

Spontaneous geographical maps of Europe by Italian school children

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Background

This preliminary investigation is part of a wider research on children's spontaneous ideas and representations of Europe (Amann Gainotti 2006) that include different conceptual areas and notions. These have to do with spatial and geographical notions, naïve physical models of the earth and also with developmental changes in personal and social identity.

Researches on cognitive development inspired by Piaget and neo-Piagetians have shown that before individuals adopt scientifically accepted concepts, they have intuitions, presuppositions and naive theories that guide or constrain the acquisition of knowledge. Even young children have "theories" which are internally consistent representations. For instance, where children's understanding of the earth is concerned, it has been shown by Vosnadiou and Brewer (1992) and Nobes et al. (2005) that children's thinking is strongly influenced by observations of the local environment. Children may think that landscapes are generally flat and that objects and persons need to stand on something; they may claim that it is possible to fall off the edge of the flat earth and that the sky 'is on top' of the earth.

Other studies on children's ideas about the social world, other countries than one's own, and also about political and economical institutions (Piaget and Weil 1951; Berti and Bombi 1981; Vianello and Lucangeli 2004) have confirmed that at young ages, children's ideas and representations are strongly dependent on observations and experiences made in the local and nearby environment.

Modern period of cognitive studies of geographical environment can be dated back to the work of E. C. Tolman, whose classic 1948 paper "Cognitive maps in rats and men" introduced the term 'cognitive maps'. Other works of great influence were J. Piaget's and B. Inhelder's 1947 book "La représentation de l'espace chez l'enfant" and K. Lynch's 1960 work "The image of the city".

In the period 1978–1985 several serious empirical work on geographical cognition have been conducted and published by psychologists (Mark et al. 1999). Most of the research efforts were aimed at revealing how environments are mentally represented, by focusing on distortions in judgments about the environment.

On the basis of these assumptions, the purpose of our study was to outline developmental patterns in mental representations of a complex geographical (and social) entity as Europe, that cannot be organized on the basis of personal experience of physical environment, but depends on information that are culturally provided. In Italian schools geographic notions about Italy and its position in Europe and in the world (Decreto legislativo 19 feb. 2004, n. 59) are started being taught in 4th or 5th grade of elementary school.

The overall investigation intended to ask children about the following main issues:

1. what is Europe?
2. where is Europe?
3. what nations are part of Europe?
4. are you Italian, are you also European?
5. who had be telling you about Europe?
6. to ask for a drawing of Europe.

Due to the limited space, presentation of results will focus on issues (2) and (6), that are more directly connected with the questions of geographical maps and spatial representations.



Method

Sample

Participants were 150 Italian children, male and female, attending primary school in Rome. They were separated into 5 age groups i.e., 30 children in each of the 5 grades of primary school.

Procedure

The children were individually interviewed at school for 20–25 min with a flexible, non-standardized interview. They were asked different questions about Europe and about being European and at the end of the interview, they were requested to make a drawing of Europe.

Results

I. Children's overall ideas about where Europe is

First and second graders mainly answered that “they don't know” (23/60 = 38.33%); or that Europe is far, far away, quite far away (19/60 = 31.66%); or that Europe is in Italy (7/60 = 11.66%). A consistent number of answers, as in the following examples, could not be classified into categories because they appeared related to vague, individual, geographical names: “...somewhere close to England”; “...outside Austria”; “in America”; “in Asia”, etc.

Third and fourth graders started saying that Europe is close to Italy (11/60 = 18.33%), or that Europe is “in the world”; “in the universe”; “in the centre of the world” (12/60 = 20.00%) and such ideas became even more typical in fifth graders (19/30 = 63.33%). None of fifth graders answered, as first or second graders, that they didn't know where Europe is or that Europe is just far, quite far away.

At a verbal level, it appears that children had many difficulties to explain where Europe is; the main topological notions that appeared, expressed by few subjects, were that Europe is somewhere “above” Italy, or that Italy is “inside” Europe; or that Europe is very big and “contains” many nations. Other few children started mentioning seas: “Europe is in the Adriatic Sea”; or: “... in the Atlantic Ocean”; or: “... in the Mediterranean Sea, around”.

II. Children's drawings of Europe

Children's spontaneous drawings of Europe had different pregnant characteristics that allowed us to divide them into the following distinct categories:

1. drawings of landscapes with houses, trees, human figures, cars, flowers etc.,
2. drawings that represented big global, unshaped, coloured spots,
3. global coloured spots started either assuming a shape, or being divided into parts, that probably intended to represent different territories,
4. drawings showed first attempts to draw maps containing different parts or territories that were more or less spatially correctly positioned. Such drawings could have different levels of complexity.

The following simple quantitative data allow to compare types of drawings produced by first graders (aged 5–6 years) and fifth graders (aged 10–11 years) (Fig. 1)

	First grade (5 to 6 years)	Fifth grade (10-11 years)
Landscapes	25	1
Global unshaped spots	5	3
Shaped spots	0	17
Maps with different territories	0	9
<i>Total</i>	30	30

Fig. 1 Types of drawings of Europe

Conclusions

The results of our study, that aimed at outlining children's very first spatial and geographical representations of Europe may contribute to give an idea about how ‘cognitive maps’ of a complex geographical entity as Europe are progressively constructed during childhood.

Where spatial cognitions are concerned these cognitive maps include names that are supposed to have a somewhat spatial and geographical reference (as, “England”, “Austria”, “Africa”, “Asia”, etc.), very vague ideas about distances (far, quite far, etc.), topological notions (to be above, nearby, around, inside, etc.), and cognitive operations as inclusion and division in parts.

Though it has to be stressed that cognitive maps of Europe are far more complex and cannot be reduced to spatial cognitions, because they also contain cognitions about people, nationalities, social identities and values.

In future research, apart from schooling, it may be of interest to consider the impact of travelling and multiculturalism on children's constructions of geographical maps of Europe.

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