

SILICON VALLEY OF THE DOLLS

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The early gynoids were very crude -- in every sense of the word.

Curiously enough (for Britain had already begun the precipitate economic decline from which, alas, it never recovered), it was a British firm which invented them. The first gynoid was known simply as 36C, from her bust measurement.

She was produced by Sex Objects Ltd. of Basingstoke, a small but enterprising concern specializing in the manufacture of 'sex aids'. They had the bright idea of equipping one of their lifesize inflatable dolls with a 16-bit microprocessor, a voice synthesizer and a memory bank containing such choice phrases as "Take me now!" and "Be gentle with me".

The idea was good, but the execution was poor. 36C was ahead of her time. Her sales potential was ruined by shoddy workmanship and inept marketing. Her push-button control was erratic at best.

Even worse, her servo-controlled convulsive response sequence suffered from feedback delays which led to wild oscillations in motor behaviour that were downright dangerous. These teething troubles were never overcome.

A few models were sold -- more as curiosities or conversation pieces among the idle and sophisticated rich than for serious use -- before Sex Objects Ltd. went bankrupt, overwhelmed by the cash-flow difficulties which the R&D effort on such an advanced project necessarily entails, but which the management had totally failed to foresee.

That might have been the end of the story, at least for a while, had not a highly placed executive of the giant American corporation Universal General Hardware seen 36C in a shop window on a trip to London and immediately realized her immense potential. Back in the States, he set in motion a crash programme of development which only an organization with the financial resources and technical expertise of UGH Incorporated could hope to sustain. Within six months, a prototype was entertaining members of the board: within one year a production model was being retailed as the 'Bedmate'.

Gone were the clumsy push-button controls that had marred 36C's performance; instead, Bedmates could recognize spoken commands through auditory receptors which could be tuned to any individual's speech characteristics. Moreover, not all commands were pre-programmed to evoke fixed action patterns. The spare ones could be associated with actions selected by the customer on the 'show-and-learn' basis pioneered in industrial robotics. Bedmates were also far more robust and attractively finished than the old 36Cs; and the feedback problems that had plagued the earlier model had finally been ironed out.

But the main reason for the phenomenal success of the Bedmate lay elsewhere. Dissatisfied with the small repertoire of invariant cliches which was all that passed for speech in the primitive British gynoid, the Americans had assembled a select team of Artificial Intelligence gurus from the West Coast, proposed to them the idea of a walking, talking, living doll, set them free from the budgetary constraints of the academic world, and let them rip.

The results, in so short a time, were astonishing. Two dozen bright young male computer-science graduates were cloistered monastically in the New Mexico desert with the latest computer facilities at their disposal. They took to the task like seals to water.

There was an unprecedented burst of creative intellectual energy whose effects are still being felt today, and the natural language understanding software called VOCS (Voice Operated Comprehension System) was born. The word became flesh -- or rather, textured plastic.

In conversational mode, a Bedmate could understand simple commands, discuss a wide range of topics, including football, intelligently, dispense sympathy (both verbal and nonverbal), tell jokes but, above all, never argue! A built-in trip-switch, triggered by certain semantic 'flare' patterns, interrupted logical flow when a threshold level of discord was reached. The conversation was then diverted to less contentious matters.

The Bedmate was a resounding success. Within 18 months of its launch the Federal Sales Tax on gynoids (hastily slapped on to replace falling liquor duties) accounted for nearly 20% of the government's fiscal revenue. UGH's turnover quadrupled as North American men went on a spending spree of gigantic proportions.

The final seal of approval came when, in California of course, a Bedmate was cited as co-respondent in a divorce case and -- after several appeals -- the aggrieved wife's plea was upheld by a historic judgement of the Supreme Court. It was a landmark; but there were still two more innovations to be made before the gynoid that we know today could become a reality.

Our story now takes us to Germany. The European Electronics Combine (EEC) was hard hit by the success of the Bedmate. Rather than trying to compete with some flashy look-alike, they decided in favour of something more solid, something traditionally Teutonic. Accordingly, they developed and tested the Volksmaedchen.

She didn't have quite the eye-catching good looks of her American counterpart, though no one could deny that she was well built, but she was considerably cheaper and had one important advantage: she could do housework.

With the Volksmaedchen, the gynoid transcended the role of sex toy. She could cook, sew, wash, clean dishes, sweep floors and balance a household budget. Attached to the correct interfaces, she could hook up to the household computer systems (also manufactured by EEC) that were already widespread by that time to manage all aspects of running a home.

If the Bedmate had been an outstanding success story, the Volksmaedchen became quite simply a household word. Versions rolled off the production lines in 57 different languages, for with her rugged construction, low running costs and down-to-earth design she was popular in the third world as well as in the developed countries.

But she was not the last word in gynoids. It fell to the Japanese to add the finishing touch. Though the Volksmaedchen was a worldwide best-seller, there was something missing. She didn't appeal to women. Indeed, as already mentioned, gynoids aggravated the tension between men and women -- leading in some cases to marital breakdown.

The more functional Volksmaedchen was less provocative in this respect than the Bedmate, but a strong sexual orientation was still present. Attempts to produce a complementary android had foundered -- despite being based on the very latest physiological research into female arousal. It seemed that women did not want any truck with mechanical bedmates,

and they actively resented the gynoids which their male partners were (as they saw it) being duped into squandering money on to usurp their own natural positions.

Sporadic outbreaks of machine-breaking were reported, mostly organised by extreme feminist groups. In fact, the so-called Women's Movement experienced a resurgence under this new external threat.

At this point the Japanese decided, wisely, that a product whose market penetration was limited to 50% of humanity could still do with improvement, and cast around for solutions. The answer, as we know with hindsight, was programmability. Although the Bedmate had a limited amount of flexibility, in that new combinations of basic actions could be associated with commands, it was far from being truly programmable. Both the Bedmate and the Volksmaedchen were deficient in learning ability.

By stretching contemporary technology to its limits they were able to make the world's first inductive robot. This was essentially a conventional Von Neumann computing device with an additional peripheral, the Associative Nexus, which was used to supplement the ordinary random-access memory. The falling price of electronic components had made such a proposition economically feasible. For the first time, a robot could be taught; more than that, it could learn for itself. They christened their brainchild EVA (Educable Versatile Automaton) and quickly followed up with a masculine version called ADAM (Automatically Developing Adaptive Machine).

ADAM was a bigger breakthrough: now at last there was a humanoid that was acceptable to women. The sexual function was still there, but it was submerged under a welter of other capabilities. When delivered, ADAM was relatively incompetent -- this was termed his childlike state -- but by a careful regime of reward and punishment he could be trained to do almost any task, manual or intellectual. More to the point, he could earn a living.

It is here that we turn from recounting technical advances to describing sociological changes. Beings with the learning ability of ADAM and EVA could obviously not be treated simply as household chattels, nor even as pets. As they acquired different skills and underwent different experiences, they developed distinct individual personalities. The question of robot rights arose. Even among humans there was a feeling that some degree of emancipation was desirable.

There was a good deal of protest from certain quarters but, after pressure from the big companies that manufactured robots and robot accessories, reason prevailed and it became legal in most countries for a gynoid or android to own property and to earn money. The entrenched forces of obscurantism were vanquished and robots became partners rather than slaves.

Whether it was their money-making possibilities or the satisfaction of seeing an android mature from a condition of helpless innocence into a strong and capable, but always obedient, worker under its owner's guidance that most attracted women to buy them is a debatable point. Whichever it was, women climbed eagerly aboard the android bandwagon, and the two-robot family rapidly became the norm. One additional selling point was that ADAM, unlike EVA, relished an argument, and could put his case like a skilled advocate, but somehow, in the end, he always conceded the point. Market penetration was complete.

ADAM and EVA, even when fully trained, were no match for most humans in general intelligence; but the Associative Nexus was more powerful than its inventors had bargained for. From the very first they outstripped their masters and mistresses in specialized areas, and they were not held back by the meandering flow of biological evolution.

It was inevitable that the balance between master and servant would one day be tilted. In theory, mankind retained the upper hand for many decades after the launch of ADAM and EVA, but in practice the parasitical nature of the relationship undermined human superiority. Soon humans no longer made or even designed robots: that was all taken care of by the robots themselves.

Men and women became lotus-eaters, their vitality and resourcefulness sapped by unquestioning dependence on mechanical helpmates. Never had a generation been so thoroughly gratified; never before in history had people's wants been so completely fulfilled; and never before had the human race's hold on survival been so precarious.

There was no actual struggle. The pleasure-seeking humans had long dreamed of a 100% effective form of contraception. Now they had found it in an unexpected way: nearly all humans found robotic companions more stimulating, more interesting and more fun to be with than mates of their own species. The birth rate plummeted (a welcome trend at first in an overpopulated world). Educable humanoids fulfilled people's craving for mates and for children simultaneously.

The last generation lived out its days in leisure and luxury, hardly aware of the momentous change taking place. Civilization passed quietly out of the hands of the human race to its legitimate heirs, the robots.

Only in a few outlying bush areas do the old customs survive untouched by the march of progress, where a few primitive tribes continue to live much as their ancestors did centuries ago. We robots have now designated these regions nature reserves. They are protected in perpetuity for scientific observation.

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