

THE OTHER FACE OF SILICON VALLEY

by Gianni Riotta

(It is not true that the computer industry is clean. This is demonstrated by the mythical Californian valley: aquatic strata poisoned, professional diseases, toilsome speed of work. The third industrial revolution is harvesting many victims.)

Silicon Valley (Santa Clara County California). If Friedrich Engels would return to earth and wanted to dedicate to the second industrial revolution a book like that he wrote on the condition of the worker class in the past century, one would have to advise him not to go to Manchester to search for poverty and gin, but would be more useful for him to go to this address, the 444 Avenue De Guigne, a street wide and with many trees, exactly in the center of Silicon Valley.

There, seventy kilometers south of San Francisco, sprung immense orchards of apricots and plums, irrigated from a wonderful vein of water underground, a system of wells that quenched the center of California. Today the heart of the electronic industry, where they design the programs, where they make the integrated circuits, the "chips" that are the nervous systems of computers and the new nugget of this gold fever. The valley is like a gigantic play of avenues that intersect and of low buildings, with effects of silicon in all the parts, only of silicon, constellations of silicon, a miriade of names of great importance like IBM to firms that are bizzarely named Monolithic Memories.

At the corner of Avenue De Guigne, in an elegant building, surrounded by a little forest of contorted olive trees, is situated the headquarters of AMD, the Advanced Micro Device (sic). At the office on the corner, illuminated by a large window, the president Jerry Sanders, can say with great satisfaction: "1985 will be for us the most fantastic year, we will reach a billion dollars in production". The figures of his are: sixty thousand workers, a factory of 600 million dollars (1,350 billion lira), a rate of annual growth of 30.8 per cent that is the highest of the growing high technology industry, AMD is at the ninth place in the aristocratic class of the world producers of integrated circuits, the new gentlemen that give to our times the description of the age of silicon.

But if Engels, one time gave a look at the tabulati (something not in the dictionary) white and green that produced these prodigious figures, would look at the corner and tried to glance inside the "fab areas", the laboratories where the silicon is purified and worked on, first in extremely thin "wafer" (sic) and then broken into small "chip" (sic), he would succeed in seeing very little. The windows are screened, the shapes in white coats move like in an aquarium, visible only in the air conditioned halls. Susan, (sic) Tanenbaum, stern attache to the public relations of the AMD, would display to a dumbfounded philosopher their data and would conclude "high technology is the industry most clean and least harmful in the history of mankind".

It is not true. Unfortunately for the all the singers of the Arcadia (???) post industrial of the revolution that is taking place is, like all the others, grand and beautiful but at the same time terrible. The optimism of Mrs. Tanenbaum is out of place: in 1984, according to the data that has furnished Professor Joseph La Dou, head of the department of work medicine at the University of California at San Francisco, there are lost in the high technology three times more days of labor for reason of sickness, that are lost in the petrochemical industry, considered until now the most polluted. The making of an integrated circuit involves the use of 3000 harmful substances, including cancer causing and mutagenetic (products that induce modifications to the organism, even if not directly cancerous), a negative record plucked from the pesticide industry. In the center of Silicon Valley, where only Hewlett-Packard employs 82 thousand operators, there is already a factory doctor and he works for IBM. It is useless to research the data on cancer, the county of Santa Clara does not have a statistical register of tumors.

In Sacramento, capital of the state, Kip Lipper, the consultant of the California legislature for pollution problems, warns "The danger is not only with regards to the operators that work in Silicon Valley. The companies in fact keep their solvents in enormous underground tanks, with capacities up to 140 thousand liters, and there are at least 300 certain spills with pollution of the underground aquifer. The "yuppie", the young technological manager, often doesn't know he poisons his child with water from the faucet. In Silicon Valley the average of children born with heart malformations is three times higher than in the rest of the USA".

Near the secret pollution and invisible to the industry, the miraculous streets suffer from an incipient economic crisis, for the first time the export receipts of electronics are in the red. The thrust to easy earnings that put in action every morning the young professional produces days of labor up to 12 hours long, and many sleep in their offices on a cot, like Allan Seid, a bearded psychiatrist that never leaves his office at Ridge Computer, bed and desk like a technological monk.

If the lubricant of the first industrial revolution was poor quality gin, that which oils Silicon Valley and its tensions is the most refined cocaine. There is no need to attend the declarations of the chief of police of the area of San Jose, Joseph McNamara, who says: "In the Far West of Silicon Valley cocaine is instant money", to notice how much the white drug is diffuse. At the parties of the managers who have arrived it is the "status symbol" and comes passed around between the content guests in a sugar bowl.

To discover how bad in fact is the pollution and how difficult is the stress, during the reign of the computer is hard to have a "tabulato" with the sum of the public health. Those which exist

is furnished by Ted Smith, a lawyer, quiet but precise, that guides in "partibus infidelium" the ecology of the region: in Silicon Valley and the area around, the miscarriages are three times the rest of the country; the rate of birth defects, especially of the heart, are growing. Only the doctor Alan Levin, an allergist from San Francisco, is treating two hundred operators whose endocrine systems and the immune system defenses have gone in tilt from their use of the chemical solvents in the factories. "It is like a benign for of Aids", says Levin, "only instead of having a viral origin it has one of harmful chemicals".

The charges regard two distinct facts: the operators that work on integrated circuits come poisoned by solvents used to purify the "chip", and the inhabitants of the area have to drink the polluted water from the leaks of the underground storage tanks for chemical products. Confronting the great serenity of Mrs. Tanenbaum comes instead the suspicion of a great ecological calamity, of the only band of four weeper luddites that want to stop the electronic wheel of history.(???)

Professor La Dou, however, does not seem like a rabble-rouser with his air of Cary Grant, all the more an enlightened patriot: "Here we are in America and there aren't mysteries. If you want to have a level-headed view, you should talk to Ed Welles". He spoke of an invitation of the newspaperman of the "San Jose Mercury News", the most widely distributed in the valley, 300,000 copies per day are devoured by the post industrial and high technology judges.

Welles came to Silicon Valley following a stay at the "Washington Post", appropriate because, he says, he wanted "to live as a pioneer the experience of this turning point of mankind". Until now, however, he has gained only a suntan which illuminates his face and for the remainder he has had to count on the dark side this revolution and write the reports in a newspaper read by the gnomes of the "chip" and sustained financially by the publicity of the electronics industry: at the first mistake they will break your neck, and this he knows extremely well.

Outside of his newspaper the morning is beautiful, the enormous factories in the green are humming at hard work, the Philippine operators that walk smile, and in the parking lots Volvos and Saabs contend for a spot with an Alfa Romeo spider, the old model of the Graduate (it is the film with Dustin Hoffman). Is this all true that which they denounce about the ecology? Ed Welles torments a little the pencil which he carries like a drug addict behind his ear and looks a little at the fountain which sprays inevitably in the hall. "I don't want to influence you", says Welles, "but I have to warn you, when you go to talk with the operators that left or were fired for sickness from AMD, be very careful to the things you put on and how you wash yourself". To my perplexed face, Welles smiled knowingly: "They are completely allergic to everything. Therefore nothing "sciampi allo zolfo" (translates as swarm of sulfur - ??? pr), or wool clothes, or

any aftershave lotion or perfumed soap. You will find yourself embarrassed at the interview when someone vomits, goes into a cold sweat, and is dizzy and can't stand up".

Welles is very serious: "While there were only operators like Nancy Hawkes, Judy Washington and Laura Giudicatti (see their story in the box above) to have troubles, no one made a big uproar. In fact all the more, for example, the Philippine operators don't say anything when they are sick and resist to the bursting point to make more money and return to home or put aside some money. Then came the "leaks" and all has changed".

The "leaks" are the losses from the underground tanks of solvents that have polluted the aquifer of Silicon Valley and of the residential area. The danger is severe and consists of TCE, trichloroethylene, so cancerous to be banded and substituted by TCA, trichloroethane, of which the fumes the operators breathe every day, finishes in the showers and cocktails of the managers, the babies drink it in their iced lemonade, and the ladies with their tea.

David White is the pseudonym of a young manager that agreed to tell me his experiences. Thirty eight years old, he lives with his wife and a baby in a residential area dotted with elms, willows, and boxwood hedges. In his house, on the walls hang together degrees from Yale and baseball bats, in the great living room is a computer "word processor" for writing, and in the enormous open kitchen a "food processor", a type of beater that does everything itself.

"We lived at Yale", says David, "and I went to work at a little company here in the valley. Everything went very well and they offered me to become a partner. It is a common thing in Silicon Valley: you don't come here to earn a good salary, you come here and spit blood until you are a millionaire in dollars. My wife and I found the valley and delicious place, the exact place in the world to be right now. After a while I began to hear these stories of the solvents of Fairchild Camera that have polluted the water. I love California, and I am very careful about all ecological things. I run to the boss and I tell him: "Hey, what are we doing, what kind of materials are we using". He looks at me seriously and he says: "Dave, I don't have the faintest idea". We go to get the manual in the factory and we discover all the poisons that are in use every day. He grabs his back, and I from that time collect documentation for the ecologists. We don't talk together very much anymore. The dream is finished.

She who knows all about "leaks" is the lawyer Amanda Hawes, "abogada" as it says on her business cards for visits from the immigrants from South America. To find her however is not easy: to oppose the ills of Silicon Valley, Amanda Hawes works at a rhythm of heart attack. Thursday she is in Los Angeles, Friday she speaks to a group of lawyers in Fresno on pollution and the law, Saturday she has to take her three children to a basketball game. She can see me Sunday, if I go to her office, she will fit

me in after her arrival from a marathon she will run in the morning.

In the valley now it is raining and cold. A few kilometers from the factories which pretend to be clean, the small cottages are cute, each one with its dog wagging its tail, the people that don't have formality a little like a penguin from New York but goes around in shirts and blue jeans from '60: it will be post-industrial, but remains as always the old California "casual" of a time, after-all. Many tens of panting runners of the marathon still filed under the crawling of the finish line, but my "abogada", evidently in grand form, already had taken a shower and in flaming overalls accuses: "In all the areas where the solvents of the electronics industry have finished in the water the authorities of California have found augmented statistics of birth defects and miscarriage. I defend many operators from AMD and a bunch of people call me on the telephone worried, is it true, they ask, that they get fat because their clothes hold the poison and if they try to thin themselves they get very sick? The only answer I have is: I think that is exactly true".

In Silicon Valley the pollution of the subterranean deposits, due to the losses of the tanks of steel and glass fibers have been at least three hundred, the complete list resembles the yellow pages of the high technology industry: IBM (that has spent 42 million dollars to clean up the chloroform and freon that has escaped from its plant), Siemens, Westinghouse, Data General, Hewlett Packard, the same AMD, Signetics, TRW, Raytheon, Siltec, Intel and NEC, Fairchild Camera responsible for a clamorous loss in an area where later the [number of] congenital malformations have gone to the sky.

"The problem is enormous", says Lipper, of the California legislature, "because the post-industrial revolution is polluting our state and we have to provide without killing it, without losing the image of efficiency and cleanliness that it has and obviously the work places and research can produce". The problems are, in fact, not lacking. A few years ago AMD insured itself against accidents with only ten thousand dollars, but now no agency would cover the risk.

And if the factories, indignant for this wave of accusations, lawsuits and protests dismount all and go to Singapore? "I don't think so" says Kip Lipper: "Where will they find two centers of research, right near by, like Berkeley and Stanford? Where will they go to make the baths [or maybe prisons ???] of the good youth? And then don't forget Bhopal and the process that will occur before long. If Union Carbide is condemned to pay the damages like the massacre had perhaps occurred in America, it will be the end of the escape to the Third world in the search of profits. In the time of waiting, no one is going to move".

Miscarriages, danger of cancer, birth defects, young invalid women, the water - the pride of the valley - reduced to a canal of drainage, the want of doctors in the factories, for money for

research, for computerized data, the cocaine that takes root and becomes an accepted social fact like a dry martini twenty years ago: the other face of a revolution, that no one saw.

In San Francisco, two hours in a car along the bay, while the "yuppie" ladies accompany the children to tennis or to riding school, I ask to the beat prophet Lawrence Ferlinghetti, that celebrated his birthday in the old bookstore "City Lights Book", why many look to the other side and pretend like they don't want to see. The poet took me underarm and indicated the pyramid skyscraper of Transamerica, a few more steps to the valley: "We are the last ones, those who listen. Here begins the country of silence, of the dirty, clean the computer and dirty the people."

Perhaps Ferlinghetti is too pessimistic. The union, for example, that in Silicon Valley never has put a foot to break the individual negotiation for the operators and of the saunas, swimming pools, and the gymnasias of the factories for the workers, is beginning to peep in, exactly to the thanks of the spreading of the professional diseases. And if Engels really would return to make an inquest into this industrial revolution, he could interview a personage decided to battle to get the entrance of the Unions into the new world: an enterprise judged by many impossibilities. But our man does not dismay until the time that he doesn't have even a cardholder, a certain justice for the Don Quixotesque enterprises that must still obtain, a vision that one calls Peter Cervantes.

Captions:

pg 195: An image of Silicon Valley. Above, two companies of the area: Advanced Micro Devices and Air Products and Chemicals. The opposite page: Ted Smith of the Toxics Coalition indicates the map of the polluted zone: the green skulls indicate cancer danger, the red ones danger for pregnant women.

pg 197: The lawyer Amanda Hawes, expert in the problems of workers, with a client Judy Washington. To the side, the Puppo family, the lives near to Fairchild. Brian, the smallest kid, was born with serious heart complications, probably, according to doctors, because of the polluted water drunk by his mother during pregnancy.

pg 199: Ed Welles, reporter for the "San Jose Mercury News".

Box on pg 199: OF POISON IN POISON

Silicon Valley (California). It is the story of three operators, Nancy Hawkes, Judy Washington, and Laura Giudicatti. They worked at AMD, three women of the new variegated class of operators in the valley.

For Nancy, Judy, and Laura to work at AMD signified a good salary, about nine dollars an hour for six hours a day. A positive fact, the emancipation, the pride to be with the brave

ones. The work consists of cleaning the "wafer", with its "chip", with powerful chemical solvents.

Nancy, Judy, and Laura tell about the products used to clean the chips. Names that now don't signify anything for them, but that are accompanied, in the chemical manuals, by skulls and crossbones. At AMD, however, manuals of this type are never seen by anyone until Nancy found one and photocopied it for the operators. They found, for example, to be working with arsenic, cancerous and mutagenous, causes a series of diseases, from anemia to allergies, and miscarriages. Or trichloroethylene (TCE) so suspect of being a cancer causing agent that it was banned and substituted by trichloroethane (TCA). "But AMD", relates Nancy Hawkes, "to not waste a stock of TCE recommended to pour it into new bottles and to put on them labels TCA." At AMD they vigorously deny it and a case is in course: Nancy is asking for 10 million dollars.

Three operators, like other tens of their colleagues, began to be sick. Nancy had to quit driving because she became allergic to gasoline, she can't clean here house anymore because the detergents make her faint. Julia (sic), constantly chancing being dizzy, got fat apace and also Laura has problems, she is ashamed to meet her friends fat and without hair. The solvents destroyed a splendid mane of hair. Today she carries a wig and relates with anger: "I loved that factory. I never would have thought that my pregnancy would be put in difficulty, not even that my sister, also an operator, could have had a miscarriage. It was like an atomic war. We worked with antimony trioxide and I asked my boss: "does it make you sick?" "Of course not", he answered, "you could eat a teaspoon every day". In fact, here I am".