

hypotheses. First, that maps would aid, in the recall of map-related text, those students who *heard* a prose passage more than those who *read* the same passage. This supposition was based on previous studies of graphic stimuli (non-map stimuli) which had suggested that conflicting cognitive processes may be involved when an individual tries to maintain a mental graphic image and read simultaneously. However, no such conflict had been found between maintaining a graphic image and hearing information. The second proposed hypothesis was that the perceptual elements of the maps would affect a subject's recall of the maps and of the map related prose.

#### THE TESTING PROCEDURE

To test both of these hypotheses three maps were created to accompany a prose passage presented to 113 fifth and sixth-grade students in a middle-class Phoenix, Arizona neighborhood. The different cartographic presentations were an attempt to vary two primary map components. First, the level of symbol abstraction (one set of maps had picture-like symbols while another used only geometric forms) and secondly the spatial distribution of features (one set of maps placed the map symbols in a "logical" spatial pattern according to the prose passage while the other was simply a pictorial list of features along the margin of an outline map).

Equal numbers of fifth and sixth-grade students were randomly assigned to a reading or listening group. Subjects in each group were then randomly assigned a picture, geometric, or list map. The subjects were asked to study their maps and told that the maps would be helpful in learning a story they were about to hear or read. The maps were then removed and a short prose passage was presented either orally or in

written form. When the story was completed the subjects took their maps out again and studied them for an additional two minutes.

Recall of the text information was measured by the use of 32 completion questions which could be answered in a word or two. Sixteen questions were related to map feature information and sixteen assessing information not related to the maps. Memory for the maps was measured by having the subjects attempt to locate the features on a blank sheet of paper by placing an "X" where each feature should be and then labeling that feature. Correct location was defined as being within two inches of the actual location.

#### RESULTS

Results of this study failed to support the first hypothesis, as subjects who read the prose had scores on the map-related questions and on the map recall test that were not statistically different from the scores of subjects who had the prose presented orally. Reading was found to be superior for the recall of non-map related information.

Results did support the second hypothesis that the perceptual elements of the map would affect the recall of map related textual information as well as the map itself. Subjects who had the picture-like map symbols "logically" spatially arranged scored significantly higher than those subjects who viewed either the picture-like map symbols in a list or those subjects that were shown geometric symbols that were arranged "logically". No significant difference was found between the last two groups indicating that spatiality or the mimetic level of symbols alone was not responsible for the improved scores, rather a combination of the two was necessary for increased learning.

#### COMMENTS

One must question the reasoning for allowing the subjects to re-examine their maps after the presentation of the text material. If the intent of a portion of the study was to determine if the subject could hold a mental construct of the map while simultaneously reading the text material the viewing of the map after the text had been read should clearly have been avoided. In addition the article would have been greatly strengthened if the test maps utilized in the study would have been included.

As a cartographer this article is particularly interesting; on one hand it is a main-stream cartographic study, and yet as it is the work of non-cartographers, it provides a perspective which can be highly beneficial and stimulating. Unfortunately the article also vividly portrays the ever present problem of specialization in academia as the authors appear to be totally unaware of the wealth of published cartographic research clearly pertinent to their study.

**Spencer, Jim (1988).**

**Orienteering for deer.**

*American Hunter*, December, 1988; pp. 32-34, 59.

*reviewed by Kevin M. Kolb  
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Spencer recounts a hunting excursion on which his party conducts pre-hunt scouting of an unfamiliar forested region of north Georgia, using only USGS topo quads and their natural instincts. The party arrives after nightfall, leaves camp before daybreak, and succeeds in scoring two bucks by mid-morning.

Through the article, Spencer offers a brief explanation of magnetic declination, and the scale characteristics of USGS 7 and 15 minute quadrangles. He gives a few basics on how to use a map

and compass, and tips such as transferring pertinent information to the topo sheet from state highway, county, and Forest Service maps (ie. access road numbers), and tracing over the secondary roads with a heavy pencil ("A topo map is very often used under less than ideal light conditions, . . . since gravel roads are drawn pretty inconspicuously on topo maps . . . I don't want to have to squint to make out important details like roads.")

Spencer also discusses the importance of not merely owning a topo map, but learning to use it efficiently both when scouting and hunting:

"First, a hunter must be able to 'think like a deer.' In other words, he must know enough about the whitetail's biology and habits so that he can predict a buck's needs and movements with some degree of accuracy during the period he plans to hunt."

"Next, he must be able to project himself onto the map. He must be able to look at contour lines, elevation markers, stream corridors, fields, bluffs, roads, woodlots, and clearcuts, see them in his mind's eye, and know how the animal will react to different terrain features."

"Topo maps are indispensable tools that no serious hunter should be without, whether he thinks he knows his hunting territory or not. Let's face it, you don't know the land as well as the topo does."

**Wegars, Priscilla (1989).**  
**"Inmates of body houses":**  
**Prostitution in Moscow, Idaho,**  
**1885-1910.**

*Idaho Yesterday* 33 (Spring),  
 pp. 25-37.

reviewed by Karl Proehl  
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Referencing early fire insurance maps, the author has traced the

location of houses of prostitution and the people who inhabited them. The earliest fire insurance maps of Moscow (1888 and 1889) show no buildings labelled "female boarding"—the euphemism used for such establishments. The first two "boarding houses" appear in 1891, and eight such structures appear in subsequent maps (1896 and 1904). Newspaper accounts can sometimes be coordinated with the fire insurance maps to provide information on the size, and to some extent the type of establishment. By 1910, female boarding houses disappeared from the Moscow fire insurance maps.

### cartographic artifacts

#### INJECTING THE GEO-CARTO-GRAPHIC INTO PUBLIC THINKING

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Under the strong leadership of Professor Roger Brunet, of La Maison de la Géographie, Montpellier, and the perceptive investment of the publishing house of Reclus, we are beginning to see what computer cartography can do to make the spatial and geographic dimensions of human existence a present force and influence in public awareness, education and thinking. Quite apart from the quarterly *MappeMond*, whose color plates are the envy of traditional journals, Reclus issues a bi-monthly 'newsletter' *Informations Reclus*, now in its 16th edition (juin, 1989), of 12 pages.

Brunet's editorial *Contradictions* sets the tone of this issue as he comments on the apparently insatiable appetite of the media and 'decisionmakers' for scientifically impeccable data to inform the

complexities of modern life. Ironically, such expectations lead to some difficulties—the 'contradictions' of the editorial's title.

Reclus, with its growing reputation and graphic publications on space, place, region, town, country, and continent, is deluged with requests for information. While these are flattering, they simply cannot be fulfilled with the immediacy demanded. Few outside of the cartographic profession realize the number of hours of work that may have to go into single plate or graphic image. Unfortunately, and in an ironic twist, the demand for applied cartographers also leads to aggravating, and totally unfounded rumors that geography is somehow moving away from its traditional teaching tasks towards . . . *consulting*, a word which appears to lack the requisite tone of academic purity in France, and seems almost tainted with a Victorian gentlemen's disdain of 'trade.' God forbid that geography and geographers should produce something useful!

At the same time, access to policy relevant information becomes more and more difficult. Data banks are often generated at great expense by the public authorities, who realize, perhaps better than most, that information is power. And power is ultimately at stake here, in a country whose civil servants have bitterly opposed a Freedom of Information Act. Proposals about future censuses are worrying, and several countries in Europe are proposing to merge in a Common Market with very little idea of what the real consequences might be.

What is required is not simply more information, but information presented in such a way that its many implication can be teased out. Ultimately a democratic form of life depends on access to genuinely public information, information that increasingly