AERIAL PHOTOGRAPHS AND UNDERSTANDING PLACES

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Early Ideas
A few years ago, I was rash enough to slip into an article a sentence that implied that, until they came to be of school age, young children would have little acquaintance with maps. (I was then going on to suggest that some of our research with pre-schoolers indicated that, despite Piaget, people of this stage could happily work with and enjoy simple maps) Little did I realize that this single-sentence assertion in an article would beget a whole huge PhD thesis from a Department of Education in New Zealand, (Panckhurst 1989) which comprehensively rebutted my suggestion, evidencing on quite how many ways pre-schoolers (at least in New Zealand) come into maps or map-like representations. This excellent lady-candidate (who of course I passed with flying colours) catalogued everything, from playmats, through advertisements, to children's books and television. Many New Zealanders planning daytrips out also apparently consult the local map with the family clustered round; and many other such instances are part of the daily experience of pre-schoolers.

Current practice
Hence in this current article suggesting that we could use aerial photographs with very young children (and those just a bit older too), I would not wish to suggest that outside and inside school, such photographs are not already in use and on view. This month's Primary Geographer,(April 2003) just to take one example, has a wall-chart of Ella's and Alexander's World, which links a view of the whole planet down to an aerial photograph of these children's neighbourhood, and a photograph of their street and school.

However, let us realize what has happened within the teaching of Geography: we have completely changed our assumptions about what young children can and cannot do since the days when one would never dream of introducing maps and aerial photographs until mid-Primary, because according to Piaget (1956), this was when the child became capable of handling mapping concepts. But lest we become too accepting of this new commonplace, it would be worthwhile realizing quite what a technical, cognitive achievement is the reading of an aerial photograph. Daily experience, as one walks around ones neighbourhood, gives one experience of a world which is in full-colour, where one sees the elevation of buildings (essentially their fronts and backs rather than their roofs), where one can only see a limited distance, and one has to work out or remember how more distant places are linked up to one's current view. This 'full size' world, once you come to put it this way, isn't terribly like the view you get on an aerial photograph, and even less so on a map. Colour may or may not have been
How good are you at predicting plan view of a building from its elevations? Yet this is what the aerial or map perspective demands, as it miniaturizes and links up the world. Yes, on occasions in everyday life, we may climb a hill, and see how all the stages of the day's walk link up, or go to a rooftop café and from there see how our shopping trip beforehand related place to place. So there are everyday analogues to the map experience. Indeed, from an early age, the very young child will have been experiencing the plan-to-elevation-and-back movement as they push along a toy car, sometimes viewing it from above and sometimes looking at eye-level. (And the car itself, miniaturized and standing for something in the real world, will be further reinforcing two further principles that are involved in the making and understanding of maps).

Criteria
So perhaps we should not be surprised if even the youngest can 'read maps' or 'understand aerial photographs'. But we should nonetheless be sufficiently cautious to know our criteria for such success: what would count? Would being able to identify items on an aerial photograph count? Would it have to be giving us some kind of narrative about what is seen? Should it be that we can find a criterion that the child is perceiving it as 'geographic' in some way?

One of the big disputes in the literature in recent years has been between Lynn Liben (1989) (who tends to the Piagetian, child-as-limited capacity view) and Jim Blaut (1997a and b) (whose more romantic view of the child as a 'natural mapper' from an earliest age tied in with his seeing a general mapping ability as a cultural universal, a survival skill in memorializing where important resources are in the locale) For Liben, the emphasis was on the errors children made (she has used a number of the scale-errors that children occasionally make when viewing aerial photographs as indicative of their imperfection). For Blaut, the errors, unless they are legion, are less important than the demonstration by the child that they can connect the features seen into some geographical whole, arguing that competent adults also make scale errors and yet we believe them to have the capacity to parse aerial photographs. Blaut's technique was to see if the child, recognizing that certain marks on the aerial represented houses, showed evidence of 'geography' by 'driving' a little car from one house (described to the child as 'your house') to another one ('your friend's house') away across the aerial view. Would they drag the car straight from the one to the other (= non-geographical in Blaut's book), or would the little car make the journey observing the conventions about roads etc? (This would, for him, be powerful evidence of a more integrated understanding: and indeed, for many preschoolers that is what they convincingly demonstrate) Or would we, as our colleague Bev Plester is doing, (2001 et al) become convinced when children, armed with a local aerial photograph, used it to find, in the real world it represented, hidden objects in a form of a treasure hunt?

Again, we can ask: are all photographs equally interpretable? Surely, scale will have a major effect. (Within limits, our colleague Sally Craddock, has shown that scale is not very important) Would making
the pictures somewhat more oblique than truly aerial add to success in feature identification? The answer from colleague Diane Hetherington's work (1997) indicates that it helps for some more mysterious objects: e.g. a fence leaps into obviousness with the oblique; but is marginally helpful only for some of the more confidently identified items such as a tree or a house. Similar studies we have done with colour/black and white comparisons; and unfamiliar/familiar area comparisons show that these potentially added helpers are not really needed once the child grasps the idea of the aerial representing something, at which point the performance can 'take off' for even what looks a fairly unpromising image.

**Observations**
Basic to it all, if you think about it, is this idea of representation, of something standing for something in the real world, however like or unlike those two 'somethings' are. This is basic to realizing that this piece of paper (map, photo) or this model corresponds to a place in the full-scale world; and from this realization can come the idea of self-direction through space. My colleague Mark Blades (Blades et al 2004) showed how three and four year olds can use a schematic map or plan to navigate a simple maze. One of our treasured films of this study was taken by BBC Television, for their program "Tales from the Map Room" (1994) They set the film of our nursery school 'stars' happily hopping round the maze, plan in hand, to an added Scott Joplin soundtrack! Convincing demonstration, if one were needed, of the power of maps even for the very young. And the idea of representation is after all basic to a lot of play: 'this banana is a telephone'

These maps and aerial views are ones we have produced for the children: could the children themselves use graphic means to represent their spatial knowledge to us? At the kind of ages we have just been talking about, drawing skills are so undeveloped that one gets from the squiggles little idea of this knowledge. But why not get round this by providing 'map elements': toy houses, trees, cars, bits of flat card to be roads, etc: and the young child (at least from about four onwards) will happily attempt to talk you through what they know of the world. Faced with the task 'make me a town, or a place where people live', a three year old will most likely ignore the instruction and simply stack or sort the elements. But, as our colleague Kathryn Desmond (2001) found, once past this tendency, the slightly older child can make a 'map' which shows sufficient rule-following to indicate that they have already learned an 'environmental grammar', a set of expectancies about how these elements usually fit together. Roads will form a joined-up layout, with houses situated alongside; and for some children, each house will have allocated to it a car and a tree. (One rather royalist child is heard on the soundtrack explaining that a rather bigger house is for the Queen, that it should have all the trees around it, and that it should be away from the ordinary peoples' houses!) Not all children offers such narratives of course: but the modeling technique, just like the cars driven 'correctly' along the aerial photo's roads, or the successful hunted treasure using an aerial photograph of the playground area to locate it, each of these convinces me that from an early age children can work with geographical representations. Complex Ordnance Survey maps might at this stage simply have too much clutter, but
as a voice from New Zealand would smartly remind you, many young children do already have some pretty complex maps and photos around them in their daily life!

References


**Further reading**


