On several maps, as that accompanying a report of another survey across the continent, by William J. Palmer, published in 1867 and 1868, sites of ruins are indicated in southwestern Colorado. Printed references to Surouaro are made by Jackson, Holmes, Prudden, and other writers, but aside from the statement of the last mentioned, that it is a cluster of mounds indicating pueblos of the unit type, we know little regarding their size and architectural peculiarities. The arrangement of mounds in a cluster, like many others in the cedar clearings, suggests the Mummy Lake group on the Mesa Verde, and it is probable that each member of the group if excavated will be found to resemble Far View House.

My attention was called to a ruin near Dolores by Mr. R. W. Williamson, of that city, and not being able to visit the site I urged him and others to collect more details, from which my belief was confirmed that the ruin mentioned by the Spanish fathers is the same as Newberry's Surouaro.

As one fruit of my inquiries for corroboratory evidences bearing on the identification of the oldest mentioned ruin, I obtained unexpected information from Mr. J. W. Emerson, a ranger on the Montezuma Forest Reserve, who is well acquainted with the region near Dolores. In a letter received a short time ago from Mr. Gordon Parker, supervisor of the reserve, who has always shown great interest in my work at the Mesa Verde, there was enclosed a copy of a report made by Mr. Emerson to the Forest Service, on a remarkable ruin near Dolores which, although not corroborating the above identification, greatly intensified the desire of several years to visit the area in which lies the supposed first ruin in Colorado mentioned in writings by white men. Mr. Emerson's report is accompanied by a rude ground plan, indicating a ruin as unusual in form as the mysterious Sun Temple of the Mesa Verde Park, which it somewhat resembles.

It does not answer the description of Surouaro by Newberry, and its exceptional character would not have impressed the Spanish fathers, if they noticed it at all. In fact, judging from the "ground plan" furnished by Mr. Emerson, its form is remarkable even in a region where many different forms exist.

I will not occupy the reader's time with the details of the building revealed in this report, as they would be more appropriate in a formal article and can be greatly augmented by excavations, but will point out that its form is roughly semicircular, the plan showing concentric walls bounding rooms separated by partitions, the outer straight wall on the south side being like the south wall of Sun Temple. The building measures 100 by 80 feet, exhibiting masonry characteristic of the purest pueblo type. A complete excavation promises to reveal data on the connection between the prehistoric towers of the southwest, circular ruins, and the problematical Sun Temple.

It is evident that the southwestern corner of Colorado, from which locality not a single ruin had been recorded a century and a half ago, contains some of the largest, best constructed, and most mysterious pueblo ruins and cliff dwellings in the United States, and offers unusual data bearing on the history of aboriginal American culture.

J. Walter Fewkes
Bureau of American Ethnology,
Smithsonian Institution

SCIENTIFIC EVENTS

PRODUCTION OF NITRATES BY THE GOVERNMENT

Announcement is made by the War Department of its preparations for the production of nitrates in accordance with a report filed by the Nitrate Supply Committee. This report is given in part below. It is further stated that for the present the location of the proposed nitrate plant is withheld, but information concerning its location will be given as soon as a definite decision is reached. The work of supplying the machinery and materials needed for the plant has begun.

The Nitrate Supply Committee, appointed by the Secretary of War, was under authority of a provision in the national defense act for an investigation "to determine the best,

cheapest and most available means for the production of nitrates and other products for munitions of war and useful in the manufacture of fertilizers and other products."

The general recommendations and report of the Nitrate Supply Committee are announced as follows:

After a deliberate and careful consideration of all the matter and information at the disposal of the committee, it submits the following as its action:

1. The committee, appreciating the offer of the General Chemical Company, recommends that the government enter into negotiations to acquire the rights to use the synthetic ammonia process of that company.

2. That contingent upon satisfactory arrangements with the General Chemical Company, out of the $20,000,000 nitrate supply appropriation such sum as may be needed, now estimated at $3,000,000, be placed at the disposal of the War Department to be used in building a synthetic ammonia plant, employing the said process of the General Chemical Company, and of a capacity of 60,000 pounds of ammonia per twenty-four-hour day, said plant to be located in a region where land, water, coal and sulphuric acid are cheaply available, where good transportation facilities exist, and where the proposed new powder plant of the government can be properly located. In the opinion of this committee all of these conditions just enumerated are best fulfilled by a location in southwest Virginia or contiguous region.

3. That out of the $20,000,000 nitrate supply appropriation an amount now estimated at $600,000, or as much as may be needed, be placed at the disposal of the War Department to be used in building a plant for the oxidation of ammonia to nitric acid and the concentration of nitric acid, of a capacity equivalent to 24,000 pounds of 100 per cent. nitric acid in a twenty-four-hour day, said plant to be located in the neighborhood of the aforesaid synthetic ammonia plant and the proposed new powder plant of the government.

4. That the War Department proceed at the earliest practical date with the construction of the oxidation plant and contingent upon a satisfactory arrangement with the General Chemical Company, also with the synthetic ammonia plant, and that the government give such priority orders as will secure from contractors prompt delivery of the materials and rapid construction of the structure and machinery needed for those plants.

5. The committee, appreciating the offer of the Nitrogen Products Company granting, in this country, to the government, under certain conditions, the right to use the so-called Bucher process for the production of sodium cyanide and ammonia, recommends that a form of contract, drawn with the advice of the legal authorities of the government, such as to give that company no guaranty or exclusive rights in the process, or in its future development, beyond those which the company's own patents give to it, be entered into with the Nitrogen Products Company, and that experimentation looking toward the industrial development of the Bucher process for the production of ammonia be at once proceeded with. And, further, that contingent upon a satisfactory arrangement with the Nitrogen Products Company, a sum not to exceed $200,000 be allotted for this purpose out of the $20,000,000 nitrate supply appropriation.

6. That out of the $20,000,000 nitrate supply appropriation $100,000 be made available for the active prosecution of investigations of processes for the industrial production of nitrogen compounds useful in the manufacture of explosives or of fertilizers, and that these investigations be planned and supervised by the War Department.

7. That in order to increase the production of ammonia and toluol the government promote the installation of by-product coke ovens by directing that priority be given in the production, delivery, and transportation of the materials and parts needed in their construction.

8. That the decision as to more extensive installation of nitrogen fixation processes and water power development in connection with them be postponed until the plants above rec-

ommended are in operation or until further need arises.

9. While the preceding recommendations include all the measures that can now judiciously be taken for the fixation of nitrogen and the oxidation of ammonia, it is the opinion of the committee that the immediate accumulation and the permanent maintenance of an ample reserve, not less than 500,000 tons of Chile saltpeter, is the measure most urgently necessary.

The Nitrate Supply Committee comprised the following Army and Navy officers, scientific men and engineers:

Brig. Gen. William Crozier, Chief of Ordnance, War Department; Rear Admiral Ralph Earle, Chief of the Bureau of Ordnance, Navy Department; Brig. Gen. William M. Black, Chief of Engineers U. S. A.; F. W. Brown, Bureau of Soils, Department of Agriculture; Leo H. Baekeland, Yonkers, N. Y.; Gano Dunn, New York City; Charles H. Herty, New York City; William F. Hillebrand, Bureau of Standards, Department of Commerce; Arthur A. Noyes, Institute of Technology, Boston, Mass.; Charles L. Parsons, Bureau of Mines, Interior Department; and Willis R. Whitney, Schenectady, N. Y.

THE ARMY AVIATION SCHOOL AT THE UNIVERSITY OF CALIFORNIA

In the United States Army School of Military Aeronautics at the University of California the following appointments have been made:

Major Arnold N. Krogstad, J.M.A., Signal Corps, commandant, quartermaster, ordnance officer, summary court, president of examining board.

Dr. B. M. Woods, president of academic board.

First Lieutenant Bruno F. Sandow, Medical Reserve Corps, post surgeon, member of examining board.

First Lieutenant Gerald F. Stoodly, Dental Reserve Corps, dental surgeon.

M. S. E. Herman H. Walker, Signal Corps, retired, clerk, commandant's office.

M. S. E. Milton N. Williams, Signal Corps, retired, acting quartermaster sergeant.

Private Joseph L. Walker, A.S., Signal Corps, assistant instructor in rigging.

Professor B. F. Raber, associate professor of mechanical engineering and professor of aeronautical engines.

D. J. Conant, professor of aeronautical engines.

Donald B. McFarlane, instructor in gas-engine practise.

F. H. Bachman, instructor in internal-combustion engines.

Collier Raber, mechanic and tool-room keeper.

J. A. Polhemus, instructor in theoretical mechanics.

H. M. Jeffers, instructor in astronomy and meteorology.

W. D. Waterman, instructor in rigging, structure and care of aeroplane.

R. J. Heffner, instructor in maps and reconnaissance.

E. N. D'Oyly, instructor in artillery observation and use of miniature artillery range.

Dr. L. T. Jones, instructor in physics and professor of machine guns.

F. S. Stockton, G. R. McDonald and Herbert G. Russell, instructors in machine guns.

R. B. McPherson, instructor in wireless and signaling.

Harold Fielder, instructor in wireless.

E. S. Pillsbury and E. F. Steen, instructors in military tactics and lecturers.

Clifton R. Gordon, J. C. Moses and G. G. Mitchell, instructors in military tactics.

F. W. Cozens, instructor in physical education.

Grandison Gardner, instructor.

APPOINTMENTS IN THE ORDNANCE DEPARTMENT OF THE ARMY

The United States Civil Service Commission announces the following open competitive examinations for positions in the several ordnance establishments of the War Department or in or under the office of the Chief of Ordnance, War Department, Washington, D. C. The salaries named are for entrance.

Mechanical engineer, artillery ammunition, $3,000 to $3,600 a year.

Mechanical engineer, experimental work, $2,500 to $3,000 a year.

Mechanical draftsman, $1,000 to $1,400 a year.

Apprentice draftsman, $480 a year.

Inspector of artillery ammunition, $1,500 to $2,400 a year.

Inspector of field artillery ammunition steel, $1,500 to $2,400 a year.

Assistant inspector of field artillery ammunition steel, $3.50 to $5 a day.