maps

Selected and Compiled by Don H. Bufkin

"Much as a child's drawing of a
neighborhood reflects his attitude
toward the surroundings and his
own place in them, so a society's
map of its geographical setting
reveals, often in the same unconscious
way, something of its sense of
position in the world."

- Alan K. Hendrickson
"All the World's a Map"
(The Wilson Quarterly, Spring 1979)

For a long time after the eastern portion of the United States was settled, the southwest was a region unknown. It appears on countless hypothetical maps as a wilderness of nomads. The first explorers faced the challenges of not only charting a course across desert and mountains, but of recording what they found here. What their drawings represented depended upon who they were and why they came.

Don Bufkin has selected ten maps from the many rendered of Tucson and the surrounding area, on the basis of their variety and of their ability to reflect the attitudes taken towards this open land. We see that we began to impose our imaginary lines and measurements upon the landscape, more and more dependable data could be compiled, and yet it took a view from far above and a camera to give us a true sense of where it is we have chosen to live.

It is interesting to twentieth century travelers to know who has gone here before and what they have found but perhaps it would do well to abandon the printed sheets of abstractions and imagine ourselves on a well-worn footpath, searching for familiar rocks, a change of plants, basin or river bed.

We would learn to train our eyes away from the page and on the distance. It would inform us that a mountain can be either a barrier and a threshold. As Alan Hendrickson says: "The cartography of the physical world is a cartography of the mind."

PLATE I - KINO MAP (1710)

The 17th century Jesuit missionary, Father Eusebio Francisco Kino, was noted for his cartographic skills. This particular map, the last he made of our region, had a great deal of influence on subsequent interpretations of the Mexican Province, or "New Spain." A major contribution was his observation that California is not an island. He further noted that the Gila and Colorado rivers joined well north of the Gulf of California, then divided again to form a small island.

This map is especially interesting to us today because it reminds us that rivers were the "roads." In the lower left-hand corner are his siglia to identify the various settlements: (from top) Christian native towns; mining towns; farms and ranches; military forts; ancient settlements; and towns of unconverted Indians.

On this map Kino designates Tiburon Island "Seris," and he has placed two large islands further out in the gulf (San Vicente and Santa Ines); these were later determined to be one (Angel de la Guarda).

Kino tried to show the relationship of the area to the Rio Grande. The drawing is out of proportion, but still reflects his keen observation and skilled use of cartographic instruments. In addition to the method of celestial charting, the missionary explorer used the astrolabe, a simple device made to work with the angle of the noonday sun.

For a study of Kino's cartography, see Ernest J. Burrus, S.J., Kino and the Cartography of Northwest New Spain, Arizona Historical Society, 1965 (fr 912.79/B94k).

PLATE II - BALTHASAR MAP (1744-1745)

This is a manuscript map made on the spot without employing an engineer's methods. It is a representation of the missions in Pimeria Alta drawn by a resident missionary for Father Visitor (Inspector General) Juan Antonio Balthasar. The distances between the missions are shown in leagues. A league was measured by the soldier's march, and so varies. Afternoon measurements were likely to be made in less sprightly steps; rough terrain would appear to be a longer distance.

This map covers an area that relates to northern Sonora as we know it today. The top is just about at the Arizona border. Arispe (left) was a capital city. Many of the missions shown here appeared on the Kino map, and many are towns on the maps of Sonora today.

The Balthasar map appears in a study by Peter Masten Dunne, S.J., Juan Antonio Balthasar, Padre Visitor to the Sonora Frontier, 1744-1745: Two Reports, Arizona Historical Society, 1957 (R92/B217d).

PLATE III - FERGUSSON MAP OF TUCSON (1862)

When the Volunteer Army chased the Confederates out of Tucson, Major David Fergusson ordered a map made and property recorded. This is the first known detailed map of Tucson. Surely others have been drawn by previous occupants, but none have been found.

The map, of which this is a portion, shows the structures and public rights of way, which were identified by Spanish names. Ten years later, when the area was surveyed, these names were anglicized. Calle Real became Main Street. Calle del Arroya was called Pennington. Calle de la Guardia, Alameda.

The purpose of the survey was to make it a matter of record who owned what. The accompanying document was William S. Oury's Property Book. Unfortunately, the numbers in the book designating parcels do not correspond to the numbers on the map. However, both originals are in the Arizona Historical Society Archives.

PLATE IV - FERGUSSON MAP OF CULTIVATED FIELDS (1862)

At the same time the Fergusson map of Tucson was made, a record was drawn of the flood plain and irrigation system. The fields converged at the base of Sentinel Peak ("A" Mountain). At this point the underground river flowed above ground. As the peak indicates, there is a volcanic outcropping at that location that forces the water to the surface. The flow was diverted to the marshy fields through acequias (ditches).

Photographs taken in the 1880s show a line of trees along the flow, but no banks. The Santa Cruz had not yet cut a channel.

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PLATE V - GENERAL LAND OFFICE SURVEY (1871)

Under the direction of John Wasson, Surveyor General of Arizona, the first land surveys were made in the Tucson vicinity in which Townships, Range and Section lines were included. The survey is based upon the Gila and Salt River meridian. The purpose was to record public lands so that land claims and homesteads could be made.

People living in Tucson at that time did not hold title to the land upon which they had settled. The village of Tucson incorporated and applied for patents on two sections so that the village could then deed the property to the settlers. The price was $1.25 an acre.

Under the Gadsden Treaty, the U.S. had agreed to recognize Mexican titles to Spanish land grants.

Note the early roads to Fort Yuma, Tubac and Apache Pass. They more or less established the routes for our highways of today.

The surveys were bound into a book of plat maps, examples of which are in the Arizona Historical Society Archives. For a detailed description of the grid system, see Henry P. Walker and Don Bufkin, Historical Atlas of Arizona, University of Oklahoma Press, 1979 (q911.791/w152h).

PLATE VI - SANBORN FIRE MAP (1883)

This is a portion of one large page in a set made to show details of the city. The Sanborn Company sold insurance. Cities would contract for protection, and part of the arrangement was to have a set of maps showing all of the existing dwellings and their materials and relationships to the water supply.

These maps were made for cities throughout the United States. They are now a great help to historians in reconstructing the physical environments at various times. Because they were updated every few years, they trace the gradual development of the area, showing, for example, how neighborhoods changed from residential to commercial property, and to what extent street names were changed.

Sanborn Maps for Tucson and other Arizona cities may be seen at the Arizona Historical Society Library. In some cases, the changes have been indicated by an overlay cut-out of improvements right over an old map in the book, thereby obscuring the earlier record. Still, much can be learned about living conditions in Tucson over a period of almost one hundred years.

PLATE VII - CONTOUR MAP (Early 1950s)

Here we have a detailed interpretation of the elevations, determined by aerial photography, combined with a street and block map. Planners now could plot subdivision developments and utilities, taking into account the irregular topography. This portion shows the city from First Avenue to Twelfth, and from Speedway to Twenty-second.

Note the large areas still fields and the clay or brick and borrow pits. A great deal of building was going on during this period, including street improvements.

The channel of the river reflects a sudden release of water in the early part of the century. In the 1880s there was a drought to the north and some say this started the erosion. It is also remembered that there was a forty-acre lake backed up behind a dam to create a resort south of the city. Local people frequented Silver Lake on Sunday afternoons, and a two-story hotel was built on the premises for guests. But the dam gave way on several occasions, and this release hastened the cutting of a channel on the Santa Cruz.

Where the contour lines are drawn close there is a steep embankment. A good vantage point for studying the residual features of the changing river is at Granada Avenue near Alameda Street downtown. Looking toward Main Street (east), one can discern a twelve-foot-high wall of rock. This was the bank of the earlier flood plain. In other words, in the 1880s there were only marshy fields west of Main..

PLATE VIII - U.S.G.S. (1957)

The United States Geological Survey Office was created in 1879. Mapping the entire United States was one of its principal charges. The basis established was the quadrant, divisions created by longitude and latitude. These located all the major features of the topography, including streets and public buildings. A great deal of highway

information is given on this kind of map.

Notice that the clay pits on the previous document are still shown on this one. Some people will remember that in the early 1950s a few of these holes were filled with water to form ponds for boats. Two were located near the present-day Bayless market on West Congress, between the river and Mission Road (Grande). Also on that site is Tucson's "oldest" tree, a cottonwood. A great deal of earthmoving occurred along the river in this period, but that landmark was saved.

PLATE IX - CADASTRAL MAP (1950, revised 1960)

The smallest units of property, public and private, are recorded on the cadastral map of which this is a reduced portion. The original document is used by city planners to determine official boundaries and zones. Even the railroad and interstate highway rights of way are included. A similar map is used by the assessor to place values on real estate parcels. The word is derived from Latin and Greek (katastichon) meaning "notebook," which has come to imply a legal record.

This map was drawn before the urban renewal project was started in downtown Tucson, in the 1960s. Although fragments of the original neighborhoods still remain, many of the blocks southwest of the intersection of Convent (Church) and Congress were bulldozed to make way for the Community Center and La Placita. Portions to the northwest of that intersection were purchased for the Government Plaza.

PLATE X - UNMARKED RELIEF MAP

Imagine flying above Tucson at jet level in the early morning sun. This simulation gives a dramatic description of the general topography of the basin. The vertical scale is somewhat exaggerated by the slant of light that allows us to see every crevice, but the natural paths of the landscape are true.

This relief map is a photograph of a model made by the Army Map Service, Corps of Engineers, from aerial photographs. Contours are now measured by radar.

The Santa Catalina Mountains are shown at the center as the largest mass. At upper left are the Tortolitas. The range running northwest to southeast in the upper right hand corner of the page are the Galiuros, with their gentle alluvial slopes.

To the right of the Catalinas is Agua Caliente Hill, and south of that are the Tanque Verdes and Rincons. The Tucson Mountains run off the edge at the bottom, left, following the "valley" made by the Santa Cruz.

You will see that the pathway between the Catalinas and Tortolitas does not look so wide from the air. This is Canyon del Oro. Sabino Canyon is plainly visible as a dark, deep, north-south depression on the south side of the Catalina range.

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