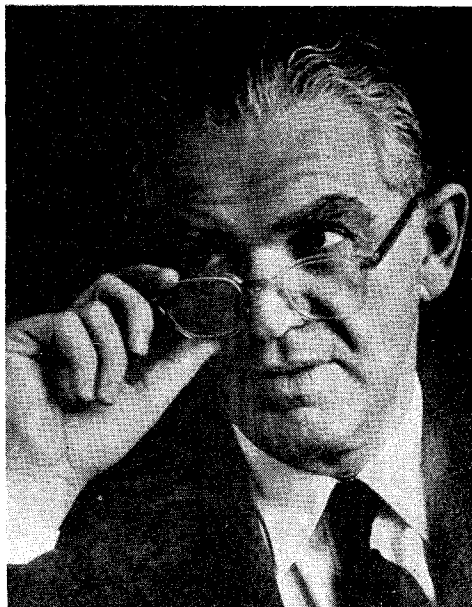


**An industrial
designer looks
ahead to**



THE TWENTY-FIRST CENTURY

by HENRY DREYFUSS

IN LESS THAN HALF A CENTURY it will be A.D. 2000. Who can say what life will be like then? One can only speculate, knowing that for all the incredible scientific progress of the last fifty years, limitless vistas lie ahead. Perhaps, by the end of the second half of the twentieth century, the one remaining adventure of modern times, travel in space, will have been accomplished. Possibly, the giant eye of Palomar or an even more far-sighted cyclops will have determined whether life exists on neighboring planets. Conceivably, the Martians will have lived up to their mythological name and attacked the earth and thus united the people on this uneasy sphere. Only one thing is certain—Joe and Josephine, the indestructible, will wander through this panorama, whether it's a utopia or a maze. How they act, and what they think, will be a development—an extension,

as a matter of fact—of how they act and think today.

Americans are healthier and more comfortable than ever before. The sweep of technology has not been too much for them. On the contrary, they take for granted, even consider indispensable, things that to their grandfathers could have been little more than a pipe dream—the coast-to-coast dial telephone, radio, television, automobiles, motion pictures, mechanical refrigeration, frozen foods, automatically controlled cooking and washing, cellophane, color photography, sound amplification, stain-repellent fabrics, and the countless applications of electricity. They casually accept the fact that an airplane travels 1500 miles an hour when they read it in the paper and then go on to the comic page to see how Buck Rogers is doing.

This period of mid-century is known as the atomic

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age and the electronics era. Atomic-powered submarines are already a reality. Ironically, guided missiles, originally conceived for offensive warfare, have become this country's guardian angels. On a more comforting note, research men are working to adapt the products of atomic energy to medicine and to countless everyday uses.

It is part of the industrial designer's business to let his thoughts roam—actually, clients pay him to dream a little—and it is not too difficult to look ahead to the beginning of the twenty-first century, when, doubtless, today's sleek designs will seem quaintly amusing to our great-grandchildren.

By then, it is not unreasonable to assume, babies will be immunized at birth against disease, autos or their equivalent will run on atomic power. A great deal of farming will be done chemically, and farm implements will be operated automatically. I have already seen a tractor that can be set to travel in a series of diminishing squares until an entire field is plowed. No driver is needed, as a special finder wheel is placed in the furrow it made the first time around, and this gradually narrows down, toward the center. With such equipment a farmer could cultivate half a dozen fields at one time.

It is possible that telephones will have miniature television tubes, so that the person at the other end can be seen, perhaps holding a diagram that is pertinent to the conversation or showing off a newborn babe for Grandpa's examination, back in Iowa.

Mail will probably be dispatched across the country by rockets, a civilian application of the guided missile. By this means a letter could span the continent in half an hour.

Rocket oil-well drilling is not improbable. Experiments have already been made, and the rockets, traveling at terrific speed, burn a smooth hole in the earth, making an iron casing unnecessary.

Airplane Travel

Changes are inevitable in city planning because of traffic congestion, and it's quite possible that in the future people will park their cars on the outskirts and use fast helicopter transportation to get into downtown sections and crowded areas. Certainly, we have seen only the beginning of helicopters. In the realm of airplane travel, the Pittsburgh airport led the way with a sixty-four-room hotel, including conference rooms. By appointment, people fly from neighboring cities, confer with Pittsburgh associates, then fly off, without ever having left the airport. Similar accommodations have been provided at La Guardia in New York and at Los Angeles International Airport, and more are being built throughout the country.

Wireless transmission of power is possible today, but is not economic. Atomic energy may provide cheap enough power to make it feasible.

The telephone and radio may come into an entirely new development. Just as we can sit in a pool of directed light with the rest of the room in darkness, it is con-

ceivable that one day we will sit in an invisible cone of directed sound wherein we will be able to hear and speak to someone at a distance, as in a phone conversation, but people near us will be excluded from the conversation or, if it is a radio, from the program.

It is conceivable that all clothing will be made of synthetics, and people will look back on those who wear natural skins or fibers as barbarians. The expensive procedures of getting wool from sheep, growing cotton, or having silkworms spin for us may be antiquated. And instead of being sewn together, which leaves uncomfortable seams, garments may be blended with heat.

Microfilm

The use of microfilm will probably be extended to the point that it will be possible to have the dictionary in a box the size of the telephone, with a lens and spinning device, so that time will be saved in looking up words. The Bible, novels, textbooks, and valuable file material will be made similarly accessible next to your easy chair.

Perhaps cameras will be built into television receivers, so that by pushing a lever a person will be able to obtain a permanent record, which could be developed immediately, the way Polaroid cameras operate today.

What will become of the urge to travel when Paris and New York are only two hours apart by plane? Perhaps we must project ourselves into an ectoplasmic future, when the act of being somewhere will entail no travel at all. A man in Istanbul may decide he wants to spend the evening with friends in Ames, Iowa. The turn of a switch will establish a connection between them and their life-size images in color and 3-D and their natural voices will be in each other's front parlors. Face-to-face business conferences may be carried on between men whose physical presence is actually in such widely separated places as Rio, Copenhagen, and Hong Kong. Remember, seventy-five years ago, people were not visiting on the telephone or flying through the air or seeing a performer in Hollywood miraculously appearing instantaneously on a glass tube in their living room.

Meanwhile, there's disquiet in mid-century, despite the good living that is available to everyone and the prospect of even more. From the headlines and the voices of the commentators and the analyses of the experts comes the suspicion that, without warning, the roof may cave in. From experience, people know that it takes only an arrogant gesture by an ambitious man to start the bombs dropping. A man with a good ear can also detect dissatisfaction of a much milder sort. It is the frequently heard contention that the nation's educators, philosophers, psychologists, and social workers have failed to keep pace with technology in this country. Indeed, some persons argue that the pressing technology of the times is in itself responsible for standardizing life, reducing it to the level of uninspired gadgetry, and thus creating an emptiness in the lives of many Americans.

The combination of science, engineering, industrial

design, and manufacturing skill has brought Americans not only undreamed-of comforts, but a gift of an estimated thousand more hours of leisure each year than their grandfathers had.

Expressed in another way, the real triumph of the American way of life is that although the work week has steadily shrunk, productivity has steadily risen. In 1800 the average work week was eighty-four hours, a century ago it was seventy hours, in 1925 it was forty-five hours. Today the forty-hour week is almost standard, the two-day weekend is almost universal, three-week vacations with pay are more and more the practice, and the coffee break has become an institution. Despite all this, average production per man-hour increased forty-eight percent between 1928 and 1953. And not long ago, it was forecast that the average work week in 1975 will not exceed thirty-two hours.

Joe and Josephine share in this dividend of leisure. Joe's office or factory is cleaner than was his father's, and it has better lighting. His nerves are less jangled by uncontrollable noise, his tools are more efficient. If he is a farmer, he can harvest four acres in one hour, whereas it used to take a man a day to harvest one acre. His day has been shortened by the mechanized plow, disk, harrow, corn picker, cotton picker, and motor truck.

If she is a secretary, Josephine has bookkeeping machines, the electric typewriter, a dictating machine, and a check-writing machine. If she is a housewife, she takes many fewer steps, she bends and kneels much less than her mother did. Her home is studded with the symbols of good American living—the refrigerator and freezer, the automatic stove, dishwasher, garbage grinder, and washing machine. Nostalgic diehards may doubt if the cake she bakes from a box of ready-mix will be as good as Mother used to make, but it is likely to be surprisingly close. And whereas Mother used to be weary after several hours over a hot stove, taking occasional peeks into the oven to see if it were done, Josephine simply pops the batter into the oven, sets a thermostat, and forgets it. Her chores are easier, too, in the bathroom, where the gleaming tile and chrome can be wiped spotless in minutes. And she shops in a supermarket where in a short time she can buy supplies for a week instead of going from butcher to grocer to vegetable store, often blocks apart, as her mother did.

Leisure—and happiness

Inevitably the question comes: to what use is this leisure being put? Is it making its recipients happier, better equipped to live a full life, to realize their full potential of personal development? The positive gains are obvious—physical well-being, higher level of health, a life span prolonged nine years in the last quarter century. But does leisure produce happiness? We can scarcely claim to have generated a happier people when we see mounting tension all around us, when it is estimated that one in twenty Americans will spend part of his life in a mental hospital. Nor can we be smug about the

blessings of leisure when we consider that many industrial employees who reach the age of retirement plead to be permitted to continue working rather than accept a pension. They don't know what else to do with their time. Have we created leisure only to train a nation of passive participants, filling their time with wrestling on TV, comic books, and predigested digests?

Certainly, if the men who make our mass-produced conveniences are to blame for leading people into spiritual frustration, the industrial designer must share the blame. But I do not concede that Americans are overwhelmed by materialism because they enjoy good living. The figures show that there is an accompanying surge of interest, even enthusiasm, in the fine arts, which can be attributed at least in part to the improved design of the ordinary objects that are all around them. I sometimes wonder if those who put the question really want an answer or are more interested in keeping alive a quarrel.

Meeting the challenge

I would like to meet the challenge in another way. Wherever I go, I look for people who have achieved tranquillity. Occasionally it is to be found in a person who has dedicated his or her life to a religious order. People who alleviate suffering often have a serenity in their work. The very young, who know no pain, and the very old, who acknowledge and accept suffering, may know this feeling. Next to inner serenity, a person can aspire to live and work in an environment of meditative calm. But even serenity can mean different things to different people. I have been in great cathedrals and become almost belligerent at their busy architecture, their vulgar and excessive decoration, and their raw and brilliant stained glass. On the other hand, I have felt complete inner peace surrounded by the superb glass of Chartres. Nature, perhaps, supplies the best atmosphere for this feeling. The forest, with its deep shade and singing birds, can bring solace, but a turbulent sea, a heavy rainfall, a gale, by their simplicity and immensity, can also bring quiet. I have the temerity to suggest that, by reducing objects to simple, unobtrusive forms, by using appropriate colors and textures, and by avoiding obtrusive noises, we contribute to the serenity of those who use them. This is what we try to do.

For many years I have been guided in my work by this cherished quotation by Daniel Burnham, great architect and great American:

Make no little plans; they have no magic to stir men's blood and probably in themselves will not be realized. Make big plans; aim high in hopes and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever-growing intensity. Remember that our sons and grandsons are going to do things that would stagger us. LET YOUR WATCHWORD BE ORDER AND YOUR BEACON BEAUTY.