



ARIZONA ACADEMY
OF
SCIENCE

Seventh Annual Meeting

March 30, 1963

University of Arizona

Tucson

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SEVENTH ANNUAL MEETING - ARIZONA ACADEMY OF SCIENCE

GENERAL PROGRAM

Friday, March 29

7:00 p.m. EXECUTIVE COMMITTEE MEETING. Kitt Peak National Observatory Conference Room.

Saturday, March 30

8:30-10:30 a.m. REGISTRATION. Entrance, Liberal Arts Building

9:30-10:45 a.m. ANNUAL BUSINESS MEETING, SENIOR ACADEMY Liberal Arts Auditorium, Room 100. Agenda includes Annual Report by the President, election of officers for 1963-64, reports of committees including election of Fellows and Honorary Members, and action on changes of By-laws.

9:00-10:45 a.m. ANNUAL BUSINESS MEETING, JUNIOR ACADEMY SECTION. Liberal Arts, Room 206. Business includes adoption of By-laws and election of State Officers for 1963-64.

10:45 a.m. ANNUAL ACADEMY LECTURE. Liberal Arts Auditorium, Room 100. Dr. James E. McDonald, Professor of Physics, University of Arizona, is the Arizona Academy of Science Lecturer for 1963. The topic of his talk is "The Physics of Baseball."

12:00 noon

ACADEMY LUNCHEON. Faculty Dining Room, Student Union Building. Price \$1.75. Reservations should be made in advance because of limited serving capacity. Write E. B. Kurtz, Botany Dept., Univ. of Ariz., Tucson, for reservations.

ADDRESS OF THE RETIRING PRESIDENT, Dr. Robert C. Euler, will be presented at the Academy Luncheon.

2:00 p.m.

SECTION MEETINGS, Liberal Arts Building.

ANTHROPOLOGY: Room 118.

ASTRONOMY: There will not be a meeting this year. Papers will be presented at the meeting of the American Astronomy Society, University of Arizona, Tucson, April 17-20.

BIOLOGY: Rooms 114 and 120.

GEOGRAPHY: Room 111.

GEOLOGY: Room 222.

JUNIOR ACADEMY: Room 206.

PHYSICS AND RADIATION: Room 214.

3:15-3:45 p.m.

All Sections will have an intermission for refreshments and a 30-minute social hour.

ANTHROFOLOGY SECTION MEETING
Room 118, Liberal Arts
2:00 p.m.

1. Annual Business Meeting, including election of Chairman, Secretary, and Associate Editor for 1963-64.
2. Presentation of Papers.

The Association of Air-Breathing Crevices with Post-Eruptive Sites in the Wupatki Area, Robert A. Schley, Flagstaff. The prehistoric cultural significance of air-breathing crevices and related geological features is not known. Excavations at Wupatki Blowhole site, NA 7824, have not shed much light on this problem. However, many prehistoric villages of the post-eruptive period are near air-breathing crevices. Except at the Citadel Ruin, water is thought to have been considerably farther from these sites than were the crevices. The location of the crevices may have determined the selection of some village sites.

Anglo Law and Navaho Behavior, Ralph A. Luebben, Arizona State College, Flagstaff. Since World War II, lead-zinc mines at "Carbonate City," Colorado, have presented an excellent opportunity for steady off-reservation employment for Navaho Indians. When residing off the reservation, they sometimes break laws and come into contact with the "white man's" law-enforcement agencies and concomitant legal system. Six hypotheses were tested; three were verified. (1) A higher percentage of Navahos are arrested for various offenses than Anglos. (2) Traditional Navaho patterns of social control tend to disintegrate. (3) Some acculturated Navahos attempt to manipulate other Navahos through the U.S. legal system.

Archaeological Investigations in the Leeward Islands, West Indies, Charles A. Hoffman, Jr., University of Arizona, Tucson. Information from two islands of the Lesser Antilles obtained during the summer of 1961 fills the gap between Venezuelan and Greater Antillean prehistoric cultures. Completed studies of materials from excavations at Mill Reef, Antigua, and surface surveys elsewhere on the island reveal local developments of

Cuevas ceramic styles from Puerto Rico. Pottery recovered is also similar to certain later Greater Antillean styles. Two heretofore unknown fine-paste pottery types were also named. Preliminary study of material from excavations and surveys on St. Kitts suggests further Cuevas connections at one site and Hacienda Grande-El Mayal affiliations at another.

Additional Late Papers.

BIOLOGY SECTION MEETING
Rooms 114 and 120
Liberal Arts Building
2:00 p.m.

1. General Session, Room 114, for Annual Business Meeting, including election of Chairman, Secretary, and Associate Editor for 1963-64.
2. Presentation of Papers.

Section A, Room 114

Environmental and Other Factors Influencing Development of Southwestern Cotton Rust (*Puccinia stakmanii*), L. M. Blank and C. R. Leathers, Arizona State University, Tempe. Teliospores of *Puccinia stakmanii* Presley were procured from infected gramagrass (*Boutelous* spp.), the alternate host of Southwestern cotton rust, collected over several years and representing different periods of field exposure. Germination of teliospores on 1% water agar was significantly higher in July collections than in winter or spring collections. This was believed an effect of hydration of spores by summer showers. Laboratory studies confirmed great increases of germinability by pre-exposure to 100% relative humidity for 24 hr. Teliospores germinated at temperatures of 53-96°F, with the optimum near 75°F. Although the temperatures for sporidia production and germination closely paralleled those for teliospore germination in the lower portion of the range, at the higher temperatures sporidia production was markedly inhibited. A range of 82-84°F appeared the maximum for sporidia production. At 78-80°F, sporidia were produced within 6 hr. by the promycelia of previously hydrated teliospores. Under field conditions, teliospore germination, sporidium production, and infection of cotton occurred within a 13-hr. period of temperature below 83°F and humidity above 90%.

The Mechanism of p-Chlorobenzoic Acid Inhibition of Cytoplasmic Streaming in *Eloдея densa*, Charles H. Brueske and Howard G. Applegate, Arizona State University, Tempe. Previous research has shown p-chlorobenzoic acid to inhibit streaming in *Eloдея*. The present research is an

Biology, Section A, Room 114, Continued.

attempt to elucidate the mechanism of the inhibition. Data will be presented which indicate that the compound reacts with ATP and sulphydral groups.

Studies of Unialgal Cultures of the Genus Mougeotia, Arthur E. Dennis and Robert W. Hoshaw, University of Arizona, Tucson. Members of the genus Mougeotia, belonging to the filamentous chlorophytan family Zygnemataceae, were collected from ponds and streams in Arizona, Utah, Indiana, British Columbia and Mexico. These field collections were then isolated into clonal cultures in preparation for growth and nutrition studies. These vegetative, unialgal cultures grow well in two defined inorganic media, but their rate of growth is somewhat slower than in soil-water medium. Along with these growth and nutrition studies attempts have been made to determine the factors which will induce sexual reproduction in this genus.

The Hastate Setae of Certain Dermestid Beetle Larvae: An Unusual Entangling Defense Mechanism, W. L. Nutting, University of Arizona, Tucson. Dermestid beetle larvae of the subfamily Anthreninae are equipped with dense tufts of barbed hairs on the dorsum of the terminal abdominal segments. The effectiveness of these specialized setae against various small insects and a few vertebrate predators has been studied. Observations on the defensive behavior of the larvae, coupled with the finding of various insects trapped in felted mats of these setae in cultures, have shown that they provide not only an immediate entangling defense mechanism, but also a passive or residual defense against other small insects which may occur in the same environment.

Leaf-cutter Bees as Alfalfa Pollinators in Arizona, George D. Butler, Jr., University of Arizona, Tucson. A number of species of leaf-cutter bees have been collected in Arizona alfalfa fields. In general, their populations have been limited by the lack of nesting sites. Studies were made of M. concinna in artificial nesting units but its usefulness may be limited by a chalcid parasite.

Biology, Section A, Room 114, Continued.

A Geographical Analysis of the Flora of Clark County, Nevada, William G. Bradley, University of Nevada. The flora of Clark County, Nevada, which is characteristic of the northern Mohave Desert, is analyzed and placed into 11 geographic elements. These elements and their probable development from Tertiary geofloras are discussed. This flora has assumed its present composition since the last pluvial period. It is characterized by an older northern element restricted to and isolated on the higher mountains, a mixed younger element with strong southern affinities which has become restricted recently to the middle elevations, and a more recent southern element which covers the lower elevations.

A Preliminary Report on the Flora and Vegetation of Tonto, N. M., Robert L. Burgess, Arizona State University, Tempe. The flora and vegetation of Tonto National Monument, Arizona has been under study for almost two years. Almost 300 species of vascular plants are now known from the Monument, about half of them annuals in habit. Studies are also progressing on both perennial and ephemeral types of vegetation on the Monument, and preliminary results are presented.

Taxonomists of the World -- Revolt!, Norman H. Russell, Arizona State University, Tempe.

Section B, Room 120.

Variations in Arizona Senecios, Sharon Edwards and Norman H. Russell, Arizona State University, Tempe.

Palynological Contribution on the Origin of the Marsileaceae, G.O.W. Kremp and D. M. Peabody, University of Arizona, Tucson. Morphologic investigations have been made on the microspores of 41 species belonging to the Marsileaceae. The morphologic features of the microspores on the three extant genera are found to differ to a certain degree, but are unique when compared to the other pteridophytes. Although generally regarded as a family without a fossil record, spores are found in Jurassic

Biology, Section B, Room 120, Continued.

rocks of New Zealand and in Cretaceous rocks of Russia, which can be confidently placed in the Marsileaceae. Although the Jurassic specimens appear very similar to those of the modern Pilularia, it seems unwarranted, based on spore morphology alone, to apply extant generic names to fossils more than 130,000,000 years old. The Schizeaceae is another family with unique spore types. Spores of the Schizeaceae can confidently be traced back to the Cretaceous. Known spore types macerated from Carboniferous Schizeaceae-like sporangia indicate the early morphologic evolution of the spores of this family. Derivation of Marsileaceae from Schizeaceae is not verified by morphology of their spores, nor is the hypothesis that Marsilea is a surviving representative of the Glossopteridales evidenced.

A Physiological Program for Evaluating the Use of Tree Rings as Climatic Indicators, Harold C. Fritts, University of Arizona, Tucson. A program of basic studies on tree growth is described. This work includes 1) evaluating of the seasonal growth patterns in trees, 2) analyzing the climatic and physiological controls of growth and 3) studying the statistical properties and climatic relationships of tree ring series.

Tree-growth Studies on Bristlecone Pine, John W. Cardis, University of Arizona, Tucson. Tree growth study on Pinus aristata Engelm. in the White Mountains of California is described. Measurements during the growing season of 1962 were made with dendrographs, dendrometers and cambial samples. The results indicate a high similarity between individual trees and suggest certain climatic controls of ring width.

Tree-growth Studies at Mesa Verde National Park, David G. Smith, University of Arizona, Tucson. Tree growth studies on pinyon pine (Pinus edulis Engelm.), and Douglas fir (Pseudotsuga menziesii (Mirb.) Franco), are described and comparisons are made between the two species and between upland and canyon sites. The Douglas fir growth ring for 1962 was formed a month earlier than in pinyon pine and was complete by the end of the June. The dendroclimatic significance of these results is discussed.

Biology, Section B, Room 120, Continued.

Physiological Studies in Ponderosa Pine, Carl A. Budelsky, University of Arizona, Tucson. Past implied and experimental evidence will be discussed concerning the importance of precipitation during various periods of the year upon radial growth. An investigation now underway in the Santa Catalina Mountains of Arizona will be described, in which certain environmental variables and their effect upon various physiological parameters in ponderosa pine (Pinus ponderosa Laws) will be measured. A discussion of progress will be presented.

Statistical Evaluation of Tree-ring Series, Harold C. Fritts, University of Arizona, Tucson. Studies of variation in tree ring series will be briefly described which provide a basis for site and tree selection of climatically sensitive ring patterns. A discussion of current progress in dendroclimatic prediction will be presented.

Characteristics of the Tree-ring Chronology in Bristlecone Pine, Robert A. Wright, University of Arizona, Tucson. Problems of chronology building in Pinus aristata Engelm. are discussed. In the 200 to 800 B.C. time period missing and locally absent rings were marked on cross-sections from three trees. This information is related to the general problems encountered. The present status and future outlook will be discussed.

Additional Late Papers.

GEOGRAPHY SECTION MEETING
Room 111, Liberal Arts
2:00 p.m.

1. Annual Business Meeting, including election of Chairman, Secretary, and Associate Editor for 1963-64.
2. Presentation of Papers.

Phytogeographic Implications of a Newly Discovered Wild Cotton, Paul A. Fryxell, USDA, Cotton Research Center, Tempe. A wild cotton plant is found on Socorro Island of the Revillagigedo group in the eastern Pacific. The evidence indicates it to be indigenous to the island and not an escape from cultivation. The relation of this plant to other cottons of the Pacific and tropical America will be discussed, especially as it concerns their geographic distribution and dissemination.

Additional Late Papers.

- - Special Geology Field Trip - -
Field Trip Nohie

A joint field trip will be held with the Arizona Geological Society. The trip will begin behind the Geology Building at 7:30 a.m. on March 31. The trip will cover Cenozoic sediments and be through the Santa Rita Mountains to the north end of the Huachuca Mountains. Leaders for the trip are E. Davidson, F. Pashley, S. Cooley, and F. Hayes.

GEOLOGY SECTION MEETING
Room 222, Liberal Arts
2:00 p.m.

1. Annual Business Meeting, including election of Chairman, Secretary, and Associate Editor for 1963-64.
2. Presentation of Papers.

A New Meteorite Find Near Needles, California, John W. Anthony and Robert L. DuBois, University of Arizona, Tucson. An iron meteorite of approximately 45 Kg. mass was recently found near Carsons Well, about 37 miles southwest of Needles, California. The specimen is a medium octahedrite which has apparently undergone little terrestrial oxidation. It is roughly triangular in shape and exhibits a gentle curvature of the triangular plane suggesting shaping due to ablation of the stabilized mass during fall. The geological setting and surface characteristics suggest that it is a recent fall.

The Discordance of Rock and Mineral Ages from the Catalina and Rincon Mountains, Donald E. Livingston and Paul E. Damon, University of Arizona, Tucson. The K-Ar, Rb-Sr and U-Pb methods, when applied to the Catalina and Rincon Mountains, each yields a distinct group of apparent ages which differ by much more than their assigned analytical errors. The discordances must be attributed to the sequence of geological events through which these rocks have passed. Since the age determinations on these rocks and minerals indicate a complex geological history, no single analysis or method can be expected to provide a complete chronology of the several events. In concert, these methods tend to support the polymetamorphic view proposed by DuBois and indicate that important events in the history of these rocks occurred during Older Precambrian (Mazatzal), Jurassic (Nevadan ?) and Tertiary (Laramide ?), times. Each of these age groups is in accord with ages from other parts of Arizona as reported by investigators from this and other laboratories. Damon, et al., have proposed that the most recent event has been the refrigeration of these rocks by uplift, which has removed them from the locus of a geothermal anomaly.

Volcanic Orogeny of the Tucson Mountains, Evans B. Mayo, University of Arizona, Tucson. In the paper by W. H. Brown, the structure of the Tucson Mountains was developed around two concepts; (a) a great, "Laramide" overthrust with associated imbricate structure, and (b) Tertiary block faulting. More recently, Kinnison has named the supposed imbricate thrust zone the Tucson Mountain Chaos, and has suggested an origin by erosion of a fault scarp.

Field work still in progress yields data that suggest intrusion and fluidization as major factors in the structural evolution. In Cretaceous time andesitic melts rise into wet, semi-consolidated sediments. Fluidization locally causes collapse, but the dominant movement is upward. Paleozoic, and even Precambrian, basement blocks are lifted and mixed with fluidized Cretaceous. This action culminates with emission in Cretaceous time of the Cat Mountain Rhyolite, an ash flow tuff.

Upper layers of the Cat Mountain Rhyolite locally incline as steeply as 62 degrees. Block faulting probably will not account for such steep dips, and it seems that these layers were tilted by insertion beneath them of laccolithic masses.

The present concept of volcanic upwelling is in essential agreement with that proposed by Jenkins and Wilson in 1920.

New Faunal Elements from the Cretaceous of Arizona, Halsey W. Miller, Jr., University of Arizona, Tucson. The non-marine Lower Cretaceous rocks of southern Arizona have long been thought to be unfossiliferous. Recently bones of an iguanodontid dinosaur have been discovered therein. Associated marine fossils indicate an Aptian-Albian age.

The non-marine Upper Cretaceous rocks of southern Arizona contain remains of hadrosaur and theropod dinosaurs, the trionychid turtles, Plastomenus and Asperidetes, Amioid, lepidosteid, elopid, and Lepidotus-like fish. Invertebrates such as Univ, Viviparus, Physa, Protelliptio, and ostracodes are abundant. Aclistochara is also abundant. The sediments are of Santonian through Maestrichtian Ages in part.

Mammites nodosoides (Schlotheim) from the marine Cretaceous rocks of the Mogollon Rim indicates a lower-most Turonian, rather than an upper Turonian age, as was previously thought, for those beds.

The Geology and Ground Water Investigation of the Tres Alamos Dam Site Area of the San Pedro River, Cochise County, Arizona, E. L. Montgomery, University of Arizona, Tucson. Rocks of the mountains paralleling the river valley in the dam site vicinity range in age from Precambrian to Cenozoic. Granitic rocks which occur at the dam site are similar to those in the mountains to the west and are mapped as Precambrian in age. The oldest sedimentary unit exposed in the valley is a conglomerate of Miocene (?) age overlain unconformably by a younger conglomerate of Pliocene (?) age. A period of faulting and erosion followed the deposition of the younger conglomerate and portions of the units were removed. Erosion was followed by deposition of basin fill sediments of Pleistocene age. The youngest unit lies unconformably on Pleistocene basin fill and consists of alluvial fan and other stream laid sediments that were deposited on various terraces and in the present channel of the San Pedro River and its tributaries. The terraces were formed by cyclic downcutting of the stream to its present level. Most of the artesian water is derived from the Pliocene (?) conglomerate, although Miocene (?) conglomerate and the coarser facies of the basin fill unit may supply some artesian water. The fan gravels and floodplain sediments are sources of generally nonartesian ground water.

The Bagdad Arizona Iron Meteorite, Carleton B. Moore and Stanford L. Tackett, Arizona State University, Tempe. A new 2.2 kg. iron meteorite was found in the Spring of 1959 by Donald Stout along Burro Creek in Mohave County, Arizona. It is a medium octahedrite with the chemical composition, iron 90.0%, nickel 7.8%, and cobalt 0.6%. It will be named the Bagdad Arizona meteorite.

Sedimentary Structures in the DeChelly Sandstone and Their Significance, H. Wesley Peirce, Arizona Bureau of Mines. The Permian DeChelly Sandstone crops out in Monument Valley in both Arizona and Utah and on the Defiance Plateau in northeastern Arizona.

Regional correlations of the DeChelly Sandstone, with Permian units in other areas as well as correlations within the formation itself, have become confused because of insufficient knowledge of sandstone types and their areal distribution within the formation.

An understanding of the nature of the DeChelly Sandstone may be approached by examining sedimentary structural types within it and establishing whether or not the types recognized are contained in units of sufficient size to warrant at least informal member status.

From a study of the distribution of types of stratification, ripple marks, channeling, animal tracks, and general stratal arrangement, it is concluded that the DeChelly Sandstone can be subdivided into five informal members that represent vertical and perhaps lateral fluctuations in depositional environments. Recognition of these units materially contributes to understanding of internal and external correlation problems.

Subterranean Cavities in the Coconino Sandstone, Robert A. Schley, Flagstaff. A recent 500-foot descent by speleologists into an earth crack on the Wupatki National Monument disclosed an extensive cavity system in the Coconino sandstone.

The explored cavity averages 15 feet in width and varies from 100 to 200 feet in height. Its linear dimension is not known. However, a tracer study of air flow through a similar, nearby crevice has shown that diurnal subterranean ventilation occurs between the Wupatki National Monument area and the south side of the San Francisco Peaks, a distance of 30 miles. It is thought that the sandstone cavity system accounts for a subterranean volume, in excess of one billion cubic feet, computed from meteorological measurements of diurnal air flow through breathing air crevices.

The cavity system is thought to result from the collapse of the soft cross-bedded sandstone walls exposed in the vertical faults and joint locally described as earth cracks and fissures. Such topographic features as the Citadel and Arrowhead Sinks also appear to be better explained by subterranean sandstone breakdown than by subterranean limestone solution processes.

The frequent association of air-breathing crevices, earth cracks, and sink holes with major and minor archaeological sites in the Wupatki area suggests that these features may have played a significant role in the choice of specific post-eruptive building sites within the Wupatki area.

A sedimentation study of Citadel Sink is presently in progress. Possibly some stratigraphic data of interest to geologists and archaeologists will be available.

The Significance of Trace Metal Content of Galena, Bruce A. Staples, University of Arizona, Tucson. Past geochemical investigations have suggested that trace element content may be an indicator of relative time of formation of galena in a mineral deposit. Silver content of galenas, in particular, seems to show the most obvious relation to relative time of formation and to a specific orogenic event.

Investigations attempting to correlate silver or base metal content of galenas with model ages derived from lead isotope methods have shown that silver content appears to be related to the type of mineral deposit formed in a given metallogenic province. Silver content of galenas possibly may be used not only to judge the relative age of given deposit but also to determine whether the leads in the galena are of a normal or anomalous type of deposit.

The discussion will consider the successes of the silver content-age relationships investigations of galenas reported in the literature as well as base metal-age relationships that have been attempted.

Additional Late Papers.

JUNIOR ACADEMY SECTION MEETING
Room 206, Liberal Arts
2:00 p.m.

1. Presentation of Papers.

Circum-Cathodic Motion of the Ball-of-Fire Mode in Gas-Filled Electron Emission Tubes with Thermionic Cathodes, Ronald R. Royce.

Studies of Growth and Morphology of the Colonial Alga, Gonium pectorale, in Culture, Nancy Wilson.

Studies of the Effects of Single Frequency Sound Vibrations on Germinating Seeds of the Giant Saguaro, Nelson Swartz.

Rhenium - The Element and its more Important Compounds, William F. Jessee.

A Count of Intestinal Parasites of the Whitethroat Woodrat, Bob Lange.

2. Announcement of honors award winner, 4:00 p.m.

Southern Regional Science Fair--The exhibits of this Science Fair will be open to the public on the afternoon of March 30 in the Junior and Senior Ballrooms of the Student Union Building.

JOINT SESSION
PHYSICS AND RADIATION SECTIONS
Room 214, Liberal Arts
2:00 p.m.

1. Annual Business Meeting, including election of Chairman, Secretary, and Associate Editor for 1963-64.
2. Presentation of Papers.

Nuclear Reactions with Lithium Ions, Stanley Bashkin, University of Arizona, Tucson. Numerous discrete gamma rays and charged particles have been observed from the bombardment of Li^6 , Li^7 , Be^9 , B^{10} , B^{11} , and C^{12} with beams of energetic ions of Li^6 and Li^7 . The outgoing radiations have been identified as coming from various residual nuclei. From the absolute and relative yields of the radiations one can suggest that the light nuclei have a cluster-type structure into which they are deformed by a collision with another light nucleus. It seems reasonable that the nuclear reactions depend on the quantum - mechanical tunneling of a cluster from one nucleus to another, and some effective selection rules appear to operate in these transfers. The nature of the clusters and the selection rules will be discussed.

Response of a Simple Photoconductor to a Square Light Pulse, Roald K. Wangsness, University of Arizona, Tucson. The time dependent signal produced by a finite light pulse of constant intensity is calculated for a photoconductor for which trapping effects are neglected. It is found that the signal is given by a sum of terms varying exponentially with time and involving an infinite set of time constants whose values are determined by the geometry and the rates of bulk and surface recombination. It is shown that the maximum signal occurs at the end of the pulse and that in order to maximize the ratio of the maximum signal to the noise it is desirable to have equal recombination rates on the two surfaces and to make the ratio of the thickness to the diffusion length as small as is possible without adversely affecting the steady-state detectivity.

Some Aspects of High Resolution Electron Microscopy, Alvar Wilska, University of Arizona, Tucson.

Some Aspects of Infra-red Astronomy, Harold L. Johnson, Lunar Laboratory, University of Arizona, Tucson.

Quantum Mechanical Cell Model for Liquid Hydrogen, Douglas J. Henderson, Arizona State University, Tempe. The cell model of Lennard-Jones and Devonshire will be applied to liquid hydrogen. An approximate cell potential for which the energy levels can be calculated in closed form will be discussed and the resulting thermodynamic properties will be compared with experimental results. Exact methods of calculating the energy levels for the Lennard-Jones and Devonshire potential will be indicated.

Formation of Radiation Section and its Relation to a National Scientist's Institute for Public Information, U. H. Bents, University of Arizona, Tucson. The formation of the Radiation Section of the AAS and its activities will be reviewed. The recent conference for Scientific Information on Nuclear Age Problems and the formation of a National Scientist's Institute for Public Information will be discussed.

Additional Late Papers.

ARIZONA ACADEMY OF SCIENCE FACTS

Founded in 1956; affiliated with American Association for the Advancement of Science; membership exceeds 550; Journal in fourth year of publication and second volume; Journal on exchange with 150 libraries; Traveling Science Institute (TSI) in fourth year; nearly 500 TSI programs have been given to over 30,000 high schoolers and public; research grants-in-aid and scholarship programs actively supported; Junior Academy activities growing rapidly on State-wide basis.