Page 8 - How to Make the First Tetrahedron Kite
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start to build your kite using the photographs at the beginning ot this article as your model. Tie your cells together as in Drawing Four, making four groups of four cells. Now tie those groups together as in Drawing Five. You now have a 16-cell regu? lar tetrahedron kite* At this point Dr. Bell would add beading: six thin strips of wood 40 inches long and tied along the edges of the finished kite for extra strength. This strip was often grooved along one side to fit up snugly to the 10-inch struts. But what becomes clear (as Dr. Bell certainly realized once he began working with a-luminum rods and connectors) is that this same kite can be built with six 40-inch strips, twelve 20-inch strips and thirty-six 10-inch strips. The larger structure could be put together first, making a regular tetrahedron 40 inches on a side. Then the 20-inch struts would go in. They would have to be whittled a little differently but the fine hole would still be drilled to tie them in place along the 40-inch pieces. Then the 10-inch struts go in, and finally the individual cells are covered on two sides. But there is a hazard in doing it this way, if yoii want to experience the process of a Bell kite • and the hazard lies in the tact that Dr. Bell was not filling in a given, limited area. He was building outward, the cells were like bricks • and each new use of them invited other possibilities that the filling-in process might deny you. Now you want it to fly. Richard Davis is the only man we know who has successfully flown Bell-made kites. He says it generally took more wind than the early reports say it should, but he admits that he may not have had the string on at exactly the right place. This will take some experimenting. One source claims that the single cell will fly if a bridle string is run from one end of the keel to the other and the tow line attached to that string. Of Dr. Bell's first tetrahedral kite (the 16- celled kite you just made) Gilbert H. Grosvenor wrote in 1903: "It was a wonderful flier, darting up from the ground with a shrill whistle and climbing to extraordi? nary heights. The kite flies steadily without a turn or quiver as the line is reeled in and finally alights on (the operator's) hand as gently as a bird." From photographs, Richard Davis decided to use no bridle as such, simply to tie on to a corner • and that seems to have worked well. Dr. Bell left us these suggestions: **The most convenient place for the attachment of the flying cord is the extreme point of the bow. If the cord is attached to points successively further back on the keel, the flying cord makes a greater and greater angle with the horizon' and the kite flies more nearly overhead; but it is not advisable to carry the point of attachment as far back as the middle of the keel. A good place for high flights is a point half-way between the bow and the middle of the keel." Dr. Bell's words, and the first five photographs, were published in The National Geo? graphic Magazine, June, 1903. They are part of a much longer article ("The Tetrahe? dral Principle in Kite Structure"), containing 79 photographs. That same year, Gil? bert H. Grosvenor published a long article in Popular Science Monthly, with essental- ly the same text but some different photographs. Both of these articles are worth the trouble of searching out. The photo of Cygnet I appeared in The National Geographic Magazine, January, 1908 ("Dr. Bell's Man-lifting Kite"). The photographs used here are (c) The Bell Family, courtesy

National Geographic Society. Our thanks to Andrew Poggenpohl, Art Editor' The National Geographic Magazine, for supplying us with ex? cellent prints. And for their encouragement and time, our thanks to John Stephens, Superintendent; Richard Davis, Assistant Superintendent; Glenda Oland and Edna Mathe? son, R'searchAi'es • ay'ofth'' Bell Museum, Baddeck. 20- Spacious rooms with Full Bath & Shower Sun Deck overlooks beautiful Canso Strait Oban Motel & Q'i ??lu' Box 191, Port Hastings, Nova Scotia Telephone 625-1113 Picnic Tables Well-water Ice Cubes Morrison's General Store WRECK COVE CARA RESTAURANT located at the SYDNEY AIRPORT Cafeteria Hours 6 AM to 12 PM Dining Room Hours 11 AM to 11:30 PM Cape Breton's Magazine/8 Cou.cT> TcvA'eu voeet:' Better Health Centre St. .'2', 436 Charlotte MON-FRI. Sydney 2 Stores Down from Canadian Tire We have a Large Range of Health, Vegetarian, Special Diet & Diabetic Foods XELB Natural Vitamins 562-1237 Food Supplements Natural Cosmetics Postal Orders Accepted Bulk Rates Available