

Sequent Occupance in the Santa Clara Valley, California

BY C. LANGDON WHITE

The Santa Clara Valley beautifully exemplifies sequent occupance.¹ Here an amazing drama has unfolded from the time of the primitive Amerindian, then through the Spanish and Mexican Period, the days of the cattle barons, the wheat bonanzas, the specialized agriculture at the turn of the century, and finally the period of immigration, urbanization, and industrialization (primarily electronic-missile defense).

In his study published in 1932, Jan O. M. Broek dealt with the valley from the time of the Amerindian to the highly specialized horticulture of the 1920s.² The present study purposes to telescope the work of Broek and to show that the Santa Clara Valley of his study is today but a nostalgic memory. The march of industry, the burgeoning population, and the ever-quickening pace of today, have virtually obliterated the landscape Broek described just thirty-three years ago.

THE GEOGRAPHICAL SETTING

The Santa Clara, an intermediate, smoothly floored, alluvial valley of the Coast Range, lies in west central California on the shore of San Francisco Bay. Bounded on the west and south by the Santa Cruz Mountains and on the east by the Diablo Range, it varies in width from fifteen miles at the Bay to less than one mile at the Coyote Narrows and then broadens into the five-mile wide southern basin. It extends southeasterly about fifty miles to the Pajaro River (Fig. 1).

The valley's climate, classed as modified Mediterranean Subtropical, is characterized by mild winters with moderate rainfall and warm to

¹ Derwent Whittlesey: Sequent Occupance, *Annals, Ass'n. Amer. Geog.*, Vol. 19, 1929, pp. 162-165.

² J. O. M. Broek: The Santa Clara Valley, California: A Study in Landscape Changes (Utrecht, 1932).

Dr. C. Langdon White is professor emeritus of geography at Stanford University, Stanford, California.

hot (daytime only) dry summers. North Valley is somewhat influenced by coastal sea breezes and fog which typify San Francisco, whereas South Valley assumes more the characteristics of the Central Valley. San Jose receives about 13 inches of rain per annum whereas the bordering mountain slopes receive 25 to 40 inches. Most of the precipitation falls in winter. Winter weather is neither too warm to impair the productivity of the fruit trees nor so cold as to damage them. Summer weather is sufficiently hot to ensure proper ripening of the fruit but not so hot as to injure it. The percentage of the possible sunshine from June through September inclusive (82.4) results in fruit of the highest quality. The growing season is of about 299 days duration.

Most crops must be irrigated. In respect to water for irrigation, the valley is fortunate; it is underlain by an extensive aquifer. The bulk of the underground water supply is contained in more than 1,000 feet of sorted gravels, sands, and clays, which lie atop basal beds.³

The natural vegetation in the lower areas was characterized by oat and needle grasses with live or blue, or Douglas oaks scattered in groves on the hillsides.

The soils in the valley are among the world's best for growing fruits and vegetables. They are classified by physiographic position and parent rock materials into four main groups—the soils of (1) alluvial fans and flood plains, (2) of basins, (3) of terraces, and (4) of uplands. The soils of the first three categories are regarded as best, are the most intensively tilled, and account for most of the fruit and vegetable acreage and production. The higher terraces also support orchards but they are regarded less highly than the soils of the lower terraces.

The soils in the uplands are shallow and of poor quality and for the most part support merely a cover of grass, brushwood, and timber. Locally, favored spots are given over to wine grapes, apricots, and prunes.

HISTORICAL DEVELOPMENT

The Amerindian Period. The earliest occupancy of land in the Santa Clara Valley probably occurred about 3,500 years ago. Most

³ Santa Clara Valley Investigations, *Publications of the State's Water Resources Board, Bulletin No. 7*, Sacramento, 1955, pp. 54-63.

of the valley was occupied by Costanoan Indians who were in a comparatively low stage of cultural development. Their villages, composed of grass huts and containing 100 to 500 inhabitants, bordered stream courses, largely dry in summer, but which did contain occasional discontinuous pools of water. These Amerindians subsisted on wild grass seeds, acorns, shellfish, fish, and small game. They made virtually no alteration in the physical landscape. It was they who became the neophytes for the valley's Spanish missions of San Jose, Santa Clara, and San Juan Bautista in the subsequent stage.

The Spanish-Mexican Period, 1769-1846. The discovery of San Francisco Bay by the Spaniard, Portola, in 1769, and the Russian penetration of California, stimulated the Spaniards to send a series of expeditions to the Bay Area with the purpose of selecting strategic settlement sites "from which to consolidate and protect their position." Thus Don Pedro Fages, Commander of the Presidio of Monterey, with a small group of men, traversed the entire length of the valley in November, 1770. *Conquistadores* and missionaries collaborated in a grand scheme for the establishment of presidios and missions to reach from San Diego to San Francisco. Thus occurred a sudden and dramatic change in the sequent occupance of the Santa Clara Valley—the invasion of Western civilization into the stone age of the Amerindian.⁴ Subsequent expeditions came into the area. The qualities desired for the establishment of missions by the Franciscan Fathers were a considerable Amerindian population, an abundance of good bottomland and water, and a supply of timber and pasture. The valley's first mission was established at Santa Clara. The fruits and garden crops introduced by the Spaniards and raised under irrigation adapted easily, for they were the kind that had been grown for centuries under similar climatic conditions in the Iberian Peninsula.

The missions had a dual function—(1) to Christianize the Indians and (2) to supply food for the maintenance of the presidios. However, mission food production was not sufficiently reliable for the latter and agricultural supply centers had to be established, one of which was the Pueblo of San Jose (1777) on the alluvial flat between the Guadalupe River and Coyote Creek. Even this, however, was not successful.

Between 1802 and 1845, the Mexican Government made numerous

⁴ R. G. Cleland: *From Wilderness to Empire: A History of California, 1542-1900* (New York, 1944).

large land grants in the Santa Clara Valley to private individuals totalling 359,622 acres. The individual grants, which were large, nearly always contained a combination of upland and valley pastures, capable of supplying water and of supporting grazing throughout the year. The cattle, which roamed the unfenced land, supplied hides and tallow for an active trade, partially carried on by New England sea captains—a trade which played a role in the establishment of Boston as a great shoe manufacturing center.

During this period the Santa Clara Valley had become a self-sufficient economic region, agriculture supplying the local needs of the scattered ranchers and military establishments. The Spanish-Mexican Period came to a close with the Mexican War of 1846 and the cession of California to the United States. A rich legacy was inherited from the Spaniards, however,—nomenclature, architecture, the hacienda system, and the cattle economy.

The Early American Period, 1846-1875. Americans had started to trickle into the Santa Clara Valley long before it became a part of the United States. But the first 100 years witnessed a very slow growth. The first real wave of population came into the valley in the 1840s. However, the discovery of gold in 1848 led to an exodus of people from the Santa Clara Valley to the gold diggings. Following the drought of 1864 wheat farming—bonanza farming—became dominant over cattle raising. Wheat did well and fantastic yields were gotten. But ruthless exploitation of the soil occurred during the 1850s and 1860s. Farmers grew wheat year after year because it was a stable commodity in international trade, it could be transported long distances without deterioration, and it could benefit from low-cost water transport. By 1870 California was the second most important wheat-producing state in the Union and the Santa Clara Valley was one of the state's leading wheat-growing areas. Wheat reached its peak in 1874 when 1,701,132 bushels were harvested. Thereafter the crop began a rapid decline and by 1919 the growing of wheat was over. While several factors were responsible for the decline, the major one was that farmers had learned that it was more profitable to grow fruits and vegetables. At first the growing of fruit was a matter of trial and error. Water for irrigation was diverted from streams but, following 1854, when the first artesian well was drilled in San Jose, only underground sources were employed. The growing of fruit

without irrigation began in 1875 in Los Gatos at elevations ranging from 400 to 1,200 feet; here the rainfall was adequate and air drainage provided protection from all but the most serious killing frosts. The so-called "warm belt" became one of the world's choice locations for orchards. Apricots were among the first and most successful of the trees planted. The success of the fruit grown here amazed the bottomland growers.

The French prune, which was to become synonymous with Santa Clara Valley, was introduced in 1856. Overproduction and the difficulty of shipping fresh fruit stimulated drying during the early 1870s. Thus began one of the Santa Clara Valley's outstanding enterprises. The canning industry, which gave the valley an international reputation, was initiated in 1871 with the commercial canning of surplus peaches and pears. During this same decade the first carload of refrigerated fruit (pears) was shipped out of the valley. For 70 years agricultural growth went forward.

The Middle American Period, 1875-1930. The accelerated movement towards intensive utilization of agricultural land is attributable to a set of very favorable circumstances (ideal climate, rich deep alluvial soils, water, and growing local market).

As crop volume soared, so did the cost of production. Also the need for closer management encouraged a reduction in the size of land holdings. Certain crops—prunes, pears, apricots, walnuts, and grapes—gained favor among the farmers as did the growing of vegetables and seeds. By 1930, 65 per cent of the land was in orchards and the valley had become world-famous.

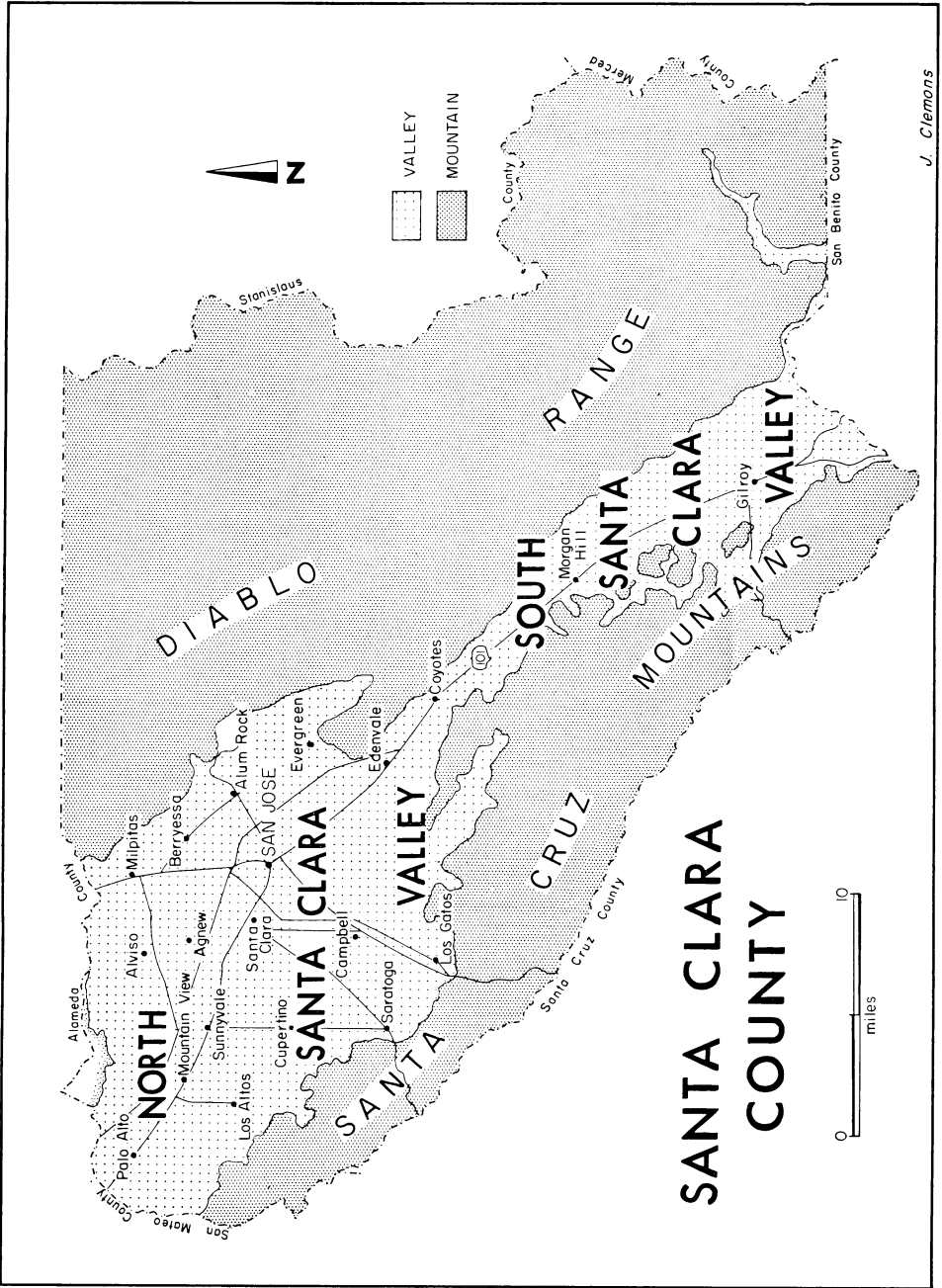
The fruits were gaining dominance—apricots and prunes, which together occupied 48 per cent of the crop land of the valley. Apricots now accounted for 11 per cent of the land in crops or 18,250 bearing acres. The bulk of the crop was canned, the remainder being sold fresh or dried. Prunes were even more important. By 1930 there were 66,000 bearing acres with 5,326,704 bearing trees. In addition there were 692,471 non-bearing trees. During this same year 83 per cent of the 4,791 farms in Santa Clara Valley were raising prunes and the valley boasted 42 per cent of the state's total prune acreage. It was producing 55 per cent of the world's dried prunes. Pears, too, were important. Being more resistant to frost, this crop was placed

Fig. 1. Santa Clara Valley showing the two segments—North Valley and South Valley and the principal towns.

Fig. 2. Santa Clara Valley in 1939—before fragmentation began. Each urban center was a compact community separated one from another by miles of orchard and field.

Fig. 3. Santa Clara Valley in 1954. Note now the urban scatteration—a jumble of uncoordinate parts. Agriculture is being pushed out of the area between San Jose, Los Gatos, and Palo Alto, which has become a checkerboard of subdivisions and orchards.

Fig. 4. Santa Clara Valley in 1962. No longer is there “city” and “country,” with each town a distinct physical entity completely separated from neighboring towns by miles of land in orchards and vegetables. The valley is today characterized by farm lands in some areas with scattered residential subdivisions scattered among them at random, while elsewhere residences predominate with bypassed farm lands in the midst struggling for existence. Along El Camino Real is a continuous urban agglomeration extending from San Jose to Palo Alto.



J. Clemons

Figure 1

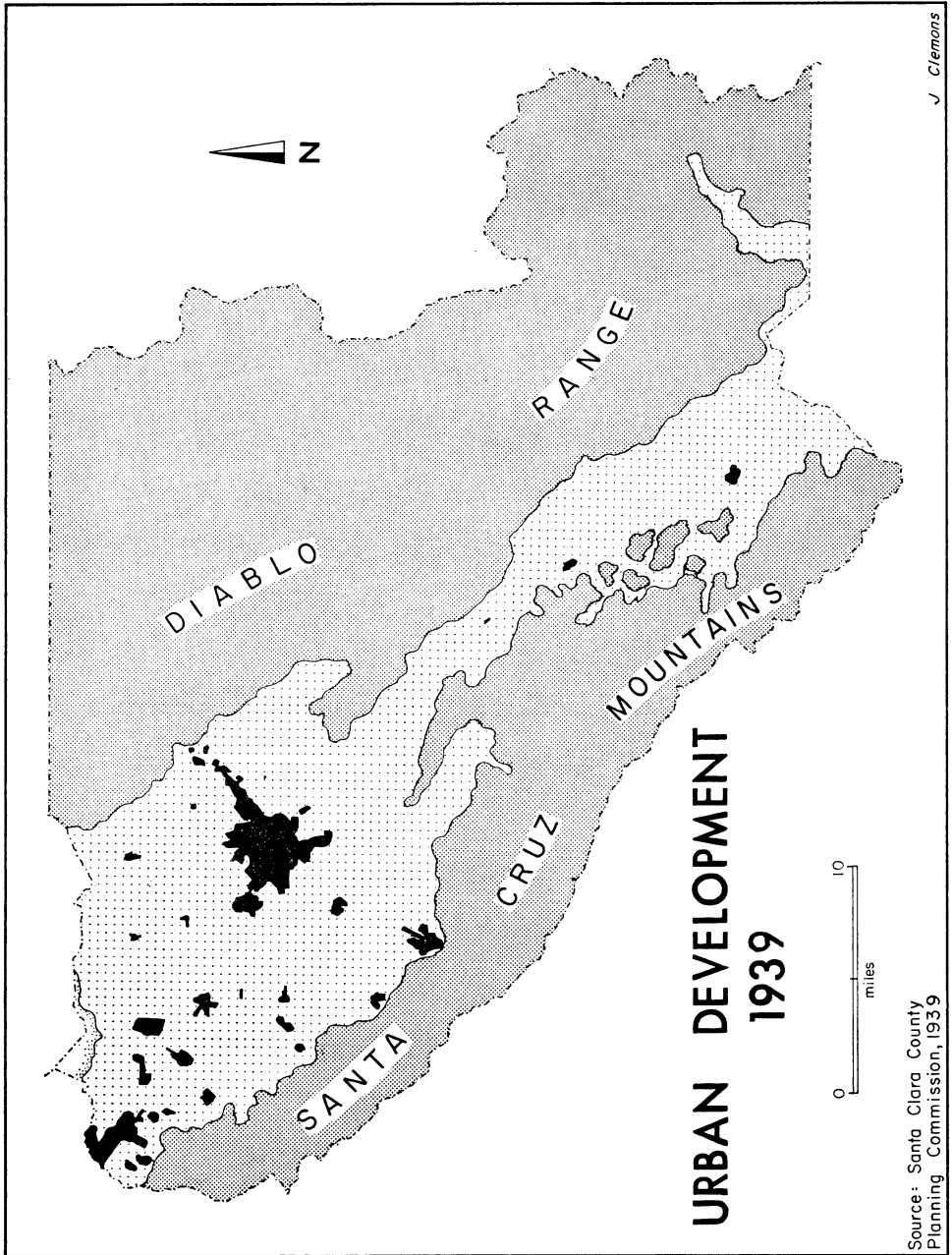


Figure 2

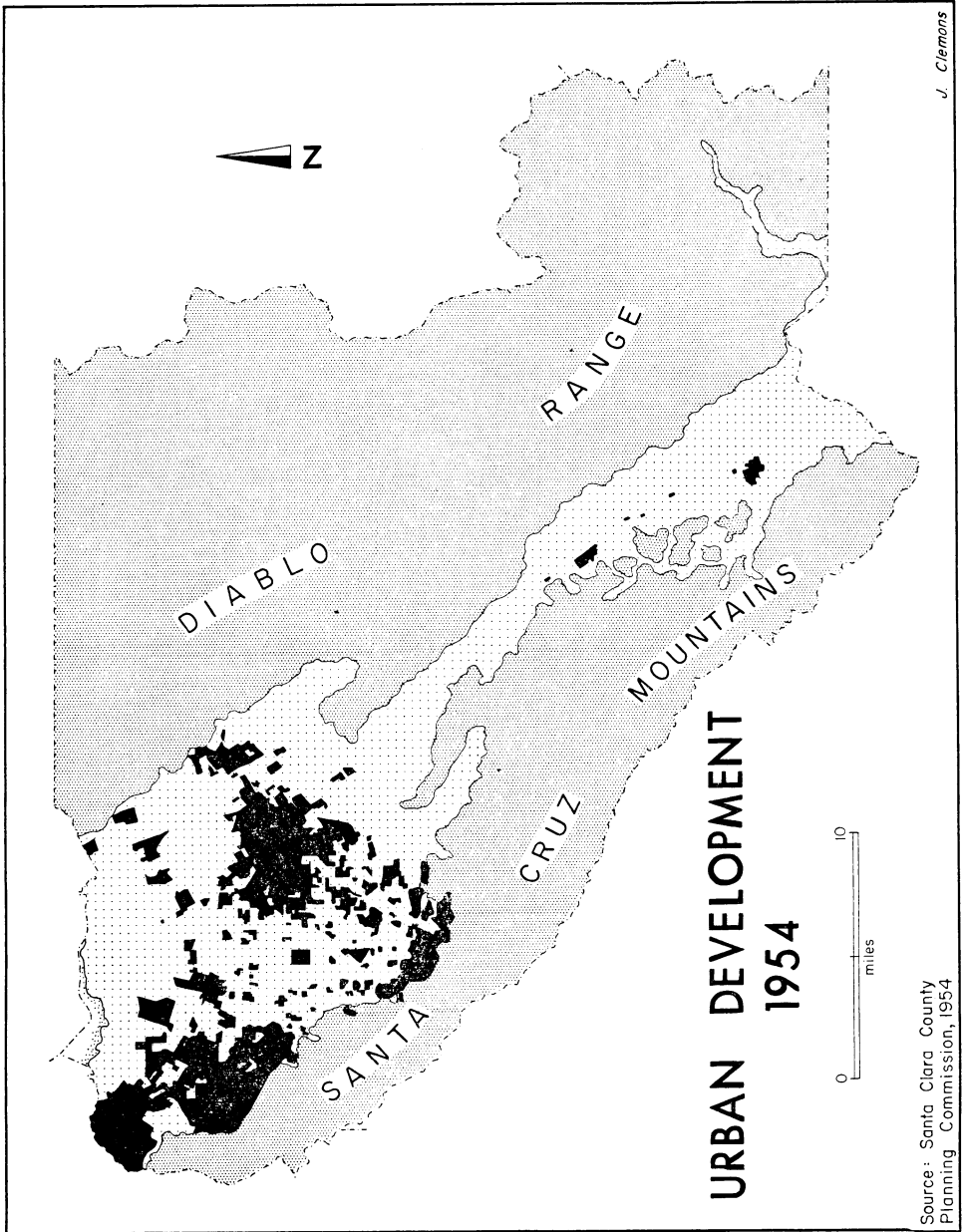


Figure 3

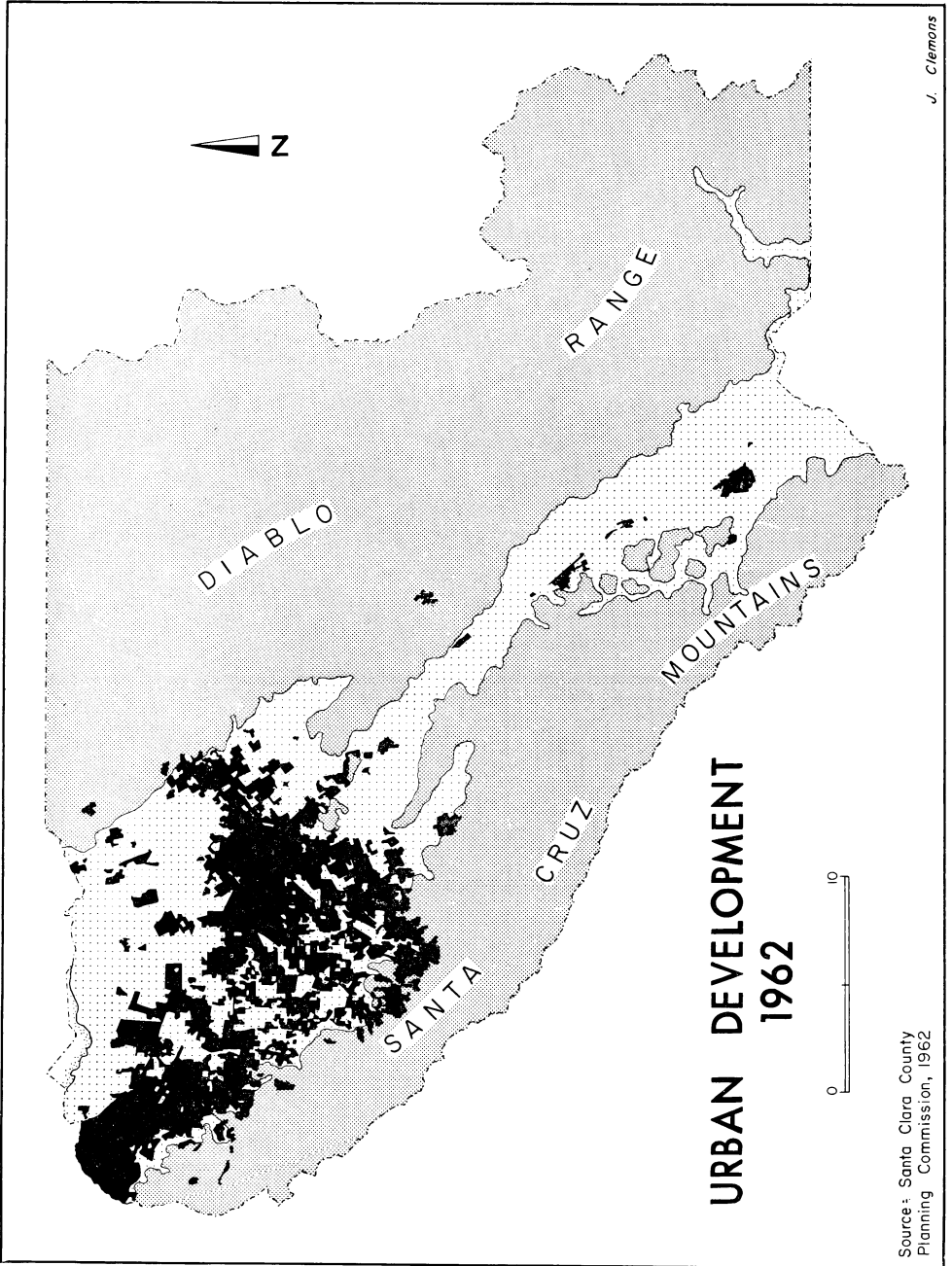


Figure 4

in the lower part of the valley, particularly in the Agnew and Alviso areas.

The Decade, 1930-1940. Economically the decade 1930-1940 was a continuation of what had occurred during the preceding ten years though changes were unmistakably in the offing. The 1940 Census indicated an unmistakable trend toward suburban living; whereas the farm population remained virtually static, the non-farm rural population nearly doubled.⁵

Agriculture continued as the outstanding economic enterprise with 606,800 acres or 72 per cent of the valley in farms; some 4,500 farms were devoting 104,761 acres to fruits and nuts. Fruit farms at this time were averaging 20 to 49 acres in size. The high cost of farm land kept units small and compelled full use of the land. Prune orchards still dominated the farm scene.

During this decade water more and more was becoming a pressing problem: the water table in places had dropped more than 100 feet since the drilling of the first well. Consequently the Santa Clara Water Conservation District was formed with the purpose of improving the water situation. In the intervening years, a considerable number of reservoirs has been constructed to hold winter and spring run-off. Such water is then released in summer to percolate back into the ground. In a valley such as the Santa Clara, with its valley fill, it is possible to store huge amounts of water underground, without loss by evaporation. For awhile the drop in the water table was halted.

As recently as 1940, 23 per cent of the workers in the Santa Clara Valley were earning their living either on farms or in food processing plants (Fig. 2).

The Decade 1940-1950. The stable conditions that had characterized the Santa Clara Valley during the 1930s terminated when the nation became a participant in World War II. Agriculture became stimulated by the demands for foodstuffs, population increased, and radical changes took place in manufacturing. Whereas industry during the preceding decade was a reflection of the agricultural economy (food processing, shipment, and distribution on the one hand and the manufacture of equipment for farms and canneries on the other) now manufacturing was definitely geared to the war effort. Moreover, the role of the automobile was being noted: the area utilized

⁵ U. S. Bureau of the Census: Census of Population 1940, Vol. II, Part I (Washington, 1943).

for residences by city workers was expanding. By 1943 the San Jose Chamber of Commerce was attempting to attract major industries to the valley. That it succeeded is attested to by the fact that 337 new industries located in the valley between 1943 and 1960.

With the end of the war in 1945, a significant trend was evident: *agriculture was declining and manufacturing and suburban living were increasing*. From 1940 to 1950 bearing acreage in prunes declined from 59,302 to 45,024 and in apricots from 18,598 to 16,061.

A population explosion was taking place: great numbers of workers who had come to the valley for employment during the war and of servicemen who had stopped enroute to the Pacific theatre of the war were returning to work, live, and enjoy the valley's attractive climate and way of life. Whereas people had been willing to live under crowded conditions during wartime, they now sought attractive and comfortable housing. In 1945 enterprising subdividers purchased and developed large tracts of level orchard land. Between 1944 and 1950 the county planners approved 490 separate subdivision developments. To a very considerable extent, too, the Santa Clara Valley was becoming a "bedroom community" for San Franciscans.

During this decade the fragmented urban pattern evolved—a pattern that has since put its stamp on the valley. Particularly to the west of San Jose, on the low terrace orchard lands, the suburban trend became pronounced.

The proportion of urban dwellers in the population jumped from 61.4 per cent to 74.3 per cent in the decade—an indisputable barometer of industrial growth. In 1945 the county had about 615 manufacturing plants of which more than half were in San Jose.

Orchards were feeling the growing pains of the valley. Some were abandoned because they were marginal or the trees were old and conditions no longer warranted replanting. Prunes, the oldest orchard crop in the valley, were particularly affected, many orchards being lost to the building program which had to provide for an influx of new residents attracted by valley industry.

The Decade, 1950-1960. The decade 1950-1960 marks the valley's most spectacular growth: highly diversified industry, the result of defense dollar spending, was causing the fast-growing population to spread out into the fragmented urban-suburban pattern of today

(Figs. 2, 3, and 4). A major characteristic of this decade was the tragic decline of agriculture in North Valley.

Beginning in 1950, large manufacturing enterprises, each representing a capital investment of more than \$3 million, began moving into the area tributary to San Jose. Prior to World War II, valley industry had consisted essentially of food processing; this was now being altered by the changing agricultural picture.⁶ Now about 60

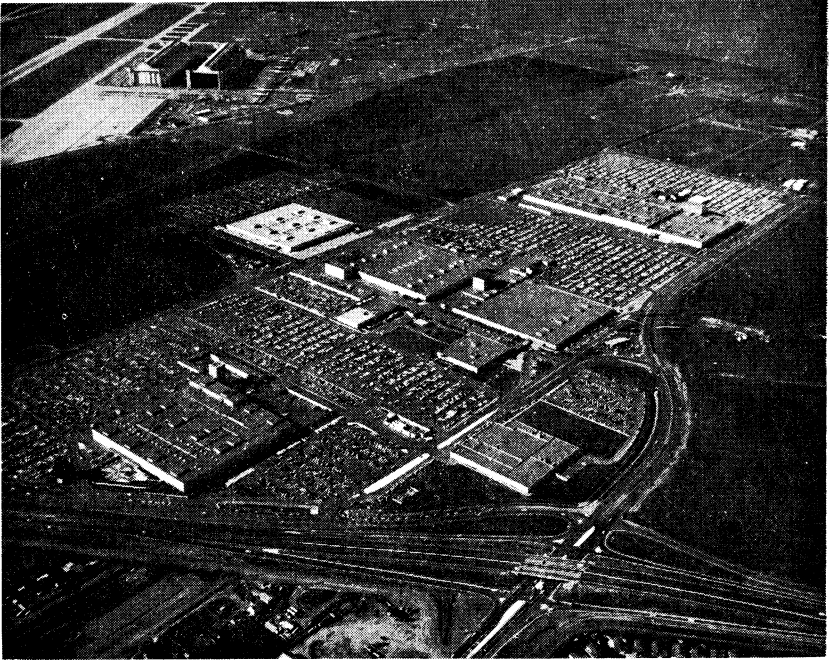


Fig. 5. Aerial view of Santa Clara Valley's largest industry—the sprawling plants of Lockheed Missiles and Space Company at Sunnyvale. The total plant covers 645 acres, gives employment to 16,500 persons, and provides parking space for 14,500 cars. In the upper left is the U. S. Navy's Moffett Field and in the background San Francisco Bay.

(Courtesy of Lockheed Missiles and Space Company)

per cent of the apricots, 40 per cent of the pears, 100 per cent of the peaches, and 60 per cent of the tomatoes canned in the Santa Clara Valley are transported into the area from the outside. Authorities

⁶ Robert N. Young and Paul F. Griffin: Recent Land-Use Changes in the San Francisco Bay Area, *Geog. Rev.*, Vol. 47, 1957, pp. 396-405.

estimate that within twenty-five years the canning industry in the valley will be only a memory.

Since 1950 North Valley has spawned almost two score giant industries; an example is Lockheed Missiles and Space Company, the largest single industrial agglomeration in the entire Santa Clara Valley (Fig. 5).

INDUSTRIALIZATION VS. AGRICULTURE

At the close of World War II, certain influential interests in the valley, particularly the San Jose Chamber of Commerce, concluded that the time had arrived for a major change in the valley's economy. It was decided that the old agricultural economy was now inadequate for maintaining future growth and prosperity—that new industry was needed to expand the tax base, that the new pay rolls would stimulate a demand for more retail business and general service activity.⁷

For industry to succeed, obviously, more than chamber of commerce desire or even fierce determination are requisite. Physical (sometimes called geographical) and economic factors for the location of industry also must be favorable. And they are in the Santa Clara Valley. In most industries, particularly those essentially resource-based, the selection involves one or more of the following: (1) availability of raw materials; (2) access to fuel and power; (3) suitability and cost of labor; (4) proximity to markets; (5) access to a large supply of cheap water of correct quality and temperature (for iron and steel, oil refining, chemical, pulp and paper); and (6) transport facilities. Other factors may be the tax rate, room for expansion, areas for the disposal of waste, industrial inertia, national defense (dispersal of plants), cost of living, historical accident, climate and capital.⁸

In addition to the location factors presented in the articles referred

⁷ Karl J. Belsler: Planning for Agriculture and Industry. Address delivered before the Hawaii Planning Institute, September 17, 1959.

⁸ Chauncy D. Harris: The Market as a Factor in the Location of Industry in the United States, *Annals, Ass'n of Amer. Geog.*, Vol. 44, 1954, pp. 315-348; G. J. McManus: Sites: Look Before You Locate, *Iron Age*, Vol. 179, September 29, 1955, pp. 24-25; J. P. Pickard: Industrial Location Factors, *Proceed., Amer. Soc. of Civil Engineers*, Vol. 82, February, 1956, pp. 1-15; Herman Schumacher: Location of Industry, *Encyclopedia of the Social Sciences*, Vol. 9, 1933, pp. 585-593; C. Langdon White: Water—A Neglected Factor in the Geographical Literature of Iron and Steel, *Geog. Rev.*, Vol. 47, 1957, pp. 436-489; Richardson Wood: Where To Put Your Plant, *Fortune*, Vol. 54, July, 1956, pp. 100-105, 133; Leonard C. Yaseen: The Ten Biggest Pitfalls in Plant Location, *Dun's Review and Modern Industry*, Vol. 69, March, 1957, pp. 49-50.

to in footnote 8 and which, because of limited space cannot be presented here, there is one determinant—availability of labor of required skill and ability—that is particularly significant to the types of industries that operate in the Santa Clara Valley.⁹ The valley's labor is extremely skilled, consisting of a very high proportion of carefully trained engineers and scientists. For example, in the city of Palo Alto, more than 34 per cent of the adult men have completed four or more years of college or university, compared with the national average of 7 per cent, and 21 per cent of the women have degrees compared with 5 per cent nationally. A survey of industry in Santa Clara Valley for 1964-1965 made by a team of San Jose State College graduate students found that companies in the valley seek and hire very skilled persons for research and development, engineering and manufacturing; it found also that following the slow-down in government defense work in the area, that the engineers and technical persons who were thrown out of work were in most cases the less skilled or less qualified.¹⁰ The ratio of engineers and scientists to production personnel in the valley is unusually high—about three to one. Thus electronics and space industries are research oriented. States Stanford University Provost and internationally famed electronics expert, Frederick E. Terman:

Industries that want to grow are beginning to learn that for activities involving creative work, location near a center of brains—that is, near a university with a good graduate program in engineering and science—is more important than location near raw materials, transportation, factory labor, or even markets.¹¹

Thus about 100 companies and laboratories with emphasis on research have located in the Santa Clara Valley, with the greatest concentration in the Palo Alto area with Stanford University as the creative center of the cluster. Some facilities do no manufacturing at all—specializing only in research and development. Many electronics executives state that their firms moved into the area to be near Stanford University and other companies in their common field. The overwhelming importance of the electronics and defense industries is emphasized by the fact that in 1964 the two accounted for 73 per

⁹ C. Langdon White and Harold M. Forde: The Unorthodox San Francisco Bay Area Electronics Industry, *Jour. of Geog.*, Vol. 59, 1960, pp. 251-258.

¹⁰ *Palo Alto Times*, June 12, 1964.

¹¹ *Palo Alto Times*, March 24, 1962.

cent of the full-time industrial positions in the valley or 50,000 out of a total of 68,500.

URBAN GROWTH

As industry expanded some 350,000 people came into the valley, moving into 100,000 F.H.A.-financed dwellings on small lots appropriating about 25,000 acres and committing prematurely to urban use 50,000 acres of choice agricultural land.¹² *Since 1950 about 3,000 new residents have been locating in the area each month. For each 1,000 families that come in, approximately 257 acres of agricultural land must be converted into residential and commercial use. In the late 1950s and early 1960s the rate of withdrawal was placed at one acre every 90 minutes with 64 fruit trees uprooted so that seven families can move in.*¹³ *Classrooms are added at the rate of one each day.*

Since 1955 population by natural increase and immigration has swelled at the rate of 50,000 per annum. In 1960, 617,300 people were residing in North Valley, that is north of Coyote Narrows, and only 22,300 in South Valley, the portion south of Coyote Narrows (Fig. 1).

THE DECLINE OF AGRICULTURE, 1950-1960

Agriculture declined precipitously during the decade 1950-1960. What had been orchards and vegetable fields gave way to factories, shopping centers, highways, and housing developments. During this decade 14,275 bearing acres of fruits and nuts and 9,781 acres of vegetables were lost (Fig. 6).¹⁴ Fully one-half of the Class I and II acreage was taken out of production—never to return. Subdivisions were mainly responsible for this loss. Thirty-three per cent of the houses in Santa Clara County are less than six years old. It is paradoxical yet inevitable that land that is best for crops also is best for homes and factories. Thus during the ten years from 1950 to 1960 a complete transition took place in Santa Clara Valley—a transition

¹² Karl J. Belser: *op. cit.*

¹³ Karl J. Belser: *A Crisis for Agriculture in California. Santa Clara County—A Case in Point*, Report to the Assembly Interim Committee on Agriculture (Ditto reproduction, San Jose, 1964).

¹⁴ Frank M. McGraw: *The Santa Clara Valley: An Historical and Geographical Appraisal* (Unpublished M.A. dissertation, Stanford University, Stanford, California, 1961).

from farming to manufacturing and with it a new stage in sequent occupance.¹⁵

THE OUTLOOK

The heyday of agriculture is in the past. Those who knew the valley when it was one of the world's leading fruit-growing areas



Fig. 6. Bulldozing out fruit trees in the 1960s in the Santa Clara Valley. Millions of fine fruit trees have gone the way of this one. Once lush orchards are now sprawling residential developments with few mementos of the past. This is the new Santa Clara Valley in the making.

(Courtesy of the County of Santa Clara Planning Department)

hearken back to the "good old days." Certainly a never-to-be forgotten sight was the sea of blossoms in the valley as observed from a point of vantage in the Santa Cruz Mountains (Fig. 7).

This once-beautiful valley is today a hodge-podge of wildly-growing cities, run-down orchards, broad freeways, narrow farm-to-city roads, deserts of parking lots, sprawling shopping centers, subdivision houses constructed on miniature lots, and tangled and nerve-fraying traffic. Community identity broke down as cities feverishly annexed everything in sight. In short, the story of the past twenty years has

¹⁵ This was not true of South Valley, which had not experienced the impact of the new era.

been one of urban sprawl, loss of country life, destruction of outstanding farm lands, and urbanization, suburbanization, and industrialization.¹⁶



Fig. 7. Looking down into the Santa Clara Valley in springtime. The three major fruits grown—apricots, prunes, and pears—are not equally resistant to frost. Apricots are the most sensitive and hence occupy the fans and lower terraces so as to benefit from air drainage; pears are not easily harmed by frost and hence occupy the lower areas; prunes are intermediate in their tolerance of frost and hence occupy slopes below the apricot orchards. Also each fruit blooms at a different time—apricots first, then prunes, and pear trees last.

(Courtesy of County of Santa Clara Planning Department)

Population is increasing rapidly. In a survey by the United States Department of Commerce for the Army Corps of Engineers in connection with its Bay Model Study, it was estimated that the Santa Clara Valley might well anticipate in 1990 a population of 888,500 and by 2020 a population of 2,946,400. In the latter year, San Jose with a population of 1,826,220, would be not only one of the na-

¹⁶ Richard F. Rowe: *Agricultural Land and Open Space in Santa Clara County and Its Preservation* (Unpublished M.A. dissertation, Stanford University, Stanford, California, 1962).

tion's fastest-growing cities, but would have displaced San Francisco as Northern California's largest city.¹⁷ It is clear that such growth is completely altering the landscape—the valley's agriculture, scenery, and traditional "good life." At the present rate of land acquisition, all the cultivable land will be gone by 1969 (Table I).

TABLE I
LAND USE, SANTA CLARA VALLEY, (ESTIMATED) BY 1969¹⁸
(PER CENT)

Single family dwellings	41.8
Multiple family dwellings	3.3
Commercial dwellings	4.1
Industrial	8.1
Irrigated Parks	7.0
Institutions	3.2
Air fields	2.5
Streets and sidewalks	30.0
Agriculture	0.0
Vacant	0.0
	100.0

The study made by the State Water Resources Board predicts the complete demise of agriculture on the floor of North Valley, which in 1930, ranked as one of the world's principal fruit-and-nut-growing areas. Valley farmers, even if they wish to remain on the land cannot afford to do so; they are victims of economic strangulation which eventually forces them to sell, since they must pay ever-increasing taxes on the basis of new appraisal rates of assessment.¹⁹ In addition they are taxed for services not needed by them but designed for their non-farm neighbors—new roads and streets, schools, parks, water mains, sewer, police and fire protection, and others. Many farmers are paying taxes ten times as great as they paid only ten years ago. Land speculation has resulted: whereas land was valued at \$700 to \$800 per acre when developers first came into the area, today the cost exceeds \$16,000 per acre. One realtor who sells former farm land to

¹⁷ Bay Area Council, *Facts*, March 21, 1960.

¹⁸ Santa Clara Valley Investigations, *Publications of the State's Water Resources Board, Bulletin No. 7*, Sacramento, 1955.

¹⁹ The *San Francisco Chronicle* under date of July 5, 1964, announced the sale for \$5,000,000 of the 385-acre vineyard of the Society of Jesus used by the Novitiate of Los Gatos to make sacramental wines. The vineyard was part of the old Rancho de los Capitancillos, Spanish land grant. The Novitiate's holdings antedated 1888. When asked why the vineyard was being sold the superintendent replied that taxes were increasing steadily, pressure of expanding urban areas was making agricultural operations more difficult, and the need by the Novitiate for funds for construction of new buildings.

industry told the writer that land costs in Santa Clara Valley are five to eight times higher than in other fruit growing areas. Thus we see the evolution of an inescapable cycle: a new development raises the land's market value; the assessor then attaches a higher valuation upon all nearby property; homes then go in; schools are inadequate and hence must be built, forcing taxes to go still higher; this reduces still more the farmer's margin of profit; hence he sells to developers.

Increasing urban demands on the water supply also have affected farmers in the pocket book, for the water table has fallen, necessitating costlier well drilling and increased pumping problems.²⁰

Finally farm labor is becoming a problem, for former workers have turned to the stability and higher wages of industry, and part-time migrant labor is not always available. Moreover, such labor has the reputation (perhaps unjustifiably) of being unreliable, of low performance, and expensive.²¹ Considerable Mexican *bracero* labor was used in the past—labor with experience, skill, desire, and physical stamina. But the United States Congress ruled that after 1964 no more *braceros* could be employed in the United States.²²

Metropolitan expansion eats away continuously on the valley's flat land—its prime farm land. This means that the productive capacity of the valley is being steadily reduced. Statistics show that since 1948 about 35 per cent of the county's cropland has been lost—cropland of the highest quality. Despite this loss, Santa Clara County still ranked as the twentieth leading agricultural county in the nation. In 1960 it still led the nation in the production of apricots, prunes, and pears and it ranked second in cherries and strawberries, and sixth in walnuts.

Is the situation hopeless? Not quite. According to the *1961 Agricultural Crop Report for Santa Clara County*, 335,202 acres of the county's 849,000 acres, or about 40 per cent, were employed for some kind of agriculture. Actually this figure is misleading because much of this land, some 233,000 acres, is in range and pasture. The real

²⁰ Santa Clara Valley irrigation is 100 per cent dependent upon underground sources of water. Stream courses (surface waters) are dry during the desertic summers of the Mediterranean subtropical climate areas.

²¹ F. Fuller, J. W. Mamer and G. L. Viles: *Domestic and Imported Workers in the Harvest and Labor Market, Santa Clara County, California*, Division of Agricultural Sciences of the University of California, Giannini Foundation of Agricultural Economics, Agricultural Experiment Station Report No. 184 (Mimeographed), Berkeley, 1954.

²² Richard H. Hancock: *The Role of the Bracero in the Economic and Cultural Dynamics of Mexico*, Publications of the Hispanic American Society, Stanford University, Stanford, California, 1959. (An excellent study of the *bracero* problem.)

cropland totaled 102,202 acres in 1961. Roughly 60 per cent of this acreage falls in North Santa Clara Valley and the remainder in South Santa Clara Valley (Fig. 1). Thus agriculture and related activities still are among the economic cornerstones of the Santa Clara Valley.

The very able County of Santa Clara Planning Department's personnel has been acutely aware of the problems faced by the valley and has prepared a general plan which in 1960 was adopted by the County Supervisors. According to this plan, the supervisors seek to achieve a balanced economy, conserve valuable resources, preserve open space, and provide an attractive, livable milieu for efficient, prosperous communities. Water, obviously, is a major factor in the realization of this plan; however, the county has employed much foresight and wisdom in constructing dams and lakes and ponds for water storage for percolation into underground storage. By building such reservoirs and percolating basins, the valley can, under present conditions, provide a very considerable proportion of its water needs. The water plan utilizes as much as 88 per cent of the land within the watershed and most of the water provided is destined for agricultural use. However, a marked change in public attitude toward priority in the use of water appears in the making. Said a Stanford University group of specialists:

If the American people should decide that in the future they want to make more use of the drier, sunny climatic regions for industrial work and residence, then

- (a) the scanty water resources of these areas must be allocated increasingly and with priority to urban and industrial use; and
- (b) agricultural production in excess of its present output must increasingly rely on the area of the nation which has a net surplus of precipitation, i.e., the eastern half. The proportions are such that there is almost no alternative, except within narrow limits, so long as more people prefer to establish residence in the western areas. If irrigation to expand farm production in the West should be given priority, the transfer of population westward would have to stop far short of what it otherwise might be.

Therefore, the use of water for irrigation agriculture should by no means have priority when it would curtail the desirable expansion of homes and industries, or where the irrigation would mean the expansion of crops or orchard acreage.²³

Land in the valley that has been designated exclusively agricultural

²³ *Stanford University Group Report on Water Resources Policy to the President's Water Resources Policy Commission*, Stanford, California, 1950, p. 19.

by the master plan may be greenbelted by the owner by securing an affirmative vote of the county supervisors. Property so zoned may not be used for anything except agriculture and cannot be annexed to the cities without the owner's consent. A greenbelted²⁴ area can be removed if the owner obtains the approval of the supervisors. More than 90,000 acres have been greenbelted since 1959 and are thus protected from urban sprawl through widespread annexation. This has resulted in lower evaluations. However, more than half this acreage was hill land. Actual removal of acreage from "A" zones has been unimpressive. Actually, so far as agriculture in the valley is concerned, it would appear that it is too late to accomplish very much: there was too little planning when such was needed, too little cooperation and vision on the part of nearly all local communities, too little appreciation and regard for fertile soil, and it was too late to pass legislation for saving prime farm land against the encroachment of sprawling subdivisions. In 1962, 97 per cent of the valley's population resided in North Valley. Here the population had increased by 450,000 in the 12 years 1950-1962, while in South Valley it had grown by a mere 6,000.

It is not too late to save South Santa Clara Valley *if* the people will benefit from the mistakes made by those in North Valley. Urban growth here should be directed to the less fertile lands,²⁵ thereby maintaining as a continuing resource the last remaining farmland in Santa Clara Valley.

Yet only an incontestable optimist would fail to see the handwriting on the wall: in 1985 the Central Coast Subregion, of which the Santa Clara Valley is a part, is expected to have in excess of 9,000,000 people! Urban growth and industrialization must necessarily under such growth occupy more and more former agricultural land, and open space will become a highly cherished resource.

By the year 2,000—only thirty-five years from now—the population of the United States is expected to expand to 350,000,000 and the number of automobiles to 155,000,000:

Where will all these people be able to go for relief from manmade sounds, sights, and smells of the city? Within six years it may be necessary for vacationers who wish to visit America's national parks to make

²⁴ Santa Clara County pioneered greenbelted zoning.

²⁵ Subdivisions in Milpitas and in Sunnyvale's Lakewood Village were located on land not well suited for agriculture.

reservations two or three years in advance. California alone, can expect 3 million acres of presently open land to disappear by 1980 under the searing progress of growth.²⁶

As stated earlier, it is fortunate indeed that Santa Clara County has a competent planning department whose general plan for future land-use features conservation of agricultural and watershed lands and an integrated park system with considerable open space. There is thus some hope after all. A primary need and use for open space is for recreation. Open space provides this: it enables man to have contact with nature and it gives an area and its inhabitants breathing space.

In summary, agricultural acreage, production, and employment will continue to decline in Santa Clara Valley, although the decline will be slowed for awhile. In less than ten years almost all of the real farmland on the west side of the valley will be removed from agriculture and within twenty-five years all the farmland in North Santa Clara Valley will have disappeared. Agriculture promises to continue in South Santa Clara Valley until about 2000 after which it too will have died. By then all the flat land will have been urbanized. The only open space then will be in parks and in relatively inaccessible hills.

Thus in a period of two centuries, we have witnessed a kaleidoscopic pageant of sequent occupance from the aboriginal stone-age Amerindian through the Spanish-Mexican period and the American periods of cattle raising, bonanza wheat growing, horticulture, and finally urbanization, suburbanization, and industrialization.

²⁶ *San Francisco Chronicle*, June 15, 1964, p. 11.