duced their budget request from $278 million to $264 million, then backed down still further by authorizing the university administration to count on getting only $255 million. And they voted that if a conflict should develop between quantity education and quality education because of the lower budget figure, the number of students attending the university could be reduced. They did refuse to vote tuition for the 1967–1968 academic year, but they agreed to take up the question at an April meeting, a date selected to please the governor, and appear to be giving it serious consideration. Reagan subsequently upped his own budget figure, and now says that he can find about $20 million more for the university than he originally offered.

As far as the university is concerned, the $255-million figure on which it is now making commitments is only the beginning of the end of a period of nightmare uncertainty. In the first place, there is no guarantee that the money will be voted by the legislature. At least one wealthy regent is convinced that, if it isn't, there are various untapped sources of funds controlled by the regents from which the additional money could be obtained. But this kind of scrounging could work only on a one-time basis and there seems to be considerable feeling that it could set a damaging precedent.

The threat of severe cuts, together with the university's other troubles, has itself been extremely demoralizing. For a time, which fell during the main academic hunting season, all recruitment of faculty below the tenured level was halted, out of fear that commitments would be made that would undermine the university's flexibility in meeting the cuts. There was also a period of frantic calculation about which programs would have to be scrapped at various alternative levels of funding. In one extreme calculation—based on Reagan's $196-million budget without the addition of tuition or special funds—it was reckoned that the three newest campuses, at Irvine, San Diego, and Santa Cruz, would have to be closed. Even the $255-million or the $264-million budgets, though their implications are not nearly so drastic, will force reductions in a number of areas—inevitably those such as faculty-student ratios, new courses, library support, and so forth, that get closest to the heart of educational quality. In addition, the building up of new programs—such as the new medical schools at Davis and San Diego—may be slowed, and the expansion of existing programs delayed.

Most of the hard, specific decisions have not yet been made and in their absence—and the absence of a regular president—the university seems to be somewhat floundering and uncertain. Contrary to many predictions an exodus of faculty has not begun. But faculty members in all departments are being enveloped in offers, and university officials are frank to admit that recruiting does not seem to be going especially well. The optimists compare the situation to that of the loyalty oath fight and point out that when the shouting stopped there were few permanent scars. The pessimists reply that times are changing in academia and that while California is entering a period of retrenchment, universities elsewhere in the country, both public and private, are moving into periods of aggressive growth. The mood of uncertainty is well expressed by the university official who commented recently that "The buildings are still standing, the students are there, and the work is going on, but no one is sure that when we look back, this moment won't turn out to have been the university's watershed, the point at which it lost its momentum, the time when a subtle change in its direction began."

One of the least tangible losses is the illusion that the destiny of the university rests with its faculty, students, or administrators. Faculty and students throughout the sytem have been formulating their views, assembling committees, and passing resolutions, trying to talk about what a university and an education are, or ought to be, about. But while they will play a minor role in selecting a president, they are largely isolated from the processes of power. The university is being defended in the language of economics, not of learning, and its fate rests frankly in the hands of politicians. When the university students marched to Sacramento to protest tuition under the banner "Keep Politics Out of Higher Education," they were not only caught in a paradox, they were asking the impossible.—ELINOR LANGER

Huntsville: Alabama Cotton Town Takes Off into the Space Age

Huntsville, Alabama. This once-drowsy cotton town provides a neatly capsuled case study of why communities throughout the nation are vigorously campaigning for a slice of the federal research and development budget. For until 1950, the plight of the Huntsville area was more or less indistinguishable from that of scores of regions that found themselves outside the mainstream of the great postwar growth of technologically advanced industry. Then the Army decided to locate its rocket development center in an old munitions facility nearby, and, almost anyway you measure it—economically, socially, educationally, culturally—Huntsville was never the same again.

The events that flowed from the Army decision of 16 years ago have probably wrought more change in Huntsville than its century and a half of previous history. Huntsville's growth and the change in its way of livelihood have been remarkable. In 1950 the city had about 16,400 inhabitants. It was, and is, the Madison County seat, and on the broad steps of the county courthouse farmers could loll of a Saturday afternoon and exchange homilies. A Confederate soldier, standing tirelessly alert on his pedestal of stone, kept a stern vigil over the somnolent square. The city once had had a thriving textile industry, but many of the mills had fallen on hard times, and their spindles were idle. Although Huntsville had fewer Negroes than most Alabama towns, those who lived there knew their place, which was segregated, poor, and unfavored.

Huntsville today has a population estimated at 143,000, or more than eight times that of 16 years ago. The Confederate soldier on the square is

gone, and the old Greek Revival courthouse has been replaced by an immaculate modern structure of steel and glass. The square is no longer the town's center of commercial activity. The four-lane Memorial Parkway, built about 10 years ago to the west of the business district to serve as a bypass for through traffic, is now bordered by enough new neon-lit shopping centers, motels, and other businesses to make it the chief place of local commerce.

Much of that part of the old downtown that has not yielded to the wrecking crane now has a shabby, forsaken look. However, in addition to the new courthouse, a modern, resplendent city hall and a municipal library recently have been built in the downtown, as part of a multimillion-dollar civic center.

That great changes have overtaken Huntsville is not surprising in view of the heavy impact of missile and space activities. The U.S. Army carries on major programs of missile research, development, contract management, and technical training at Redstone Arsenal, just to the south of the city. The National Aeronautics and Space Administration's Marshall Space Flight Center (MSFC) at Redstone is responsible for the design, development, testing, and production management for the Saturn rockets which will propel the astronauts' Apollo spacecraft to the moon. To support MSFC's laboratory and assembly shop activities or to maintain a close link between MSFC and their own contract work, major NASA contractors, such as Boeing, Chrysler, IBM, and General Electric, have established facilities at Huntsville. Altogether, more than 30 companies, small and large, have facilities at Huntsville, largely for work in the space field. The only companies holding MSFC's prime Apollo mission contracts that do not have facilities (other than an office) at Huntsville are Douglas and North American Aviation.

The combined Army-NASA-contractor work force has been running from 35,000 to 40,000 civilian employees, with a total annual payroll exceeding $300 million. Although the scientific, engineering, and other highly skilled jobs have been filled largely by outsiders, an increasing number of civil-service and contractor employees have been recruited locally. For example, more than 12,000 such people were on MSFC and contractor payrolls last year. Many of them earned $7000 a year or better—salaries far surpassing what the average Alabama wage earner gets.

Wernher von Braun, director of the Marshall Space Flight Center.

In an effort to adjust to these economic changes, Huntsville has had to try to revamp and upgrade its social and educational environment. In 1950 nearly two-thirds of the adults (25 years and older) of Madison County had dropped out of school before the ninth grade and at least a fourth were functional illiterates. While the city's schools were reaching out to many more children by 1960, the educational situation, as it existed then, presented a curious anomaly: whereas almost 40 percent of the adult population had attended school for 8 years or less, 43 percent had completed high school, and, of those, almost half had gone on to college. In few places besides Huntsville have the illiterates and semi-literates been so evenly matched in number with the high-school- and college-trained.

Racial integration, or at least some earnest strivings toward it, has been necessary in education, public accommodations, employment, and housing—necessary because of court orders, civil rights statutes, and, especially, insistent economic pressures. Some Negroes and their white friends complain of foot-dragging and complacency, but there is no doubt that Huntsville has made significant progress in integration, even in such delicate areas as housing.

The city has had to infuse new blood, vigor, and ideas into its cultural life. Its most conspicuous effort thus far has been the renovation of the old central city through urban renewal which has made room for the new civic buildings, eventually to include a $7-million convention and cultural center. Three Huntsville women, the wives of local professional men and businessmen, were the prime movers in setting up an arts council. The council is trying to promote and encourage the activities of its numerous member organizations, such as the Little Theatre, Film Forum, Chamber Music Guild, and Civic Symphony Association.

Located in northern Alabama a few miles above the Tennessee River, Huntsville lies at the foot of Monte Sano, a small, brushy mountain on the edge of the Appalachians. The town traces its origin to its first settler, John Hunt, who arrived in 1805. It became the center of a rich agricultural area, noted especially for production of cotton. Planters put up handsome mansions on a hillside overlooking the downtown's "cotton row" (offices of cotton buyers) and its tree-shaded square.

Huntsville recovered from the Civil War faster than many Southern towns, partly because a local bank had access to northern capital and could finance industrial growth. The town's first cotton mill was established in 1881, and others were established in the 1890's and later. Textiles became Huntsville's dominant economic activity. In time, there were 14 mills, each with its company village of hands or "lint heads."

The vulnerability of Huntsville's

essentially one-industry economy was demonstrated during the Depression of the 1930's. Some mills closed, and others were in difficulty. The town's distress was made all the worse by an influx of destitute farm families forced off their land by mortgage foreclosures.

Salvation, which is not always borne on the wings of angels, came in 1942 in the form of Army shell-loading and chemical-warfare plants. Built on a 40,000-acre tract just to the south and west of Huntsville, these facilities were to become known collectively during the postwar years as Redstone Arsenal. By 1944, employment in Huntsville had risen to 30,000, an increase of 68 percent from 1940. Knowing, however, that these facilities would close at the end of the war, some of the local leaders set up the Huntsville Industrial Expansion Committee (HIEC), which was to try its hand at promoting economic diversification.

Although some new manufacturing jobs were created after the war, they did not offset the loss of jobs at Redstone, where only a caretaker force remained by mid-1946. Moreover, all but one of the surviving cotton mills were to close during the 1940's and 1950's. Thus, Huntsville had to give up much of its swollen wartime population.

In 1950 the renaissance began. The Army, with the onset of the Korean conflict, began thinking earnestly about making maximum use of the German rocket experts it had commandeered at the end of the war. Accordingly, it sent Wernher von Braun and the other veterans of Peenemünde, about 120 of them altogether, to Huntsville and proceeded to turn the abandoned Redstone works into one of the earliest and foremost centers of ballistic missile technology. Within a year, about 1000 people were at work at Redstone, which this time was onto something more lasting than the short-lived endeavors of World War II.

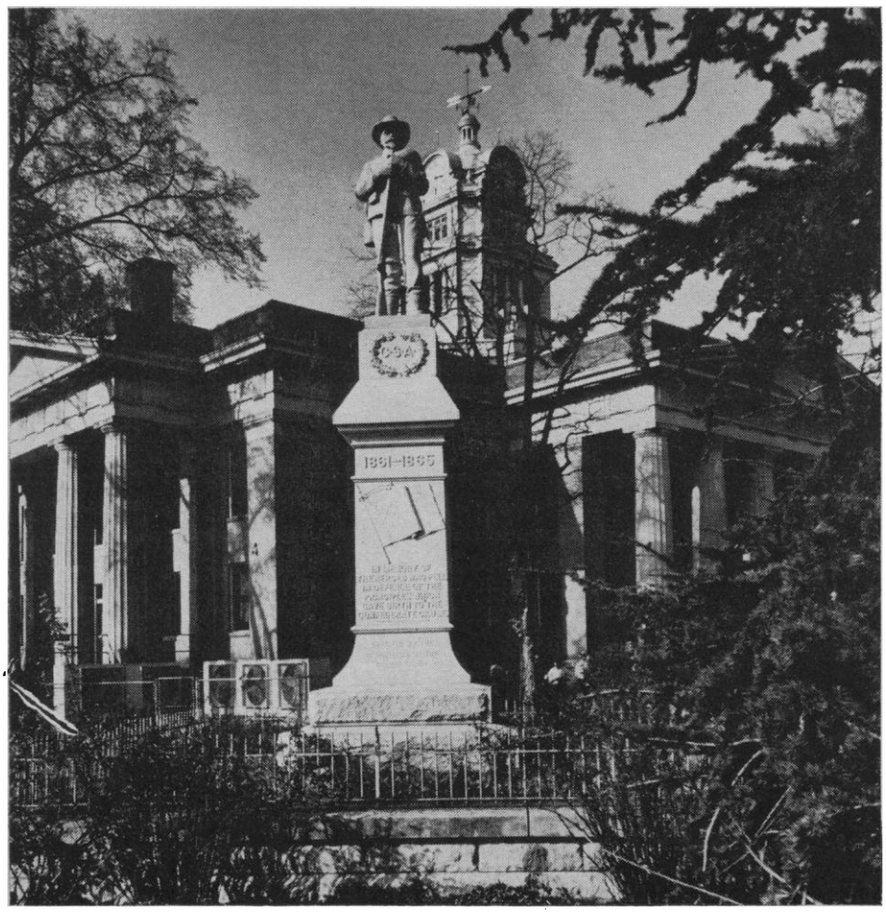
Work at the arsenal was to take several directions; all the work was important to Huntsville's prosperity, some of it especially so. The Germans, joined by many American scientists and engineers, undertook a pioneering effort which, during the 1950's, produced the Redstone and Jupiter rockets and provided much of the scientific and technical understanding that supports current rocket technology. Since it was von Braun and his associates who had the expertise, the first Redstones and Jupiters were built "in-house," with Chrysler, the eventual production-line contractor, looking on to get know-how.

Much of the current von Braun management philosphy seems to stem directly from the Redstone-Jupiter era. Von Braun insists that his staff have as much workbench know-how in rocket building as his contractors have. In fact, a number of rockets, including two Saturn V (S-IC) boosters, have been built at MSFC, even though most of the Apollo hardware production and assembly is being done elsewhere, by Boeing, Chrysler, and other contractors. Von Braun's desire to have his people keep up a steady, day-to-day contact and free-flowing exchange of information with MSFC contractors has been a major factor in the decision of many firms to establish facilities at Huntsville.

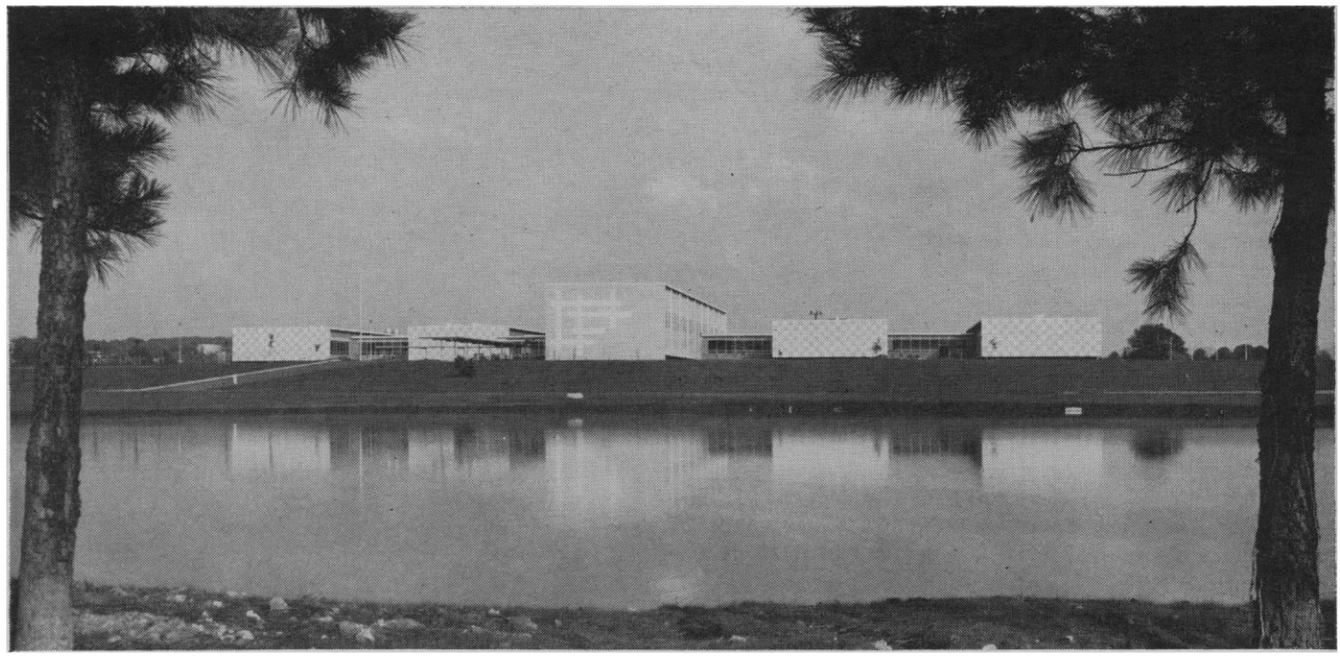
In addition to the development of big missiles, another major line of endeavor was getting under way at Redstone Arsenal during the 1950's. This had to do with R&D and contract management activities necessary for the production, by industry, of numerous antiaircraft and tactical battlefield rocket weapons. Also, the technical support of Army missile units and the training of the personnel who man them became one of Redstone's major activities.

Huntsville had already more than quadrupled in population by 1960 when the current, and most dramatic, phase of the city's growth began. In that year, by a paper transfer, von Braun and his team of ballistic missile experts left the Army to join NASA and staff MSFC. With the national commitment, in 1961, to send a man to the moon by 1970, the NASA center was soon spending over a billion dollars a year on development of the family of big Saturn rockets.

Now, instead of having an economy dependent on textiles, Huntsville has one largely dependent on missiles and rockets. Local leaders have been made freshly aware of the hazards inherent in this kind of imbalance. NASA spending on the Apollo program reached a peak in 1965. Its subsequent decline, though not sharp, has been felt at Huntsville; the number of contractor employees there declined by more than



Centerpiece of downtown Huntsville until a few years ago was this old Madison County courthouse, which has now been torn down to make room for a new courthouse, a modern glass and steel structure. [Photo by Guy Gillette for *Fortune*]



Research Institute, of the University of Alabama at Huntsville, is adjacent to the university and to Research Park.

1000 during 1966. Local tax revenues suffered, and the funds available for education and other public services were less than expected.

Moreover, James Record, chairman of the Madison County Boards of Commissioners, told *Science*: "We will lose, we think, about 4000 jobs in the space field by the end of 1967, primarily in the Saturn field, among the industry contractor employees." Record said, however, he was confident that 3000 new jobs, in non-space-related fields, will be created during the year.

Obviously, Huntsville's prospects for continued prosperity during the next decade will depend heavily on MSFC. For the moment, Huntsville knows only that, under current plans, the center will have a continuing management responsibility for production of Saturn boosters on into the 1970's and for preparation of such "Apollo applications" as the orbital workshop and Apollo Telescope Mount. The center also is responsible for development of a lunar taxi for exploring the moon's surface, and for development of the unmanned Voyager spacecraft (except for the landing module) which is scheduled to go to Mars in 1973. Nothing would brighten Huntsville's prospects more than a solid national commitment to a program of manned planetary exploration. Although President Johnson and his science advisers have indicated a sympathetic interest in such an undertaking (*Science*, 3 March), an actual commitment to send men on planetary voyages is probably some years away —always provided such a decision eventually is made. A decision to deploy the Nike X antimissile missile and one to establish the project field office at Redstone, the center from which the Nike X R&D program is now managed, also would give the local economy a lift, but, here again, such decisions may not be forthcoming.

Whatever its future, Huntsville has tried gamely, and with considerable success, to create the conditions necessary for the growth of a well-diversified economy. Progress in education, race relations, city rebuilding, and cultural affairs has been pushed by a leadership drawn, on the one hand, from the "new people" brought in by the Army, NASA, and the contractors and, on the other, from the people who lived in Huntsville before the town became rocket-happy.

The native leadership is well schooled in the techniques of laying on incentives to attract outside industry, although industry's chief reason for coming has been a wish to snuggle closer to mother-NASA and her bundle of dollars. The Huntsville Industrial Expansion Committee is reputed to be an effective, forward-looking body. When the old Lincoln Mill came up for sale in the mid-1950's, 30 local business and professional people, mostly members of HIEC, put up $25,000 apiece to buy the building and offer it for rent as industrial space. Called the Huntsville Industrial Center, the building now has an impressive roster of tenants—Boeing and Chrysler among them—and shelters a work force of 6000.

In 1962, HIEC, with the cooperation of city zoning officials, established the 3000-acre Research Park, situated just north of Redstone Arsenal and adjacent to the 350-acre Huntsville campus of the University of Alabama. The purpose was to provide suitable sites for research-oriented industry and to avoid land speculation. Nearly a score of companies, including IBM, Northrup, Lockheed, Chrysler, and Boeing, have put up facilities in the park. These are substantial structures with a look of permanence, even though most of the work done in them is tied to a NASA program whose long-term prospects are uncertain. Boeing's $3-million building was dedicated only a few months ago. "We invest money where we intend to stay," says Harold J. McClellan, manager of the new facility.

Nevertheless, HIEC's most pressing concern is to attract industry which is not dependent on space contracts. A recent HIEC labor survey, indicating the existence of a large, untapped pool of unskilled workers, has encouraged Hoffman Products Corp., of Chicago, to take an option on a site in Huntsville where it may build a plant for the production of color TV sets and electronic components. The plant would hire 1750 people initially, and ultimately as many as 3500. If Hoffman goes through with its plans, this will be taken as a good omen.

Von Braun and others at NASA and the Army installation have stimulated and encouraged local and state initiatives for Huntsville's improvement. In 1961, for instance, von Braun appeared before the Alabama legislature to urge that $3 million be provided for buildings and equipment for the University of Alabama at Huntsville's Research Institute. The institute was to train graduate students and do contract research. Both the institute and its parent were at that time struggling infants.

Von Braun warned the legislators that, unless Alabama redoubled its efforts to build up its educational institutions, it could not expect to keep and expand its $350-million-a-year share of the rocket and missile business. "The only reason that Alabama has this bonanza at all is because the Army had a big chunk of spare real estate that served the immediate purposes of providing a home," he said. Already, he noted, the question had been raised of whether it was smart for the government to continue to build up facilities in a place where it was difficult to recruit qualified senior personnel.

Industry was attracted to the Los Angeles area not by desert and smog but by institutions such as Cal Tech and U.C.L.A., von Braun said. As the new university Research Institute grows, he promised, "large corporations will be encouraged to establish research organizations nearby to form an industrial research park as a part of the university complex, which in turn will give birth to major new industries throughout the state."

The Institute got the $3 million, following a state bond referendum, and the Research Park began to flourish, though by no means solely for the reasons von Braun had advanced. Lockheed and Northrup were the first big national firms to put facilities in the park. According to Rudolph Hermann, a physicist (Ph.D., Leipzig University) on the original von Braun team who is the Institute's first director, von Braun and Frank Rose, president of the University of Alabama, called on these companies during a trip to the West Coast in 1962. Shortly thereafter, Lockheed and Northrup officials came to Alabama and talked with Hermann about the possibility of establishing Huntsville facilities.

The NASA contractors have played a part, too, in helping Huntsville adjust to the space age. The Association of Huntsville Area Contractors (AHAC) was formed in 1963 to work for progress in race relations. Given the civil rights movement's gathering momentum of the early 1960's, the contractors surely felt under pressure to demonstrate a desire to break down racial barriers. But AHAC has represented more than an expression of pious intent. For example, AHAC realized that few Negroes would ever qualify for good jobs in the space and missile field unless the public schools did better at teaching and motivating the large number who grow up in culturally deprived homes. Accordingly, the association joined with Huntsville area school systems in persuading the Ford Foundation to finance, by a $2.7-million grant, nursery school and kindergarten instruction and a program for home improvement. Also, AHAC is cooperating with Alabama A & M College, a Negro institution, in a work-study program for students.

Although school integration, not yet complete but well under way, began under court order, the integration of motels, restaurants, and other public accommodations started before the Civil Rights Act of 1964 required it. AHAC's influence was helpful during that transition, as it is today in coping with the tougher, more resistant problem of segregated housing. Some 35 Negro families are now living in white neighborhoods. One of them is the family of Howard J. Foster, the first physics Ph.D. whom Alabama A & M, after a long search, had succeeded in hiring.

Despite the progress in Huntsville, Alabama's reputation in the race relations field still bears the imprint of George Wallace and of Jim Clark, Selma's ex-sheriff. This obviously can be a handicap in recruiting highly trained technical personnel, especially among Negroes. The pervasiveness of the image created by the ultrasegregationists does an injustice to Huntsville and the rest of Alabama's Tennessee Valley area. The prime mover in establishing AHAC was Milton K. Cummings, a former cotton merchant who heads Brown Engineering Company, a locally based firm which has thrived on NASA contracts. Cummings, who is currently chairman of the Huntsville-Madison County antipoverty program, belongs to that breed of southern Democrat, not rare in northern Alabama, which has remained loyal to the national party throughout the tumultous civil rights controversy. Several times Cummings has served as state treasurer for the election campaign of U.S. Senator John Sparkman, Huntsville's most illustrious citizen. Although the influx of outsiders undoubtedly has had some influence, Congressman Robert E. Jones, a loyal party man who represents northern Alabama, says he has detected no major change in the political environment during his 21 years in office. Historically, northern Alabama, where farms have been smaller and Negroes fewer, has been more liberal than the Alabama "black belt," where white planters and other men of means have had to keep a watchful eye on the Negro majority. Madison County gave Goldwater a majority in 1964, but there was no way to vote for Johnson. The fact that nearly half the county voters marked their ballots for the slate of unpledged Democratic electors was interpreted as a strong sympathy vote for the national ticket, with which Governor Wallace was at war. Lurleen Wallace got fewer Huntsville votes than her Republican opponent in last fall's gubernatorial election, although she got a plurality in Madison County.

As for cultural life, Huntsville has a great deal to say about how the arts are flourishing. Its arts council is said to be one of the country's most active. The contribution of the Germans, as performers and as appreciative listeners, to the Civic Symphony and Chamber Music Guild is frequently noted. Some 87 cultural events, including ballets, symphony, opera, theatre, and a writers conference, are scheduled for the first quarter of the year. Nevertheless, Huntsville is a town that has no art theater (though it has a film club) and not a single authentic foreign restaurant. People spend most of their evenings at home, and one suspects that, for the majority of those venturing forth, the dominant cultural institutions are the steak house, the movie or the bowling alley, and, especially, the "private" drinking club.

The last-named institution, however, figures in Huntsville's plans for cultural uplift. The new convention and cultural center will be financed by a 10-percent tax on liquor sold in the 42 private clubs which the city allows hotels, motels, and other establishments to operate. In terms of Bible-belt theology, these clubs appear to represent a compromise bewteen righteousness and the Devil. They are close kin to the open bars that exist outside the South. The way to qualify for membership is simply to express a desire for a drink. Not even that is

always demanded. The writer was given a membership card for the Hotel Russel Erskine's "Rocket Club" along with his room key. One imbibes knowing that he is contributing to a good cause. "We have a joke here," says James Record, chairman of the county commissioners. "When you bend the elbow, you're doing it for art."

The liquor-tax money is piling up, and construction of the cultural center may start sometime next year. Once the center's doors are flung open and other objectives of the city's ambitious renewal plan are met, perhaps the downtown and its new cultural attractions will pull a few more people away from the motel, drinking-club, shopping-center culture found along Memorial Parkway.

In sum, Huntsville is moving on a broad front to try to capitalize on the fortunate circumstance that the Army and NASA have come with lots of jobs and federal dollars. In view of its beginnings and its problems, it is difficult to see how Huntsville could have done much more to make the most of its good luck.

—LUTHER J. CARTER

Technological Innovation: Panel Stresses Role of Small Firms

Efforts to force the federal government and the country as a whole to pay attention to the problems of civilian technology have met with relatively little success. For instance, in 1963, Congress decisively indicated that it was not interested in spending money for the Civilian Industrial Technology program proposed by the Administration and J. Herbert Hollomon, Assistant Secretary of Commerce for Science and Technology.

Hollomon has had to seek out other methods to focus attention on civilian technology. He has created and utilized a Commerce Technical Advisory Board, many of whose members are drawn from industry, as a source of scientific and technical advice independent of such traditional authorities as the President's Science Advisory Committee (PSAC). When asked about his relationship to PSAC in a recent interview with *Science*, Hollomon replied, "PSAC is concerned about the support of science; we are concerned about what you do to stimulate innovation in the private sector. . . . The people who use science are a different breed of cat than the scientists."

In the past few years, the Technical Advisory Board, which Hollomon heads, has created a group of panels to study important national problems in civilian technology. In 1965, the Board appointed a Panel of Invention and Innovation* which recently issued a report entitled "Technological Innovation: Its Environment and Management." Although discussion about technological change has long centered around the need to increase expenditure on research and development, the panel reports that it is unable to state that the nation is lacking in R & D investment for promoting innovation.

Rather, the panel concluded, there is need for much more attention to the social and business climate which creates the possibility for such change. The panel argued that R & D accounted for less than 10 percent of the total cost and effort of technological change, and that it was necessary to separate the idea of "invention" from that of "innovation"—the process by which an invention is injected into the economy. The group readily admitted that it lacked much of the information necessary to comment with complete accuracy on technological innovation but stated that this gap was in itself significant: "the lack of objective data, in or out of government on the innovation process in general and the technologically based firm in particular, is symptomatic of a very serious deficiency

*Robert A. Charpie, president of Union Carbide Electronics, served as chairman of the panel. The other members were: Lawrence S. Apsey, John F. Costelloe, John F. Dessauer, John McK. Fisher, Aaron J. Gellman, Peter C. Goldmark, Earl W. Kintner, Mark S. Massel, Richard S. Morse, Peter G. Peterson, Sidney I. Roberts, Dan Throop Smith, John C. Stedman, William R. Woodward. Daniel V. De Simone, director of the Office of Invention and Innovation in the National Bureau of Standards, served as executive secretary of the panel and wrote the report. The panel was composed of private citizens, most of whom were drawn from industry, academic life, and the legal profession.

The 83-page report can be obtained for $1.25 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

President Proposes Patent Reform

President Johnson recently sent to Congress the Patent Reform Act of 1967. If passed, the bill will mark the first significant changes in the patent law since 1836. The slowness and complexity of the patent system have often been criticized as impediments to U.S. technological progress. Although requesting many procedural changes, the President's bill does not deal with the controversial question of the ownership of patents resulting from government-sponsored research.

The Patent Reform Act of 1967 closely follows the recommendations of the President's Commission on the Patent System (which are described at some length in *Science*, 30 December 1966). The new patent legislation embodies most of the Commission's recommendations including adoption of a "first to file" system; giving patents a 20-year term after filing date; publication of patent applications within 2 years of filing; creation of a statutory advisory commission to provide continuing evaluation of the patent system; and presumption by the courts of Patent Office correctness in denying patent claims. The bill did not include the Commission's recommendation that patents no longer be given on ornamental designs and on certain types of asexually produced plants.