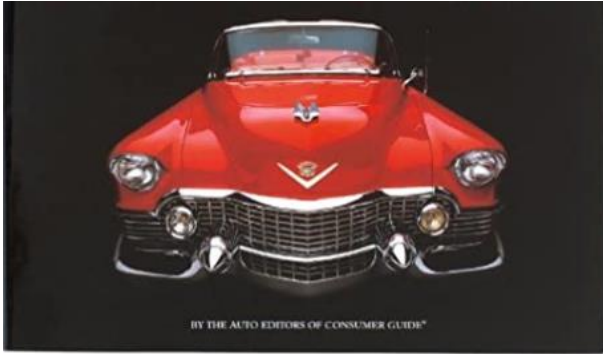


Science, Technology, and the Automobile in the 1950's



- Did you know of anyone who built a fallout shelter in the 1950's?
- Did you see Sputnik orbiting the earth in 1957?
- Had you heard of Katherine Johnson before the movie, *Hidden Figures*?
- Were you more worried about polio than a nuclear attack?
- What medical advances from the 50's impacted your life the most and why?
- How did the shape and style of the automobile evolve during the decade?
- What was your favorite make and model of 1950's automobile?
- Did you travel by car or train on a special vacation in the 50's?
- In your travels, did you stay at a Holiday Inn or frequent McDonald's restaurants?
- How many of the cars can you identify from 1950 and 1959 on pages 6 and 7 (without looking them up)?

THE ARRIVAL OF VIDEOTAPE

Louis P. Forster

AUGUST 8, 1959 ("TAPED")

THE UNEXPECTED DEBATE with which Premier Khrushchev and Vice-President Nixon opened the American National Exhibition in Moscow served to call attention to an extraordinary process that not only is revolutionizing commercial television but is having a marked effect on worlds as far apart as horse racing and medical education; to wit, Videotape recording. The Moscow debate got under way with Mr. Nixon explaining to Mr. Khrushchev that their words and images, the latter in color, were being set down on tape and would be played back immediately; Mr. Khrushchev appeared delighted, like a ham actor who can never see too much of himself. The subsequent discussion between the two having caused a sensation, the tape was rushed to this country by plane that very evening, and on the following evening innumerable duplicates, with an English translation of Khrushchev's remarks dubbed in over his voice, were being telecast from coast to coast.

Prompted by this transatlantic episode, we've been pestering the Ampex Corporation, whose prodigious baby Videotape recording is, to tell us something of its history and how it works. To begin with, the first

experimental device for recording sound magnetically, on wire, was constructed by the Danish scientist Valdemar Poulsen, back in the nineties, but magnetic recording didn't catch on in a big way until the Second World War, when the Germans developed methods of recording on tape instead of on wire. The tape, a plastic coated with minute particles of iron oxide in a resinous base, is drawn over a recording head, where a magnetic field fluctuates in response to variations in the incoming electrical voltage, and the iron particles are instantaneously magnetized in a pattern conforming to those variations. The technical superiority of magnetic tape over other forms of recording, Ampex says, in a characteristically Latinic business prose, "is attributable to its capacity to record any variable which can be expressed as an electrical signal, over an extremely wide frequency range, and with minimum distortion of the recorded signal on reproduction. Magnetic tape is an unvarying and permanent record. Accuracy . . . does not deteriorate through repeated use; unwanted recordings may simply be erased by demagnetizing and the tape reused almost indefinitely. Magnetic tape is easily spliced and edited."

Ampex got into tape recording after the war. Urged on by Bing Crosby, who was tired of doing his radio shows "live" and was enchanted by the possibility of recording them in advance, at his convenience and yet with a happy minimum of distortion, the company produced, in 1948, "the first professional quality, high-fidelity tape recorder to be made in America" and promptly sold twenty to Crosby's employer, the American Broadcasting Company. With the rise of TV, it became obvious that TV shows should also enjoy the advantages of being recorded in advance; filming them, however, proved technically unsuccessful, for even the best kinescopes have always managed to look rather like forty-year-old Westerns. Ampex set to work developing a tape recorder capable of handling pictures as well as sound. Its engineers must have been a little dashed to discover that while a good sound tape recorder handles from fifteen to twenty thousand electrical impulses a second, a good picture tape recorder would have to handle *four million*. To fit this appalling number of impulses onto a conventional tape would mean using up a reel of tape as big as an automobile tire every ninety seconds. Ampex solved the problem by constructing a machine with four recording heads, all travelling at the rate of a hundred and six miles an hour and recording on separate channels of a two inch wide tape. An entire frame of a TV picture can be duplicated on a half inch of this tape, and an hour-long

TV show can be recorded on a single reel with a twelve-and-a-half-inch diameter. Ampex brought out its first Videotape recorder in 1956, priced at forty-five thousand dollars, and within five days had orders for four and a half million dollars' worth. The price is still forty-five thousand for a black-and-white job; a Videotape recorder like the one on display in Moscow, capable of recording and playing back in color, will cost you an extra twenty-nine thousand.

We mentioned that Videotape is a boon not only to commercial TV but to other worlds as well. The Ford Foundation, for example, is experimenting with Videotape in public-school education; astronomers are using Videotape to measure the cosmic field; closed-circuit televising of Videotaped surgical operations is becoming commonplace in medical schools and at medical conventions; and, last and most certainly least, race tracks all over the country are installing Videotape to record races, instead of filming them. The time saved at Yonkers Raceway by using Videotape, which can be instantly played back if a protest is made, instead of film, which must be laboriously processed, has made it possible for the track to schedule nine races a day instead of eight, for an increased gross of some thirty thousand dollars a day; thus the Yonkers recorder paid for itself halfway through the second day.

By way of postscript, we can't help wondering whether Khrushchev, hamming it up at the Exhibition, would have been amused, or only made more querulous, to learn that the founder of the Ampex Corporation is himself a Russian—Alexander M. Poniatoff, a flier in the Russian Navy during the First World War, who left Russia at the time of the Revolution and became an American citizen in 1932, and whose initials, combined with the "ex" in "excellence," gave the company its name.

VACCINATING AGAINST POLIO

John McNulty

APRIL 23, 1955 ("WIPE AND JAB")

PLANS FOR THE polio vaccination of some two hundred and eighty thousand New York City children have been brewing since last October, at which time the Health Department forthrightly established a Polio Task Force, under the command of Dr. Morris Greenberg, chief of its Bureau of Preventable Diseases. It was in October that the National Foundation for Infantile Paralysis announced it would provide Salk vaccine for mass inoculations *if* the Francis report was favorable. "If the report had been unfavorable—and I assure you we had no advance information—we'd have been saddled with some seventy-two thousand dollars' worth of supplies," Dr. Greenberg told us the other morning at his office on Worth Street—a busy place, made all the busier by a couple of hundred phone calls each day from citizens wanting to know about some phase of the vaccine situation. "But we had to act as if we knew the report would show maximum effectiveness. We had to be fully prepared for the best, and we are."

The Polio Task Force, composed of representatives from the National Foundation for Infantile Paralysis, the local office of the Foundation, the Public Health Nursing Bureau, and the Bureau of Handicapped Children, was helped in making its happily justified preparations by last year's experimental injections. More than forty thousand city children got shots then, half of them receiving authentic Salk vaccine and the other half placebo. (The Health Department's estimate of the public's intelligence was vastly increased when it found not a single instance of parents' trying to pull strings to make sure their children got the real stuff.) All the placebo kids are, of course, eligible for genuine Salk this time. Among the things Dr. Greenberg and his associates learned from last year's experience were how many children one doctor can conveniently inject in a single hour (thirty-three and a third) and how few

children can be expected to faint at the sight or prick of a needle (considerably under the normal rate for the nation's armed forces). On the basis of these and other pertinent findings, the Task Force plunged ahead, and had soon stockpiled 4,500 syringes, 16,255 hypodermic needles, 156 gallons of alcohol, 800,000 cotton balls, 30,000 gauze pads, 1,300 enamel trays, 1,400 pairs of small forceps, 30 quart cans of detergent, 1,525 rubber-stamp-and-stamp-pad sets, 1,100 white enamel mugs (to hold alcohol for sterilizing), and 170,000 envelopes (in which to keep sterilized needles and syringes). All this matériel was stored in the basement at Worth Street, pending word from Ann Arbor.

Concurrently, letters went out to all school principals, alerting them to the probable state of affairs. A form letter was written for distribution to appropriate parents. Doctors were recruited, and windshield placards prepared to keep them from getting parking tickets while administering vaccine at schools. Through Parent-Teacher Associations, volunteers were lined up to transport vaccine to schools from municipal district health centers—there are twenty-one of these, scattered throughout the city—and to take used needles and syringes back to the centers for reesterilization.

Within a day after the great communiqué from Michigan, the Task Force began to roll. Dr. Greenberg, who was in Albany, personally carried back from there a two-foot-high stack of green papers, as well as various corollary documents, indicating, in code, which of last year's inoculated children had received what. At once, the Health Department began decoding the lists and notifying those parents whose children *were* vaccinated. Unnotified parents of children who participated in the 1954 tests can assume that their children got placebo. "This year's operation is enormously simplified," Dr. Greenberg said. "Last year, to control the test properly, we had to be certain that each child got his second and third shots out of the same bottle as his first, and that made for complicated bookkeeping. This year, it'll just be wipe and jab, wipe and jab, as fast as we can go."

In fairness to the armed forces, we ought perhaps to observe that more children might have keeled over last year if the authorities hadn't distracted them from thoughts of pain by offering them a selection of lollipops of assorted colors. It has been concluded that the necessity of making a choice absorbed the kids so deeply that they tended to forget about the needle.



Chuck Berry

Maybellene (1955)

Maybellene, why can't you be true?
Oh Maybellene, why can't you be true?
You've started back doing the things you used to do.

As I was motivatin' over the hill
I saw Maybellene in a Coup de Ville.
A Cadillac a-rollin' on the open road,
Nothin' will outrun my V8 Ford.
The Cadillac doin' 'bout ninety-five,
She's bumper to bumper rollin' side by side.

Maybellene, why can't you be true?
Oh Maybellene, why can't you be true?
You've started back doing the things you used to do.

Pink in the mirror on top of the hill,
It's just like swallowin' up a medicine pill.
First thing I saw that Cadillac grille
Doin' a hundred and ten gallopin' over that hill.
Offhill curve, a downhill stretch,
Me and that Cadillac neck by neck.

Maybellene, why can't you be true?
Oh...



Cars Built In 1950
How Many Can You Identify?



Cars Built in 1959
