

# WONDERS of the SOUTHWEST

By N. H. DARTON, U.S. Geological Survey

**T**HE southwestern section of the United States is a province that presents many special characteristics of physiography, climate, resources and capabilities which are not as well known as they deserve to be. The term "southwest" is usually applied to New Mexico, Arizona and southern California, an area of about the size of New England, New York, Pennsylvania, Maryland and the Virginia. Much public attention has of late been attracted to Arizona and New Mexico in connection with their admission to statehood, and one gratifying result of this has been a greatly increased interest in their resources and conditions.

Exceeding the population and thirty coast region of southern California, the southwest is the most thickly populated and least developed portion of the country south of Alaska. In this condition it has mainly to be cultivated so that that but little can be raised without irrigation, its future development is to be measured by the utilization of the vast volume of good waters now going to waste. This water can be applied to millions of acres of level lands with rich soil, which with the unending supplies of the mild climate will respond with large and profitable crops.

Unfortunately, there is not enough water for all the land, but there is sufficient, if all were utilized, to support a population many times as large as the present one. The government is now spending \$12,000,000 in reclamation projects in Arizona and New Mexico which supply water for nearly one-half million acres of fertile lands. This will give great impetus to development, and in time, when settlers take up the reclaimed land, there will be a large increase in its agricultural production.

In the great coast region of southern California, with a population of nearly 6,000,000, the principal product is the orange and other fruits, with a value of about \$20,000,000 a year, while in the inland districts the mining industry is the largest source of revenue. Portions of the southwest are richly productive of various minerals, notably those of copper, and recently southern California has become a heavy producer of petroleum. The value of the copper, oil and other products of the ground aggregates about \$75,000,000 a year.

It is probable that further exploration will disclose large additional supplies of ores of various kinds, especially those of low grade, which will prove profitable under improved methods of reduction.

The southwest presents a variety of topographic features, and many of its economic resources are closely related to them. There is great range in altitude, with corresponding variation in climatic conditions. One of the most notable features is the wide, high plateau of northern Arizona, which reaches an altitude of 8,000 feet. It is surrounded by various volcanic peaks, notably San Francisco peak, which is 12,511 feet above sea level.

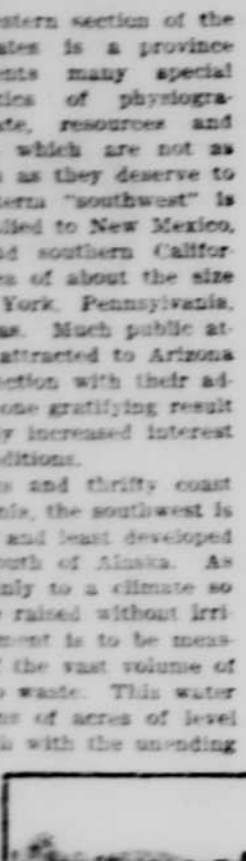
To the east this district merges into an irregular series of high plateaus, constituting the western half of New Mexico.

To the west and south it drops by huge steps into the great region of desert valleys or basins of Nevada, western Arizona, and southwestern California. These deserts are wide, low plains, lying between mountain ridges of varying lengths and heights, ridges which are all very rocky and mostly treeless and trend north and south.

Dissected across southern California there extends the long curving ridge of the Sierra Madre and San Bernardino mountains, between which and the coast lies the large oval area known as the valley of southern California. This valley is the great citrus fruit district, and Los Angeles.

There are two great rivers in the southwest, the Colorado and the Rio Grande. The Colorado river has been compared to the Nile and the similarity is notable. Both are streams of the first rank, rising in high mountains, and finally crossing a broad region of semi-tropical, nearly rainless deserts. Both empty into seas in nearly the same latitude, and their lower courses are through wide deltas of fertile soil. The annual overflow adds new sediments fertile with plant food and at a time favorable for the crops.

The agricultural capabilities are closely similar, but while much of the lower Nile valley is utilized the Colorado valley is just beginning to be settled. The watershed area of the Colorado, with its two broad branches, the Green and the Grand, is over 200,000 square miles, its course 2,900 miles in length, and its annual discharge is 11,600,000 acre-feet, or enough to cover that number of acres one foot deep.



NAVAJO CHURCH  
A PRODUCT OF EROSION



GRAND CANYON OF THE COLORADO NEAR THE HANCE TRAIL



CROOKED CREEK LONG VALLEY, CALIFORNIA



CANYONS OF THE GANYON NORTHEASTERN ARIZONA



PUEBLO OF ZUNI, WESTERN, NEW MEXICO

about 4,000 feet wide and 600 deep, with an irregular encircling rim of loose rock fragments from 120 to 160 feet high. The petrified forests attract many visitors, especially the most accessible one south of Adamana, a station on the Santa Fe railroad a few miles east of Holbrook. There is a large quantity of the material in sight here, some of it in large logs. One of these logs spans a small draw as a natural bridge.

Arizona possesses a very picturesque natural bridge of limestone spanning Pine-creek, in Gila county, permanent and mostly very ancient, and their religious ceremonies are extremely elaborate and picturesque. They live in villages of several hundred inhabitants, in substantial stone or adobe houses, some of which are in groups, rising in tiers to a height of four or five stories, with streets and central plaza. They are peaceful and industrious, raising crops largely by irrigation. They have herds of cattle and sheep, and spinning, weaving and making their garments is one of their important occupations.

Work appears evenly divided between men and woman in the pueblos. The men do the farming, tend to the cattle and sheep, do the hunting, build the houses, and have many smaller trades and occupations. The women do the housework, grind the corn, make pottery, blankets and clothes.

The visitor is generally impressed by the pueblo people and pleased with the agreeable home life and simple hospitality which they readily offer.

The interesting features of the southwest, notably the beauty of the coast region and the special climatic advantages, draw a large number of tourists and health-seekers, especially in winter, and every year see a substantial increase in the influx of visitors.

Because of its dry air and mild climate the southwest has become famous as a health resort, especially for those having tuberculosis of the respiratory organs. The percentage of cures made in New Mexico, Arizona and California, great as it is, would be much greater if a larger proportion of those who are seeking health came in time. It is necessary to come before the vitality is too greatly diminished and then to live under favorable conditions, the most essential of which is to be out of doors as much as possible.

Many health-seekers spend most of their money in railroad fare to reach the desired resorts. Physicians do a great wrong to patients in sending them so far from home, friends and care without means to provide suitable quarters, nourishment and attention to sustain them while making their fight against death.

The climate of the southwest presents considerable variety, but in all the lower lands the winters are delightfully mild, and everywhere blue sky is in evidence for more than 200 days in the year. The summers are warm; in the southern desert area they are decidedly hot for several months, but the dry air even then is much more endurable than the sultry summer weather of the eastern and central states. Sunstroke is unknown, and laborers continue their work without distress.

The valley of southern California is protected from the cold northern winds of winter by high mountain ranges, while to the south it is open to the Pacific, owing to the peculiar configuration of the coast the cold California current from the north is deflected west near Point Conception, and hence the southern California shores have waters warmer by about ten degrees than those to the north.

This beneficent climate is responsible for the giant industry of fruit growing which has made California famous over the globe. California furnishes the major part of the very large amount of oranges and other citrus fruits consumed in the United States, and this business has been the potent cause in the development of southern California.

The orange and other citrus fruits of southern California have an output of about 20,000 carloads a year, with a net value of more than \$15,000,000. East of the mountains in southern California is an extensive desert country, much of it without water, but large areas can be reached by ditches from the Colorado river. The most notable district of the sort in the Salton desert, near the Mexican boundary, a few years ago this was a lonely and forbidding region, but now, by aid of irrigation from the Colorado river, it has several thriving settlements, with 100,000 people and 200,000 acres of cultivated land. That portion of it known as Imperial valley has the greatest development, and with rich soil and semi-tropical climate phenomenal results have been obtained when water is applied.

One of the best known products of this region is the cantaloupe, of which the annual shipments are over 1,800 cars, bringing nearly a million dollars. This valley contains over 400,000 acres of land, and just across the Mexican line are 200,000 more.

The great oil fields of California are in the southern part of the state, and with rapidly increasing production they promise to be the largest producers in the country. Ethelberga became first abbess at Barking. It was the first nunnery established in this country. In A. D. 870 the Danes destroyed it by fire, and it lay desolate for a century until restored by King Edgar. Many members of royal families were among its abbesses. From the fact that the main passage runs in the direction of Barking creek, a short distance away, it is believed to have afforded a channel of communication from the abbey to the waterway and thence to the Thames.—London Standard.

## GIVEN UP TO TRADE

Only the Old Guard Holds Forth on Fifth Avenue, N. Y.

Fashionable Thoroughfare Has Been Almost Completely Sold Out to Invading Mercenaries—Only Few Prominent Families Remain.

New York.—Imperious old Fifth avenue has gone—not into clay, but into trade. At Fifty-second street the Vanderbilts, the Sloanes and the Shepards, buttressed behind their massive mansions, have been making the last stand of the old guard against the invasion of mercenaries. But now, unlike the old guard, they have surrendered, and within a year Mrs. Cornelius Vanderbilt will have for third door neighbor a French modiste with fine, big electric signs to enliven the famous mansion at Fifty-seventh street, where for years and years the destinies of social America have been swayed.

It is well within the memory of most New Yorkers when Fifth avenue from Fiftieth to Fifty-ninth street was so exclusive that only the Knickerbockers could live there, whatever their wealth. Then policemen frowned creaseless trousers of the street. Now folks of all classes mingle freely, and there is only one block in all the ten where trade has not intruded. In this block within six months an apartment house with a promised height of some hundreds of feet will crown the neighborhood.

The whole story of it all is that the "old Fifth avenue" has sold out. It has received more money consideration from trade for moving up town into the new Fifth avenue than the sentimental satisfaction of preserving its ancestral homes was worth. It has emigrated northward—or to Europe, therefore, leaving only the three Vanderbilts, the Sloanes, the Shepards, the Huntingtons and William Rockefeller.



The Vanderbilt Home.

feller as representatives to battle at the last ditch or make the surrender complete.

Take that stroll down Fifth avenue from Fifty-ninth street, for the fun of it. Then it was one fine long row of mansions—granite and marble and brownstone—every one a palace and every one inhabited by an aristocracy as great as America can ever furnish.

But now, walking down the street from the park entrance, you meet fewer mansions than shops even for the first three blocks. A count shows five brokers, three real estate offices, two corset concerns and a French modiste between the Plaza and the residence of Mrs. Cornelius Vanderbilt to the south. And in Fifty-seventh street, not far from the Vanderbilt mansion and just west of the Harry Payne Whitney residence, the famous old Oliver Harriman mansion is to be made over into a store for a dressmaker. The fact that this new neighbor is said to have been a Virginia beauty before she entered the trade, however, may appeal to the social taste of the Whitneys and Vanderbilts.

Just below, the famous old Andrew Zabriskie house has gone into the hands of Schumann's sons, who are making it over into fine business quarters, with apartments above. And right there, also, is the Collis P. Huntington mansion, with a new gilded art shop across the way.

This little hunt down Fifth avenue shows, in addition, an amazing display of glittering signs, with stately backgrounds of brownstone and marble, advertising trade where New York's real society used to hold levee. Signs are everywhere. One of them even advertises coal from the basement of an old mansion that wreckers are destroying overhead.

## POLICEMAN A CORN EATER

New York Officer Gets Away With 61 Ears in 3 Hours and 5 Minutes.

New York.—Policeman William Ornsteln won the \$10 purse and the corn eating championship of the world when he disposed of sixty-one ears of the succulent "roasters." "Red" Dugan, former champion, who has been driving a horse and was out of form, did not much more than run half way to Ornsteln's figure. William Ornsteln, who has always been a rival of Dugan, was merely an "also ran."

Ornsteln is a newcomer in the corn eating field. After the feat he announced that he had "saved" some room if any contestants came late. The corn eating contest was the event of the season on the East side of Edward Rosensteln, known all over the East side as "Rosy," had arranged the event. It was in celebration of his forty-eighth birthday, and took place in his saloon at Broome and Clinton streets.

Ornsteln is ready to receive challenges from all comers.

## Headache Powders Kill

Woooster, O.—Mrs. D. J. C. Hanna of Big Prairie, died a few hours after taking an overdose of headache medicine. Suffering with a severe pain the woman went to her husband's medicine case and took a tablet. It had no effect and in half an hour she took another. There was enough poison in the two tablets to cause her death in spite of her husband's efforts to save her.

## The Reason It Aged

"I have kept this whisky twenty years." "Gee! You must have known what kind it was!"

## KEEPING CHEESE HARD TASK

It Should Be Kept Under a Glass or China Top All the Year Around.

Weish rarebits, cheese souffles and other cheese dishes are convenient for summer, if cheese can be kept in condition.

This is so difficult that dealers refuse to sell certain cheeses during hot weather, while others spoil so quickly as to be unsafe to buy.

Where one lives within convenient distance of a store buy only enough cheese for immediate use, any loss is thus up to the dealer.

If living in the country, it is necessary to keep cheese on hand, though large supplies should not be laid in. Cream and soft cheese in jars or tinfoil should be kept in the refrigerator until just before using. As the odor of the cheese quickly taints other foods it should be kept in a tightly covered glass or china bowl or jar. A large preserving jar with screw lid will hold several smaller jars of cheese.

Do not eat cheese in summer if there is the least green mould on it. Impress this upon maids, as some of them scrape it from the edges and serve the rest of the cheese in balls or squares.

Cheeses like Switzer, American or certain of the English and Swiss cheeses, should be kept under a glass or china top all the year round if brought in quantities. In warm weather it is well to wrap the cheese first in a clean piece of linen wrung out of vinegar.

## Care of Brooms.

With the increased cost of brooms, the thrifty housewife wishes to preserve their usefulness as long as possible. Soak a new broom for several minutes in hot suds; this not only toughens but tightens the broom whips. Then hang it up to dry. A broom, when not in use, should always be hung up. Tie a groove around the handle and tie a cord around it, leaving a loop for hanging, or use one of the patent fasteners which screw to a door. These may be bought for a few cents. The soaking process should be repeated every fortnight.

Another housewife washes her brooms in cold soap water, rinses thoroughly in cold water, snaps off all moisture possible and pressing the corns into shape places where they will dry slowly. All matted will also last longer when occasionally wiped up with salt and water.

## Little Date Pudding.

One pound stoned dates, one-half pound suet, one cup flour, one-half cup sugar, one scant teaspoon salt, one teaspoon cinnamon, one teaspoon ginger, one cup soft bread crumbs, one cup milk, two eggs well beaten.

Put the suet and dates through the food chopper together. Sift in the flour, sugar, salt and spices, add the crumbs and mix all together thoroughly. Add the milk to the beaten eggs and mix again. Steam two hours in buttered individual molds. A pudding steamed in individual molds is easy to serve and attractive looking, although a suet pudding is more moist and really better when cooked in a larger mold, where there is plenty of room for expansion.

## Chopped Piccalilli.

Chop one peck of green tomatoes fine. Sprinkle with one cup of table salt and let stand over night. Drain, add one quart of finely chopped green peppers, first removing the seeds; one quart of finely chopped onions and three cups of brown sugar. Put into a small cheesecloth bag one tablespoon of whole cloves and three tablespoons of broken cinnamon, one tablespoon of white allspice and four tablespoons of white mustard seed.

Drop the spices into sufficient vinegar to cover the pickle and simmer several minutes, add the vegetables and cook slowly until tender. Remove the spice bag from the pickle before sealing in jars. Keep in a cool, dark place.

## Angel Cake Hints.

A loaf of angel cake hollowed out and with the crusts removed to give a snow-white appearance makes a charming holder for ice cream. A snow-white cream flavored with almond and decorated on top with bright red candied cherries, a delicate pale green cream flavored with pistachio and decorated with pieces of green angelica or a strawberry cream of delicate pink—all look charming in such a receptacle. Individual cups of angel cake may be used for a change and the ice cream within them topped with whipped cream.

## Sweet Apple Pickle.

Twelve pounds of sweet apples, pared and quartered, four pounds of sugar, one ounce of cinnamon bark, one-half ounce of cloves, one pint of vinegar. Put spices in a cloth, tie up, then boil vinegar, sugar and spices well; add apples and boil 20 minutes. Put apples in a jar, boil syrup until thick and pour over them. Simply delicious. Pears are also good prepared this way. Use winter sweet apples, also winter pears.

## Feather Biscuits.

One pint of flour, two tablespoonfuls of baking powder, a pinch of salt, one tablespoonful of lard, one tablespoonful of butter and a cup of sweet milk. Mix flour, salt and baking powder, rub in the lard and butter and moisten with the milk. Cut about half-inch thick and bake in a quick oven twenty minutes. They never fail.

## Fruit Sandwiches.

Butter either brown or whole wheat bread on the loaf, slice very thin and cut for sandwiches. Put ripe bananas, cut lengthwise, in thin slices. Cut slices in halves and arrange a layer in each sandwich with a crisp lettuce leaf next to bread. Sprinkle lightly with salt and a few drops of lemon juice.

## To Clean Silver.

Discolored silver may be easily cleaned in this way: Crush a teaspoonful of rock ammonia and pour over it half a pint of boiling water. When cold bottle, and use to moisten the plate powder. Leave the plate powder on the silver for half an hour and then brush off.

## EXPLORING BARKING ABBEY

In the course of excavations for a new street at Barking a subterranean passage was discovered which had evidently led from the old abbey. A workman, while digging at a depth of ten feet, drove his pick into some soft stonework, and after the subsequent collapse of earth the passage was revealed. It was found that the pick had been driven through the arched ceiling of a stone-built passage

a fall of earth and in the other case, presumably, by the character of the structure itself. Two smaller passages turn off the first passage, and in one of the side turnings there were found half a dozen human skulls and a quantity of bones. Among the latter is a number of jaw bones of horses or other large animals. All the bones and skulls are charred.

The Abbey of Barking is reported to have been built in A. D. 673 by Erkenwald, who afterwards became Bishop of London, and whose sister

## Manded Down From the Past.

The fear of the dark has lasted long after the reason for that fear has gone. Just as the dog's habit of turning round and round before he lies down to sleep has lasted since the time when his ancestors, the wild wolf-dogs, used to turn round and round in the deep drifted leaves of the forest to make warm, sheltered beds to sleep in. The habit has lasted long after the need for it is over, and on the smooth beach the dog still turns round and round.

Conon butte, another of the greatest wonders in our country, is also situated in the southwest, but owing to its distance from the railroad it is seldom visited. It is a great crater-like bowl in the plateau, about ten miles south of Canyon Diablo station. "The crater" is

some eight feet six inches high and about six feet wide. Exploring parties have investigated the interior by the aid of candle light. The walls were found to be damp and clammy, and the floor was covered with a thick carpet of spongy substance. Into which the feet sank slightly. For a distance of nearly 20 yards the passage is clear, and at either end of this stretch it is blocked, in one case by