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**BARBARA BARTZ PETCHENIK:  
HER WORKS, CITATIONS TO HER WORKS, WORKS ABOUT  
HER**

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**Abstract**

Barbara Bartz Petchenik was one of the “modern” women pioneers in cartography and in the International Cartographic Association. She participated in ICA activities over the years and was the first woman to serve as an ICA Vice President. This paper addresses her contributions to the literature of cartography, in particular the bulk of the paper is a bibliography of her work including books, articles, papers in and reviews. There is a description of the subject areas about which she wrote and spoke. Her impact upon the discipline and on others will be noted by recognizing where she was cited by other authors.

# **MAPS FOR AND BY CHILDREN: POSSIBLE CONTRIBUTIONS BY CARTOGRAPHERS**

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## **Abstract**

The children of today are the cartographers and map users of the future. This paper examines why cartographers should be concerned with investing in the formation of the next generation (those children under 16 years of age) and the possible nature of their involvement - a formal Working Group of the International Cartographic Association (ICA). It is argued that cartographers need to become actively involved in both improving the product and enhancing map use by providing appropriate training to the map user (teachers, individuals and children).

# **HONG KONG CHILDREN'S UNDERSTANDING AND EXPERIENCE OF MAPWORK TASKS PRIOR THEIR FORMAL MAP LEARNING IN SCHOOL**

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## **Introduction**

One of the main aims of geographical education is to help students to master appropriate skills to think critically, analytically and to process incoming data systematically via different media of communication such as maps. Mapwork in geography is seen as a basic life skill for school children to acquire. Its importance is reflected in the frequent daily encountering and use of maps to solve problems, e.g., finding the way in the shopping centre, deciding the route for a family outing and locating places. Such problem solving behaviour, utilizing maps as the tool, by children is of great significance as it reflects the capacity of human minds to function and it has become one of the foci of modern education.

# L'ATLAS GÉOGRAPHIQUE ILLUSTRÉ: UN PREMIER ATLAS POUR LES ENFANTS

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## ***Résumé***

La conception d'un premier atlas pour les enfants doit être travaillé avec soin.

Pour initier l'enfant dans l'utilisation des ses cartes, il faut d'abord le conduire dans la correcte construction de la notion d'espace et conséquent adéquat entrée dans ses representations.

Par conséquent, pour accomplir correctement ce type d'atlas il faut suivre quatre orientations de base:

1. Amener l'enfant vers la construction de l'espace;
2. Montrer comme transcrire graphiquement les relations observés entre les objets;
3. Démontrer le pourquoi de la réduction proportionnelle;
4. Prouver que la carte exige le déroulement de la surface courbe de la Terre en une surface plane.

## **School Atlas: Way to Map**

Interdisciplinary group of the National University of San Juan-Argentine

Director: Ing. Carlos Alberto Lizana

Co-Director Geographic Area: Prof. Norma M. de Riveros

Co-Director Cartographic Area: Cart. Héctor A. Mendoza

Coordinator: Prof. Irene M. de Landini

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### **Abstract**

The aim of this research work is to present a series of ideas corresponding to a research project intended to assist in interpreting the map more easily.

To achieve this purpose, the initial work is directed to the child of primary school. Taking into account the kind of thought a child has during this evolutionary stage, the need to use concrete material as a learning resource arises, thus, the "School Atlas: Way to the map" Project arises. Its aim is to elaborate didactic resources that allow the pupil to interpret the map by evaluating his environment.

The proposal is that the child develops three-dimensionally, his activities according to his own concept of reality so gradually passes to two-dimensionally in which the charts or maps are drawn. This stage will be fulfilled as the third cycle of the primary school.

In order to make the final result valid and appropriate, the methodology used requires psychopedagogical and teaching advice. In this way resource proposals are determined, tested and evaluated.

# **DISTANCE - A QUESTION OF SYMBOLS ON MAPS FOR CHILDREN**

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## **Abstract**

To be able to make better maps, produced for children as map users, we need to know how children look at maps. More work needs to be done that focuses on the child's comprehension of different items on the map, such as colour, symbols and perspective.

In this study, children aged 6-12 have been asked to draw a map of the way between their home and school. Their maps have been compared with respect to age, the distance between home and school, and sex. Interest has been given to what perspectives they have used, what objects they add to the map and how important distance is when they draw a map.

In general, with increasing age, from 6 to 12, the child widens its map. The small child only draws the road, with its bends and slopes, with a few details at home and at school. The older the child gets the more it adds to the map around the actual road to school. The distance between home and school influence the map in the sense that different details are drawn on the map. It has not been possible with the present material to establish whether or not sex influences the way the children draw a map.

Nearly all children mix two perspectives when they draw a map. This can be used in maps for children when you want to attract the child's interest to a certain object on the map. Changes on the way to school, like bends in the road slopes and houses, are far more important in the children's drawings than distance. It is clear that perspective in connection with choice of objects can be very important items to consider when producing maps for children.



# **OREGON SCHOOL ATLAS: AN EXPERIMENT IN MULTIMEDIA**

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## **Abstract**

An experimental atlas project that crosses the borders between cartography and multimedia has been started at the University of Oregon. Rather than create the usual hard-bound paper atlas in one volume according to the traditions of cartography, we are creating a full-color magazine style atlas, a collection of maps and other information that will remain unbound, and two CD-ROM products based on colored photographs. One CD-ROM will allow students to tour fifty places in Oregon; the other will be a comparison city atlas of Eugene, Oregon, and our sister city, Kakegawa, Japan. The magazine atlas, unbound materials, and two CD-ROMS will be packaged in a box.

# **TACTILE MAPPING FOR VISUALLY IMPAIRED CHILDREN**

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## **Abstract**

The paper presents the results of five years of research on tactile mapping for visually impaired children carried out at the University of São Paulo, Brazil. Based upon empirical research, the author has developed a model for tactual cartographic communication which emphasizes the nature and role of map use. A programme to introduce cartographic concepts to children is suggested and the need for education and training is also discussed.

# **A PROPOSED METHODOLOGY FOR THE TEACHING OF MAPS**

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## **Abstract**

Based on the psychogenic studies of J. Piaget, the teaching of scale, projection onto a plane, geographical position finding and cartographical symbols was applied in three phases. An experiment was carried out with children of 9-14 years, in order to evaluate the first phase. It was confirmed that in the experimental groups, objects were represented, maintaining a point of view (vertical) and proportionality to a significant degree. It was also found that the use of a base plane can serve as a guide for plane projection.

# **SOME NEW CONCEPTS IN DESIGNING A NEW SCHOOL ATLAS OF GREECE**

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After many decades of immobility in the field of school Atlases the University of Thessaloniki [produced an atlas that was] published by a local publisher. This new school Atlas of Greece is based on some new ideas related to child's perception and to interactive teaching. The new Atlas is not only a tool for knowledge but also a medium to exercise, improve and develop the child's ability to search, compare and transform the old solid learning into an active process. The principle of the continuous geographical space, of the unique cartographic scale as well as the introduction of abstractions in the codification of various themes, make this new school Atlas an interesting experiment not only in the field of Geography and Cartography but also in Pedagogics. The whole setting requires the active involvement of the teacher who should be a user himself before entering into the teaching process. The Atlas part with exercises and tests is designed to be the integrating factor in a strict connection with the maps. Diagrams and tables are not functioning on as static sources of additional information but mainly as a feedback for a better and deeper study of maps. All the main phases of the cartographic process, namely data collection, elaboration and plotting were carried out using digital methods and techniques through Intergraph cartographic software and hardware.

# ACCESS TO COMPLEX ENVIRONMENTS FOR BLIND PEOPLE: MULTI-MEDIA MAPS, PLANS AND VIRTUAL TRAVEL

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## Abstract

In the introduction, some properties and use of tactile maps are considered. The paper then presents a new way for sighted and blind people to make tactile maps and plans: called **AudioCAD**, where **CAD** stands for **Cant Anyone Draw?** Then the reading of such maps and plans is considered, using the **TouchBlasterNomad**, multi-media audio-tactile system, incorporating the generic descriptor, **AudioPICTURES**. Audio-tactile maps and plans, a subset of all possible AudioPICTURES are then presented as elements in a static interactive spatial information access system. Finally a dynamic interactive geographic information system for blind travelers is described, allowing real time, actual and **virtual travel**. The system is called **AudioTRIP**. AudioCAD and AudioTRIP together form a package called Bumpy Pictures, compatible with the **TouchBlasterNomad** system. The information access system and AudioTRIP may be thought of as remote sensing systems for blind people.

# **ELEMENTARY SCHOOL CARTOGRAPHY: VISUALS TO SUPPORT ELEMENTARY EDUCATION IN CHILE**

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## **Abstract**

A survey of the current teaching of subjects related to Cartography was conducted in some elementary schools in the metropolitan area. Its results led a group of university professors to implement a project aimed at developing more effective methods to be applied in the educational process.

In the first stage, the interest is centered on the design and elaboration of adequate cartographic material to supplement and vitalize the teaching of these school subjects taking into account the fact that the quality of the educational process depends largely on the pedagogical strategies used to achieve its objectives.

# **TRIDIMENSIONAL CARTOGRAPHY FOR THE USE AND TRAINING OF THE VISUALLY HANDICAPPED**

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## **Abstract**

In the late 80's there arose in Chile, particularly in the Department of Cartography of Universidad Tecnológica Metropolitana, an interest in a new field of research: that of visual impairment and Cartography. The necessity of blind people of moving about in a safer way and with more information led researchers to think about creating a tactile cartography appropriate to their needs.

In 1994, Chile presented a project to the Panamerican Institute of Geography and History (PIGH—OAS). Its main objective was that of forming an interdisciplinary work team in which other Latin American countries with similar problems, would participate. Argentina and Brazil engaged in this noble task, appointing as their representatives Mrs María R Zucchelli and Mrs Regina Vasconcellos, respectively.

# **CAN VISUALLY IMPAIRED PEOPLE USE TACTILE MAPS TO NAVIGATE?**

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## **Abstract**

Tactile maps are a very useful way for visually impaired people to learn about their environment. However, psychological aspects of their use have been neglected in tactile map research. We report a series of studies in which visually impaired children performed various tasks using tactile maps. It was found that even quite young children can use tactile maps to navigate, but that certain strategies for exploring a tactile map and for organizing map information mentally were associated with better map reading performance. The implications of these findings for the education and rehabilitation of visually impaired people are discussed.