intervention of the teacher: the didactic mediation. The research has more and more stated the need of giving the textbook a non-exclusive role nor a central one in the transposition process, but to manage it in the mediation as one of the artefacts available to the teacher to realize his/her role of scaffolding and of bridging between the student and the knowledge.

A textbook with a multimodal design is surely more suitable to perform a supporting role for didactics, that is to offer modular resources placing them in comparison to the class' needs and the reference context. For this kind of textbook, we could talk about incomplete transposition: the knowledge to be taught and the one to be learnt are oriented and supported, but not determined by the text. On the plan of the mediation instead the role of the text can become more cogent: in fact, the layout bears participative affordances on its own, it suggests agentivity and operationalises knowledge.

The page on the left of picture 6, for example, is at the same time an aggregation of knowledge moduled in self-concluded sub-units, but at the same time it holds operations to perform, linked to the epistemological part due to the relevance of the colour and the collocation, on the left of the page, of the active part: an invitation either to build or infer one's knowledge even before confronting oneself with the knowledge proposed by the text. As the student is asked to interpret operations, establish connections, but he/she is not driven by the linearity of the text, the teacher's mediation in the use of such tools becomes even more important. The visual grammar (Elmiana, 2019), can in fact be useful as it enables the modeling, the categorization, the correlation, the simplification but the organicity and the coherence of such operations have to be co-built by the teacher and the student within an explicit design path, within which the multimodal and metatextual tools become a resource to support the structuring of the meanings, of concepts of knowledge.

CONCLUSIONS

The analysis of the textbooks gives back interesting investigation paths, concerning the transformation already carried out by books mainly verbal to hybrid ones, where the preponderance of graphic and visual aspects emerges. The manual is therefore a multimodal artefact, made up of semiotic resources, different modes. The multimodal analysis makes some interesting aspects related to the re-modulation and the re-planning of knowledge come out. The layout either of the page or of the double page becomes in fact the epistemological reference unit and the reader approaches it with new and wider possibilities.

This influences both the learning and the teaching, the didactic transposition and mediation processes and the possibilities of using the textbooks the teachers.

Which are the open matters where one can develop future researches? First of all, the need of facing, both in the classes and in the teachers' training, a didactics of multimodality. Multimodal artefacts have nowadays become of daily use, but their use and interpretation, to get knowledge, is not for given for granted. The long didactic tradition carried out on the written text can make it complex and go to different textualities without understanding the principles of the socio-semiotic and multimodal analysis, both from the teachers and from the students.

Secondly, the multimodal analysis of the textbooks can be deepened and complexified if related to the subjects (and to the topic): how do the aspects characterizing the epistemological content determine the layout and how are they underlined, framed, meant by the modes? Such an interpretation cannot do without a historical-sociological contextualization: the modes are in fact located in comparison to the reference culture as well as the interpretation and the historiographic lines inside the subjects are inbuilt and interrelated to the institutional context.

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ⁱ Up to 2004 at primary schools the whole historic period was studied from prehistory to the contemporary age. After that we went to the dealing of ancient history only, leaving medieval, the modern and contemporary history to secondary school.