ANSS

The American Nature Study Society Newsletter

Volume 9, No. 4
Fall, 1988

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President's Message

For organizations like ANSS as well as for individuals, summer tends to be a less busy time of year. I want to thank those hard-working individuals in ANSS whose summer was business as usual.

Kerry Kirk Pflugh, for example, was busy putting together this newsletter which included reminding me that this message was due. Kerry is a wonderful example to all ANSS members. When she heard we needed an editor, she VOLUNTEERED, and you are now enjoying her second issue. Many would agree that ours is the most professional looking and useful newsletter they receive.f

Helen Ross Russell was busy putting together the Journal issue on women in environmental education. You will have that eagerly awaited issue soon. Helen tells me she could use some help with future issues. *Nature Study* is far superior to publications produced by organizations with much greater financial and human resources. Helen, a busy author and teacher, puts together your Journal almost single handed. If you have editing experience, volunteer to help her. One of your rewards will be getting to know Helen--a great reward indeed.

Helen is always looking for journal articles. The next two journal topics will be "Weather" and "Food and the Environment." Perhaps you or someone you know would like to send Helen an article proposal and outline. Her address is 44 College Drive, Jersey City, NJ 07305.

The Eva Gordon Selection Committee made their decision this summer (see article this page). Chair Louise Ritsema and her committee not only made an excellent choice but worked extra hard reaching an earlier than usual decision so we could make the announcements in this issue. Thank you, Louise, and thank you committee members Bonnie Barr, Peter Corcoran, Anne Hallowell, Jessie Kitching and Jan Naher Snowden.

Well, if you've guessed that I'm trying to get you to become more active in ANSS, you're right! But rather than ask a few of you to do a lot (even though I hope some of you will), I'm going to ask each of you to give me just ten minutes. Later this fall you will receive a questionnaire that will help us better serve you by finding out who you are and what you want from your membership. To encourage your responding, the questionnaire will be very brief and we may even entice you with a gift for responding quickly. Meanwhile, give some thought to what you think of ANSS and how you would change it. By thinking about it ahead of time, you'll be able to finish the questionnaire in less than 10 minutes.

BRANLEY WINS 1988 GORDON AWARD

Dr. Franklyn M. Branley, director emeritus of the American Museum Hayden Planetarium, will receive the 1988 Eva L. Gordon Award. The award will be presented to Dr. Branley on Wednesday, October 12 at 5 p.m. at the Energy Conservation Exhibit at Consolidated Edison, of New York, Inc. at 4 Irving Place, Manhattan, following the ANSS Board meeting. A reception hosted by Con Ed will follow the award presentation. All ANSS members and friends are invited.

This year, ANSS honors an author whose work focuses on the Physical Sciences – so basic and vital to our understanding of how everything else in our universe functions. Since 1945, nearly 140 titles have been published. Last year, Dr, Branley passed the three million copies sold mark, with his Thomas Y. Crowell Books. His other publishers include E. P. Dutton and Houghton Mifflin. Dr. Branley's books cover the whole spectrum of physical science from the vast, The Milky Way: Galaxy Number One, to the minute Experiments with a Microscope.

Dr. Branley concentrates on the youth market. His popular "Let's-Read-and- Find-Out" science books, which he originated in 1960, are written for four- to eight-year-olds. The Young Math Books, Books for You and Voyage into Space books motivate children in the eight to 11 range. Exploring Our Universe books and Experiments books, the latter written with Nelson Frederick Beeler, are for children 12 and up.

A major factor in Dr. Branley's success as a children's science writer is that he knows children as well as he knows science. His first professional assignment after earning his teaching certification from SUNY New Paltz in 1938 was teaching in an elementary school on Long Island. Then while continuing his education at New York University, he met a science teacher so full of excitement about science, that teaching became Dr. Branley's lifetime career.

To Dr. Branley, excitement is the essence of teaching. In a New York times interview last year, Dr. Branley was quoted as saying, "I think if a teacher isn't excited about teaching, forget it. Teaching is not the passing of information. It is building up a desire to find out, and if you don't build up that desire, you're not teaching."

"Proper science is not learing factual material at all. Science is a way of thinking and a way of going about the solution of the problems. In these books for young people, invariably, I raise more questions than I answer," he said.

Many years have passed since Dr. Brnaley's grade school teaching days, but three or four times each year he still visits classrooms to talk with students about science.

PETERSON CELEBRATES 80th BIRTHDAY

Three hundred friends and admirers gathered at The Chautauqua Institute on August 9 to share in the 80th birthday celebration of Roger Tory Peterson.

Dr. Peterson, the earliest living Past President of The American Nature Study Society, continues to maintain a sincere interest in the organization and its goals of developing a greater appreciation and understanding of the natural world. While he is best known as the author of *A Field Guide To Birds* and as a wildlife artist, Dr. Peterson has spent a lifetime promoting and contributing to the development of nature education. In both formal and informal roles, he has shared his knowledge and concern for all aspects of nature with millions of people around the world--helping to create the experiences that must be provided to ensure an environmentally literate public.

The day-long program at Chautauqua began with a lecture by Dr. Stan Shetler, Acting Associate Director of The Smithsonian Institution, who paid tribute to the life-time of achievements of Dr. Peterson. During the afternoon, Roger Tory Peterson was on stage to answer questions about his work with birds. The day concluded with a birthday dinner at which Paul Spector, ANSS President-Elect, was the featured speaker.

Dr. Peterson shows no signs of slowing down as he continues his painting, revision of the Western Field Guide to Birds, and his work with The Peterson Institute of Natural Hitory. In fact, he will be an active participant in "Breaking the Barriers: Linking Children and Nature," a forum being hosted by the Institute this fall.

ENVIRONMENTAL SABBATH A SUCCESS

On June 3, 4, and 5, the United Nations Environment Programme sponsored the second Environmental Sabbath. The U.N. Sabbath Planning Committee developed kits which included information on many of the environmental problems which threaten life on the planet such as deforestation, desertification, toxic waste, acid rains and depleting of the ozone layer. In addition, the committee also developed liturgical materials that could be used by religious groups in implementing Sabbath activities on the designated weekend. Over 3,500 Sabbath Kits were sent to religious leaders across the United States and Canada. The Canadian events were coordinated by Joy Finlay, a member of the ANSS Board, and the Coordinator for the Sabbath activities was John Kirk, past president of ANSS.

The Planning Committee has received such enthusiastic responses from religious leaders across Canada and the United States, that the Committee has decided to make the Sabbath an annual event, which will take place the first full weekend in June of each year. For 1989, the Sabbath Committee plans to distribute 25,000 kits to religious leaders throughout North America. In addition, religious leaders in Europe and Asia will be contacted and encouraged to begin similar ceremonies in their countries.

Dr. Calvin B. DeWitt, Director of the AuSable Institute in Northern Michigan, speaking about the Sabbath, stated: "The Environmental Sabbath seeks to revitalize the teachings of each faith and tradition that bring respect and restoration to the creatures and the biosphere. It seeks to bring healing rest to Creation and each creature; it seeks to bring relief from relentless human pressing. It seeks peaceful times and places on Earth; it seeks conditions that allow revitalizing Creation's sustaining processes and rejuvenating its creatures. The Environmental Sabbath seeks rest for the Earth."

The members of the Sabbath Committee have hopes and dreams that one day religious leaders throughout the world will, on a specific weekend, join in services reminding their congregations about the responsibility of all to protect Planet Earth.

For more information on the Sabbath, contact Dr. John J. Kirk, Sabbath Coordinator, New Jersey School of Conservation, Montclair State College, R.D. #2, Box 272, Branchville, New Jersey 07826; or Reverend Daniel Martin, Religious Advisor, United Nations Environmental Programme, 2 United Nations Plaza, New York, New York 10017.

CALENDAR OF EVENTS

OCTOBER 12 – American Nature Study Society Board Meeting, Con Ed, New York City, 1 p.m.

OCTOBER 13-16 – The New York State Outdoor Educational Association Annual Conference, Villaggio Resort, Haines Falls. Contact them at P.O. Box 71, Raquette Lake, NY 13436.

OCTOBER 14-19 – North American Association for Environmental Education 17th Annual Conference, Crowne Plaza Hotel, Orlando, Florida. Contact: Dr. Louis Iozzi, Cook College, Rutgers, University, P.O. Box 231, New Brunswick, NJ 08903. 201-932-9164.

OCTOBER 27-28 – Natural History Education Forum, sponsored by the Roger Tory Peterson Insittue of Natural History, Peek'N Peek Resort, Clymer, NY. Contact the Institute at 110 Marvin Parkway, Jamestown, NY 14701. 716-665-2473.

OCTOBER 28-30 – "Educating Toward Solutions," Annual Conference, New England Environmental Education Association, University of Rhode Island, Alton Jones Environmental Education Center, West Greenwich, Rhode Island. Contact: Doug Knapp, Conference Co-chair, Alton Jones Campus, University of Rhode Island, West Greenwich, RI 02816.

NOVEMBER 11-13 – The Pennsylvania Alliance for Environmental Education Annual Conference, Wilson College, Chambersburg. Contact: Lorraine Weidner, R.D. #1, Box 431-E, Newburgh, PA 17240. 717-423-6588.

ADVANCED NOTICE

"Spring in Arizona"

A Field Trip to the South West Research Station
near Portal, Arizona in the Chiricahua Mountains

April 10 through 15, 1989

The desert will be in bloom during this exciting and beautiful time. The field trip will include a look at the geology, anthropology and the flora and fauna of the area. This area is known for its exceptional birding opportunities.

The cost will be approximately $400 plus airfare. For details and information write or call: Dr. Helen Ross Russell, 44 College Drive, Jersey City, New Jersey 07305. 201-432-1053.

TEACHING TIPS
Connect the Dots and Pinhole Constellations

by John Kominski

For countless ages men and women have looked to the heavens in awe, and have in every age and every culture picked out familiar shapes formed by groups of stars in the sky. Once an individual gains a familiarity with the asterisms and constellations, the beautiful, yet confusing, night sky becomes more organized in the eyes of the sky watcher. Seasonal patterns, the apparent circumpolar movement of the stars, the passage of planets and satellites, and the location of meteor showers, comets and other celestial phenomena become easier to predict and appreciate once we learn the road map of the sky.

Ideally, skywatchers will find a place to enjoy the night sky, which is far away from the lights and polluted air of big cities and industrial sites. Armed with a trusty field guide to the stars, a star map, almanac, notebook and binoculars you can begin to pick out geometric shapes, the dippers, bright stars and, with some imagination, a dragon, scorpion or other popular mythological form.

While introducing young people to the constellations in our school district's planetarium, I would often project a transparency of a "connect the dots" picture puzzle onto the planetarium dome. Transparencies can easily be made on most photocopy machines loaded with the appropriate film, or they can be hand drawn with wax markers or special felt tipped pens on blank acetate sheets. Even the youngest students were eager to come up to the overhead projector, take the felt tipped marking pen and connect the numbered dots sequentially to form a rabbit, kite or some other simple image.

Next we would view a transparency of un-numbered dots on the dome. The students who volunteered to connect these points were encouraged to use their imagination and form any familiar subject or design that they desire. They could even make up a little story about the picture that they formed on the dome. By viewing more than one dome picture at a time, the stories became more involved as the children colorfully described the interactions of the planetarium pictures.

The transition from puzzle pictures to the classic constellations of the night sky became so much easier for these skywatchers. It was simple to dim the lights, project the stars and with a light pointer to "connect the dots" to form stars into a crown (Corona Borealis), or a backwards question mark (the familiar asterism in Leo the Lion), or the arms, legs and belt of Orion the Hunter. When the planetarium projector overlayed the traditional constellation line drawings on top of the stars already on the dome, a collective, "WOW!", was heard in the darkened room. Sure enough, there was the formidable Orion, the V-shaped faced Taurus the Bull, the dippers and lots more.

Oatmeal boxes and tin cans became the students' own constellation projectors. Tracing paper was used to copy a drawing of a constellation that would fit onto the bottom of the can or cylindrically shaped box. The tracing was next flipped over with its obverse side facing the bottom of the container and taped into place. Holes were punched through the tracing and the container with thin nails and a hammer. Thicker nails made bigger holes, which would eventually be brighter stars. When the star pattern was punched into the bottom of the container a flashlight was placed inside and its light would shine through the holes and create a constellation on the wall. Or a student could simply hold the can up with its bottom facing a sunny window or light, look inside the can and see the constellation within. The constellation cans were often painted black or deep blue and labeled with the name of the constellation it contained. Unlabeled cans provided the students with a challenging identification activity.

Pinhole constellations can also be made from old photographic slides, which all too often come back from the photo lab terribly underexposed or completely unexposed. In either case you find yourself holding a 2" x 2" cardboard mount containing a black slide. I used to save these black slides to use as spacers in my slide shows or as the last slide in a show. This would keep the screen from being bathed in harsh white light when the projector ran out of pictures to project. On one occasion, however, I experimented by puncturing the black slide with a straight pin several times and was able to project a cluster of simulated stars onto my screen.

Now I suggest to teachers at workshops to save their black slides or make their own by inserting a square of black plastic or aluminum foil into a cardboard slide mount. There are several kinds of slide mounts available at photo supply stores. Some are folded around the slide and carefully sealed with a hot iron, while others come in the 2"x 2" finished size with a slot built into the cardboad mount. You simply slip the photo transparency, plastic film or foil into the slot and you are ready to go.

Tracing paper may be used to accurately locate pinholes (stars) on the black slide as in the tin can constellation project. Use sharp smooth needles or pins to make neat holes in the plastic or foil. A hole with a ragged edge will look like a messy star when projected on the screen. Remember, thick needles make bright stars and thinner needles make fainter stars. Therefore, assemble a variety of needles with different diameters. Embroidery needles are very thin and carpet needles are quite thick. You may find that push pins and dissecting needles will provide you with a convenient tool handle when making pinhole constellations.

These pinhole star slides look surprisingly realistic when shown on a screen. By proportionately reducing the size of the constellations you can place two or more star pictures on one slide to indicate the relationship of these patterns in the actual night sky. You may also want to "connect the dots" by drawing lines between the appropriate pinhole stars. This is easily accomplished by carefully scratching a line between the holes on the emulsion side of the black slide. With a little practice you will be able to determine how much pressure should be used to scribe a line of suitable brightness on the pinhole constellation slide. A bit of transparent colored plastic carefully cemented over a pinhole star can give the star a new hue. Try this method to make the star Aldebaran - the red eye of Taurus the Bull.

I have also had fun creating simulated nebulae, lunar phases and eclipses on black slides. For example, by making dozens and dozens of tiny holes on the emulsion side of the slide in the typical spiral nebula pattern or in an ellipse, a reasonable facsimile of these impressive astronomical features is gradually developed. Or try punching a neat hole in your black slide with a common paper punch. The result is a quarter inch hole that projects as a "sun" or a "full moon" on the screen. If you save the little disc of black plastic that was punched out, it can be carefully cemented over part of the newly punched hole. This results in a simulation of the moon eclipsing the face of the sun or of the earth's shadow eclipsing the face of the full moon. By using this punch-out and cement-over method you can create simulated phases of the moon including the gibbous and crescent phases. To make a last or first quarter simply cement a small straight edged piece of black slide plastic over half of one of your "full moon" punched out slides.

LIFE MEMBERS RECOGNIZED

Becoming a life member of an organization indicates a strong, personal commitment to the goals and objectives which the organization strives to accomplish. And, it recognizes that the association with others who share the same interests and concerns is something which is valued very highly.

To date, 36 individuals have made this commitment to the American Nature Study Society. By joining at the Life Member level, they have expressed their confidence in the future of the society and its role in the development and promotion of nature education.

Membership at this level is certainly encouraged as the funds received provide a special endowment which is held in reserve for future activities of ANSS.

The Board of Directors would like to recognize the following Life Members of The American Nature Study Society.

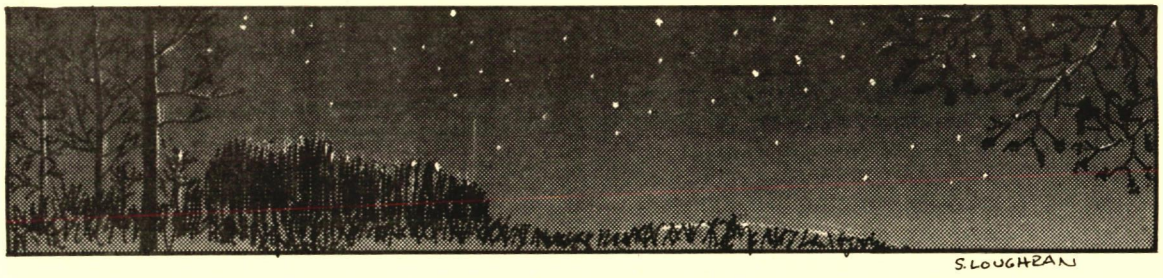
Patricia Nutt Adams
Joanne Azarnoff
Dr. S. Glidden Baldwin
Mrs. Robert L. Black, Jr.
Kathleen Blanchard
Yvonne Bristow-Lawal
Marshal T. Case
Craig C. Chase
David M. Dumond
Lena Feighner
Lynda J. Fergerson
Joy Finlay
Michael J. Flitter
Beulah A. Frey
Martha S. Hansen
Clifford E. Knapp
John W. Kominski
Betty J. McKnight
Ruth A. Moorhead
Mr. & Mrs. Stanley B. Mulaik
Mr. & Mrs. John C. Mulhall
John J. Padalino
Joy G. Parker
Dr. Verne Rockcastle
Jane Robbins
Helen Ross Russell
Robert S. Russell
Roger A. Sanborn
Alan D. Sexton
Bonnie V. Sommer
Talbert Spence
Jeanne Svitesic
Betty van der Smissen
Richard Wason

THE MYSTERY AND BEAUTY OF STARS

The universe is made of stars. In our own galaxy there are at least 100 billion of them, and our galaxy is only medium-sized. There are galaxies that contain 200 billion stars, and even more. And the number of galaxies in the universe is countless. In the area of space which astronomers can observe, there are perhaps 10 billion galaxies. There are billions more that they know about only theoretically.

Our knowledge of the stars is new; the abundance of them, and their nature, only began to be revealed with the development of the telescope in the early 1600s. Understanding of the stars did not advance rapidly until this century, and it is still far from complete. In fact, astronomers agree that there is much more about stars that we don't know than what we do know. Almost as soon as astronomers began to learn what the "average" star is like, they found that there are many stars that differ widely from the average. There are stars that devour matter and light, causing them to disappear forever; stars whose substance is packed as densely as the world's population would be if all the people were enclosed in the head of a pin; stars that wink on and off thirty times a second; stars that are much smaller than the Earth, and others a thousand times bigger than the Sun. Such stars are truly incredible. They are exotic stars--strange, unusual, extraordinary.

from – *Black Holes, White Dwarfs, and Superstars*
by Dr. Franklyn M. Branley



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