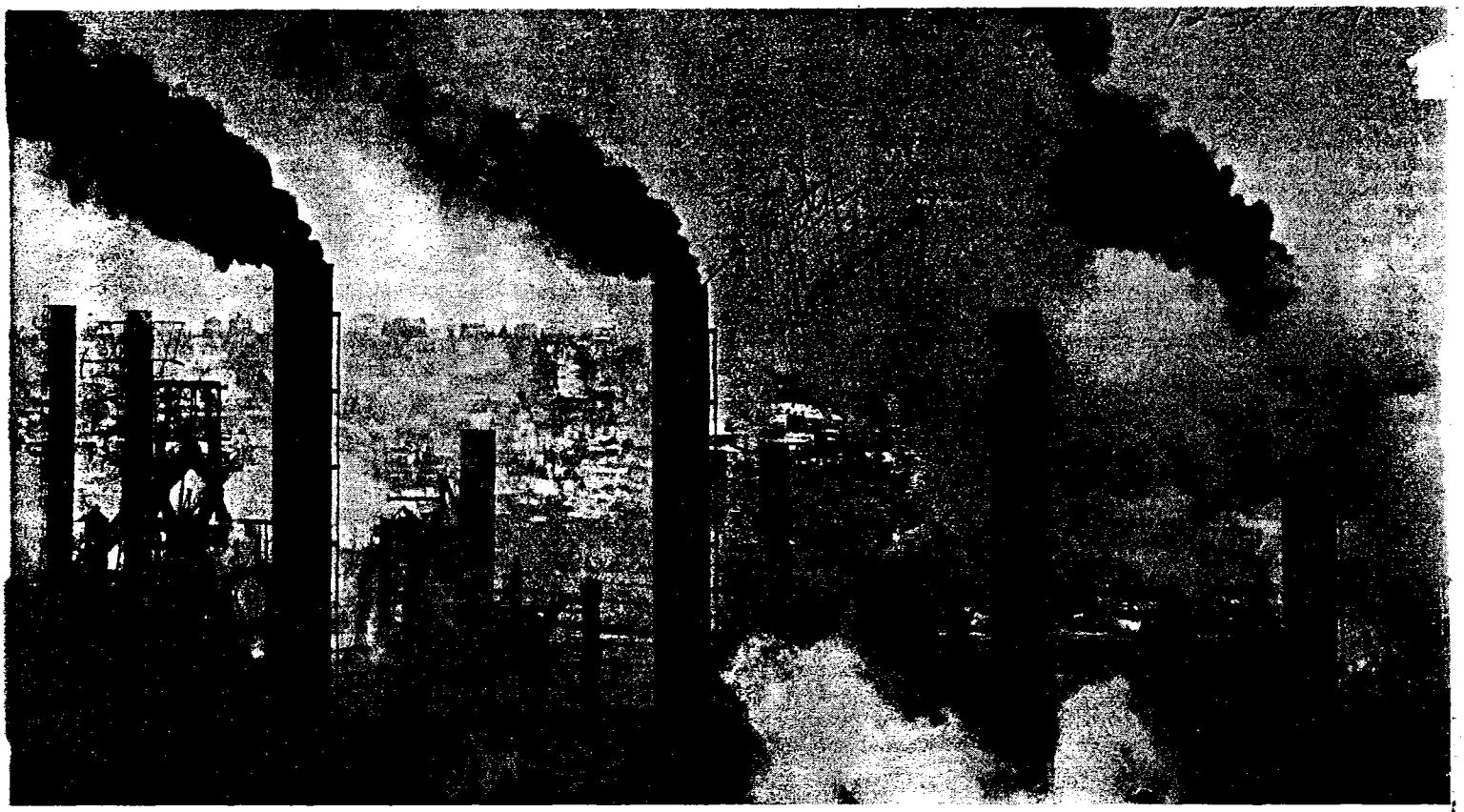

Smoke that pours from facilities such as this steel works has aroused the people of Pittsburgh.

CITIES

Pittsburgh cracks down on polluters

To study how industry can voluntarily band together to clean up air pollution, engineers and government officials go to Pittsburgh. They come from as far away as Japan and Italy, and what they see is impressive.

Two decades ago, Pittsburgh was a city where lights burned at noon, and housewives could not hang out the wash. Since then, Allegheny County's major companies have cooperated with local government to control smoke emission, and now the sun is visible over the Golden Triangle.

> Political compromise on air pollution now seems impossible

But even so, with pollution control a national issue, Pittsburgh has decided that voluntary action is not enough and that government must take over the job. Next week, a new ordinance, unanimously approved by Allegheny County's three commissioners, takes effect. It wrests from industry the responsibility for cleaning up the pollution that remains and places that power in the hands of the commissioners who will appoint a Board of Appeals & Variances.

The action followed five months of emotional lobbying by citizens groups and conservationists fighting for stricter controls and standards. "For all those people who think their voices are not heard in government," says Commissioner Thomas Foerster, "this is a great victory."

The ordinance is stricter than one originally proposed this summer by an advisory board whose members included representatives from many of Pittsburgh's industrial giants, and it is stricter than a whole series of ordinances dating to 1947. Then, the industrial establishment, led by Richard K. Mellon of Mellon National Bank & Trust Co. and the Democratic political machine of Mayor David Lawrence, teamed up to work against pollution. The burning of soft coal was banned in home furnaces, and industry had to control emissions. But while homeowners were often brought to court, companies seldom were. In fact, some lawyers even considered regulations against companies unenforceable. Instead of court action, businesses enforced the rules against each other by mutual persuasion. Richard Mellon, so the story goes, once warned the Pennsylvania RR that if it did not stop lobbying in the state legislature against smoke control in Pittsburgh, he would order all his companies (Jones & Laughlin Steel, Gulf Oil, Alcoa, Koppers) to stop shipping on the line.

Hard pressure. The new law cracks down on companies. Under it, sulphur dioxide emissions from coke ovens and power plants are limited. The gas is odorless, but it irritates the eyes and lungs. Hydrogen sulphide emissions are prohibited entirely. This gas, which smells like rotten eggs, is formed when water cools slag, a steel-mill waste product. Fly ash, sticky black particles of unburned minerals in coal, also is controlled. And if, in the board's opinion, companies do not try hard enough to meet the new standards, they are liable to a court injunction which would close a plant, imprison company officials, or bring a fine.

These standards, complain company officials, are impossible to meet. Surprisingly, many pollution fighters agree. One of them, Robert Broughton, a Duquesne University law professor, says that while the standards are difficult, they will force companies to try new technology. Under the ordinance, if a company really has difficulty meeting the standards, the appeals

DSW 552258

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A checkup for cats' role in leukemia

Can cats pass leukemia—blood cancer—on to man?

There have been theories that cats transfer leukemia to humans in the form of an infectious virus, though no such link has ever been proved. Recent research has raised sufficient doubt about the question, however, to start scientists digging hard for an answer.

For five years, scientists have known that cat leukemia virus can spread the disease from a mother cat to its kittens before birth. They have also managed to transfer cat leukemia in experiments across species lines—from cat to dog. Now, researchers at the University of Glasgow have discovered that they can grow the same virus in human cells.

Surveys urged. As yet, the Glasgow team, headed by Professor William Jarrett, has only achieved success in the laboratory, in cultures of human lung cells. It has no evidence that human beings have ever "caught" leukemia from cats. Veterinarians and cat breeders, for example, apparently suffer no higher rate of leukemia than anyone else.

But the question raised by the Britons' lab tests is big enough for Dr. Oswald Jarrett, brother of the team leader, to have called for large-scale surveys to look for links between cases of human leukemia and the patients' contact with cats.

Studies along these lines have already started in the U. S. Dr. Charles G. Rickard, professor of veterinary pathology at Cornell University, says, "We are looking for evidence of transfer to man." He and colleagues are examining cats known to have been in contact with human leukemia patients, trying to find leukemia virus in the animals. "As yet," Dr. Rickard reports, "we have not managed to do so."

Dogs infected. The Cornell scientists, collaborating with Michigan State University researchers, have demonstrated that dogs can be infected with cat leukemia. They injected virus from leukemic cats into a litter of four puppies, and one subsequently became leukemic. Using virus from this sick puppy, the researchers then injected another litter of four—and, again, one puppy contracted leukemia.

The cat-to-dog transfer ties in with the Jarretts' lab tests in Glasgow. The Jarretts have grown cat leukemia virus not only in human cells, but also in cells of dogs and pigs. Now, the British group is running live-creature tests of the virus in monkeys, the most manlike lab animals it can reasonably use, to see if they can also get a cat-to-monkey transfer.

Huge doses. Dr. Rickard emphasizes that there is an important common factor in the animal and lab tests: Both series have used comparatively huge doses of virus to obtain their results. To cause leukemia in nature, he points out, the virus would have to emerge from a diseased animal, stay alive outside it, enter another animal, and then produce signs of infection.

There is some evidence that grown cats can infect each other; "clusters" of two or more cats in contact with each other have been known to develop the disease. But the virus may not be potent enough to leap across species lines without the aid of scientists. As Dr. Rickard sums up the present situation: "My belief is that Dr. Jarrett has raised a question, and it's being worked on actively." ■

Research subs on the beach

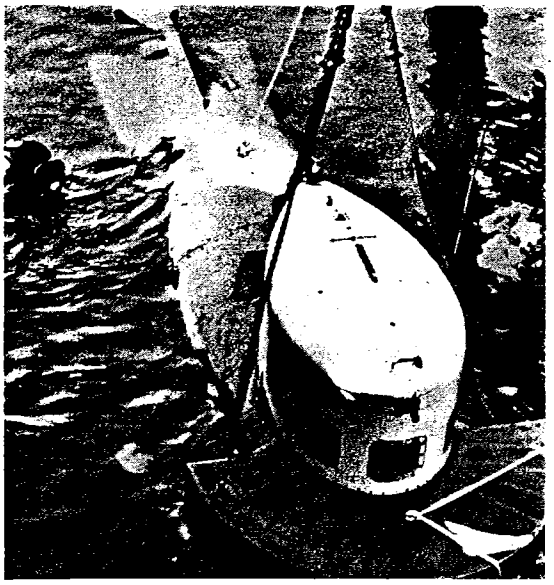
Underwater research craft are in for a bleak year in 1970. With few exceptions, the small deep-diving submersibles are being laid up for lack of government money.

The U. S. Naval Oceanographic Office, which normally supports most underwater research work, will be badly strapped for funds next year. As a result, many companies that built underwater boats because they expected oceanographic research to become big business are reassessing their positions.

General Dynamics Corp. has laid up its Star II and Star III. Westinghouse Electric Co. has mothballed its Deep Star 4000 while it is still building two other boats, Deep Star 2000 and Deep Star 20,000. Idle or nearly so are General Motors Corp.'s DOWB (Deep Ocean Work Boat), North American Rockwell Corp.'s Beaver class Roughneck IV, Lockheed Corp.'s Deep Quest, and Grumman Corp.'s Ben Franklin.

The only submersibles under Navy lease are Reynolds Co.'s Aluminaut and Hyco's Pisces III. Both craft are working part-time recovering torpedoes.

Exceptions. Perry Submarine Builders, Inc., has managed to keep its Perry Cubmarines busy doing offshore work



Two-man sub Asherah has been mapping ocean floor. Owner is Techoceans, Inc.

for oil companies. Techoceans, Inc., claims that Asherah, its two-man underwater craft, is scheduled for several jobs, including classified work for the Navy. But generally the pickings look slim.

Adding to the difficulty of finding projects for privately owned underwater research vessels is the fact that the Navy will begin operating two of its own craft early next year. Sea Cliff and Turtle both are advanced versions of the three-man Alvin which sank in 1968 and was recovered off New England last summer. The two new craft will have a diving capability of 6,500-ft., a diving-time limit of eight hours, and manipulators for recovering small objects on the sea bottom.

Dollar squeeze. The Navy has not lost interest in underwater research. It has many projects it would like to conduct. It thinks a broad exploration program is needed before the oceans can be exploited. But its field programs got caught in the budget squeeze.

It costs close to $6,000 a day to charter a ocean-bottom research craft. In fiscal 1965, for example, the Navy spent $166,000 for leasing company-owned submersibles. By fiscal 1968, the bill had jumped to $2.2-million.

Then came the cuts. In fiscal 1969, the Navy was forced to slash its spending for charter craft to $840,000. This year, it may not get much more than $300,000 for such activities.

The situation has Navy researchers deeply worried. Roswell F. (Frank) Busby, head of the deep vehicles branch of the U. S. Naval Oceanographic Office, says: "The situation is glum." He is afraid the U. S. will lose its deep-diving capability. "The trouble," he explains, "is that when there is no business, the boats are laid up, the crews are dispersed, and the talent is gone." ■

DSW 552259

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board can grant a one-year extension.

The public mood that resulted in the new ordinance surprised corporate executives and engineers, and left them bitter. "We used to be the good guys," comments Earle Young, assistant director of technical services at Jones & Laughlin. "Now, we're the bad guys." Adds a coal company official: "I wonder if pressure from government will get the kind of cooperation Pittsburgh companies gave in the past?"

Priorities. Industry cooperation did bring results. In 1960, for example, Du-

Stiffer ordinances will make utilities, steel mills toe line

quesne Light Co., a local utility, refused to submit a schedule for cleanup of a power plant. But pressure from fellow industrialists forced Philip Fleger, then president of the utility, to submit a seven-year timetable.

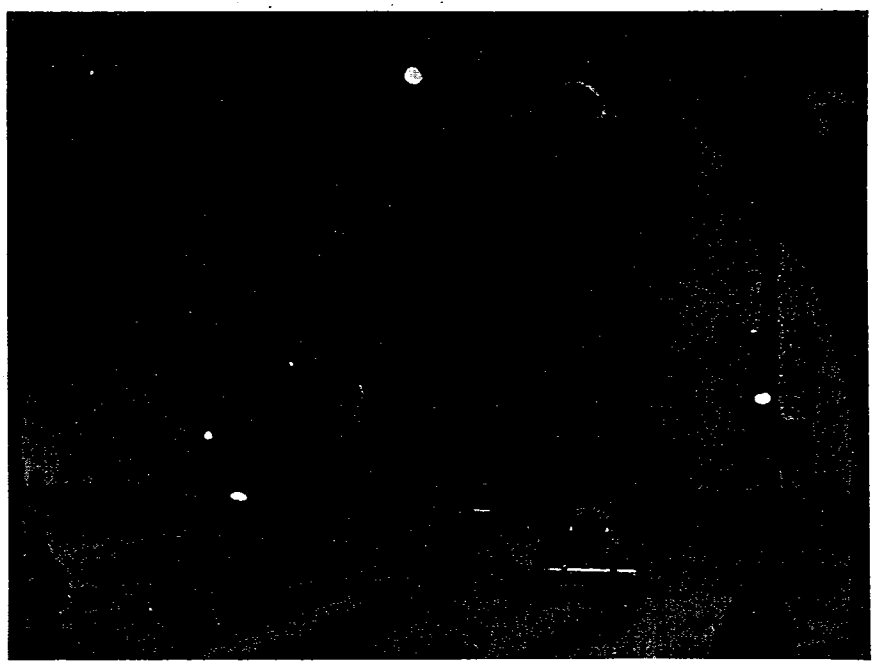
However, conservationists question how far that kind of cooperation really went. For instance, steel companies agreed to control emission of smoke and ash from their new basic oxygen furnaces. Smoky open hearth furnaces were to be phased out at a 10% yearly rate during the 1960s. But demand for steel, boosted by the Vietnam war, rose unexpectedly, and to hike production, companies installed oxygen lances in open hearth furnaces. Says one industry source: "Lances increased pollution from the mills by 10 times."

Increased demand for power also slowed the program. In 1961, West Penn Power Co. and Duquesne Light began to phase out obsolete facilities that produced heavy pollution. Explains Charles Ross, West Penn's manager of power production: "Output from our Springdale station was reduced every year for five years. But then the big demand load came on. We had to raise output there, and we were back where we were five years before."

Small foundries along the Monongahela River never even bothered to submit air pollution control plans. Enforcement was lenient for these economically weak concerns; in fact, the county's first suit was not filed until 1968. When pressure did begin, several small foundries left the area.

No compromise. Meanwhile, concentrations of sulphur dioxide increased, and those who had hoped for clean air grew bitter. They began the movement that took industry out of the driver's seat. "Where have Pittsburgh companies been?" asked Thomas Horrocks, a retired engineer at a meeting this fall. "They complain that we're not being fair to industry. I would like to remind them that we have been very fair."

The attitudes of political leaders changed, too. Foerster and Leonard



Twenty years ago, the lights often burned at noon in downtown Pittsburgh, then industry voluntarily imposed standards that brought daylight back.



Staisey, both Democratic county commissioners, received considerable aid from the "establishment" in their 1968 campaigns. But both men rose to prominence as fighters in the state legislature against strip-mine water pollution. This fall, when traditionally Democratic mill towns near Pittsburgh went Republican by voting for candidates who favored air pollution controls, the die was cast. Politically, open compromise with industry over air pollution control became impossible.

Pressure came from other quarters. Conservationists and professors of industrial health, many in their 30s, provided citizen groups with technical expertise. Even the United Steelworkers, which until last year showed surprising ambivalence toward pollution control, became militant. Daniel Hannan, an outspoken president of a USW local, went to Washington to testify against coke oven fumes. Upon his return, U. S. Steel transferred him to the blast furnace department, a move made, the corporation says, because of "his particular skills and work experience."

Reaction. Although rumors of corporate arm-twisting abound, Pittsburgh companies have been curiously passive. Some officials spoke out against the local ordinance at hearings this fall, but they were roundly booed. And some companies have issued statements against the ordinance. But, says one industry executive, "We're not worried too much. It all depends on who is appointed to the board. The board probably will do three or four rash things, then it will settle down."

Even so, both sides of the Pittsburgh pollution problem agree that the new ordinance will speed control faster than the old one. "Industry in Pittsburgh," says one anti-pollution campaigner with a smile, "is not as monolithic as it used to be." ■

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Street hopes worst is over

There's talk of an end to bear market—especially if money policy eases

When investors start belting out Auld Lang Syne this New Year's Eve, there is bound to be a lot more gusto than usual. Few will miss 1969, which is winding up as a year of disappointed hopes that kept most professional and amateur investors from chalking up gains. As Wall Street limps toward 1970, it looks back on a year when the alternating current of Vietnam peace rumors and their collapse jolted the market repeatedly and when the government's anti-inflation fight dragged on and on.

The same forces will influence the stock market in 1970, but probably in reverse order, and possibly for the better. The war is no longer uppermost in investors' minds. Barring an unforeseen buildup by the North Vietnamese, Wall Streeters expect to see U. S. military activity and the tremendous drain on the budget gradually dwindle. And though more of the pain of tight money may still lie ahead, investors hope there may be some easing of monetary policy soon.

Confusing. Still, there are plenty of uncertainties. Just how severe the effects of tight money will be has everyone in a dither. The outlook for the stock market in 1970 rests, to a great extent, on just which of the economic forecasters is right. They cover the lot. Pierre Rinfret sees the economy continuing to boom. Milton Friedman says there could be a serious recession unless the Federal Reserve Board eases up soon. Even the top security analysts are stymied. "It is confusing. I honestly have to say they all make sense to me," says William Jiler of Standard & Poor's.

About the only depressant on this year's stock market certain not to be carried over into the early months of 1970 is the extraordinary amount of tax-loss selling that has battered the Dow in recent weeks. Small investors have sold out of loss situations because after this year they can deduct only 50% of their losses against the first $1,000 of ordinary income, instead of the current 100%. Big investors have mostly stuck to their traditional patterns of selling because pending tax changes do not alter the status of carrying forward long-term losses to offset gains in securities.

Reason to rally. Tax-loss selling knocked the Dow-Jones industrial average down to its closing low of 769.93 last week, nearly 200 points off the high hit in mid-May when peace rumors were rampant. But the market snapped right back as soon as it sensed a more optimistic outlook for the economy. It rallied on statements from Arthur F. Burns, chairman-designate of the Federal Reserve Board. Last Thursday, Burns said he was "very hopeful" that within the next two to four weeks, the foundations could be laid for easier credit.

Investors lunged at the news. For weeks, they had been hearing sour economic forecasts. The Dow surged ahead 13.86 points right away, and on Friday it tacked on another six points to close at 783.79. This week, investors acted more soberly, and returned to their old ways. On Monday, the Dow dropped nearly four points, and on Tuesday, it fell 2.18 points.

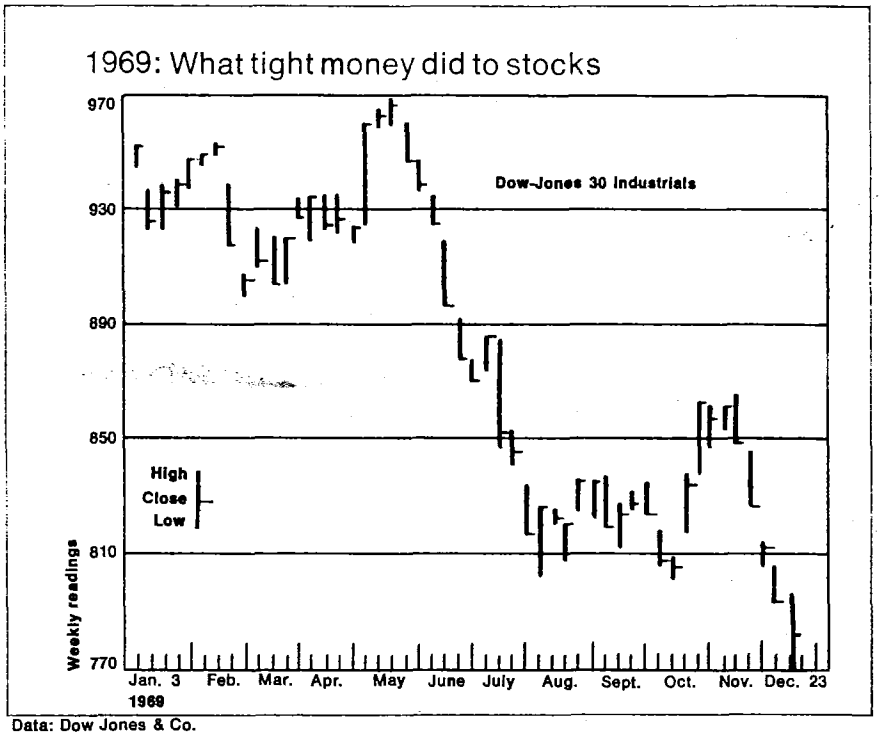
Nevertheless, to many analysts, Burns's statements blew some of the fog away from 1970. "We all knew the Fed had to moderate. Burns has set up the conditions," said Monte Gordon of Bache & Co. Like most analysts, he believes the economy will slow down in the first half. "The market will have to live through lower retail sales and lower corporate earnings. But the easing of money should be sufficient to overcome that," he says.

Many Wall Streeters agree that the worst of the bear market is over. "The maximum risk may be in a range of 5% to 7% and would largely be contained in the first half of the year," writes Schweickart & Co.'s Stanley Nabi in his 1970 forecast. Last year, he predicted the Dow would tumble as much as 20%, and he was right. This year, he says, "The potential recovery would appear to be in the 15% to 20% range, and may be attained during the latter part of the year." Nabi's main reasons for a better outlook are that the economy is finally starting its slowdown and it could scrape bottom in the second or third quarter.

As Gordon puts it: "We are beginning to see the light at the end of the tunnel. As the end of 1970 comes nearer, that light will get bigger and brighter."

Even technical analysts such as Jiler are almost ready to call for a bull market. In charting all the major bear markets in the last 40 years, he finds that the 1969 rendition has followed a similar pattern and now appears near bottom: "After the first signals of a bottom, you always get a test. We got the first signs in July and the market came back, tested it and set a new low in the last few weeks. The test was right on schedule." In seven of the last eight times this has happened, he says, the market has then set off on a long bullish spree. The one exception resulted in a sideways market. His indicators "are not as conclusive as I would like," he says. "But I say the worst we will have in 1970 is a flat year interrupted by up and down swings."

Most of the bullish securities ana-



Data: Dow Jones & Co.

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