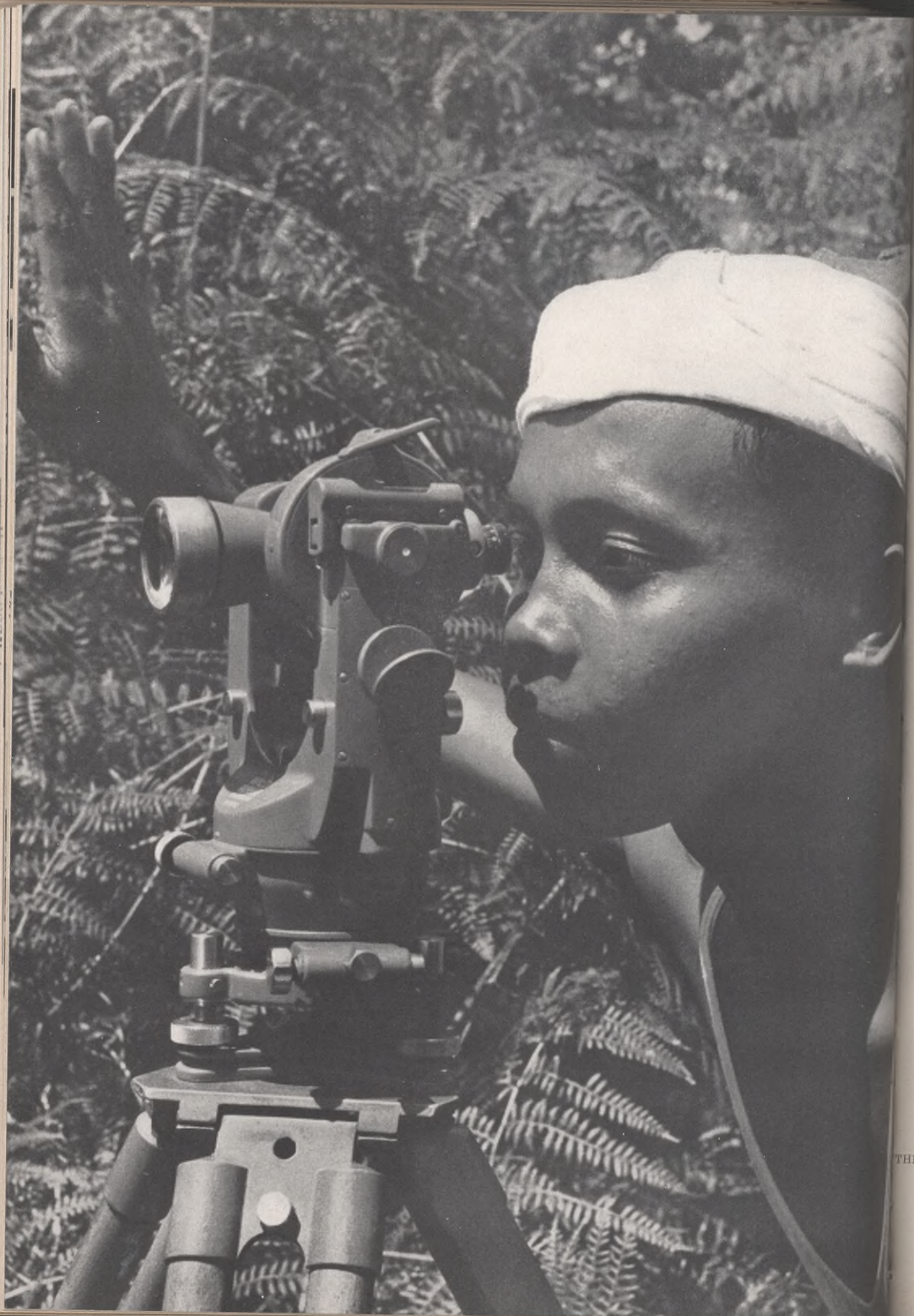


THE  
TEXACO STAR



SUMMER 1953







## GOING OUT OF OUR WAY

The readers of THE TEXACO STAR have one thing in common above all else: they are concerned with The Texas Company.

Whether they are stockholders or employees, they are—in their respective capacities—engaged in creating Texaco products.

By retaining their stock, by subscribing to additional shares when the Company needed more capital, Texaco shareholders have displayed a loyalty that has enabled the Company to grow over the years.

In all phases of the Company's operations, Texaco employees have displayed similar loyalty. Their contributions—no less than that of Texaco stockholders—have been, in large measure, responsible for the end results that make The Texas Company what it is.

Equally important in Texaco's success are our customers, the people who are pleased by our products and services and who loyally continue to "buy Texaco."

Many Texaco customers are shareholders and employees. They are, of course, serving their own best interests by purchasing Texaco products.

The Texas Company needs the loyalty of stockholders and employees to grow and prosper, and there is no easier way to demonstrate such loyalty than when you are motoring. Texaco's individual men and women stockholders, plus Texaco employees located in this country, total more than 136,800—equivalent to the population of a major city, and an impressive source of customers for any oil company. Moreover, each individual Texaco stockholder and employee who buys Texaco products benefits *all* Texaco stockholders and employees.

It is easy, however, to be careless. It is easy (because the American petroleum industry is so competitive) to buy products made by other oil companies.

"I believe, from my own experience," stated one Texaco stockholder at a recent annual meeting, "that a lot of Texaco [share] owners are careless on the road and stop in at competitors' stations for oil and 'gas.'"

We hate to believe it.

We'd like to think differently.

We'd like to think that *all* Texaco stockholders and employees go out of their way to buy Texaco.

THE YOUNG INDONESIAN, a surveyor's helper, is an employee of N. V. Caltex Pacific Petroleum Maatschappij, an affiliate of The Texas Company. Early in 1950, Caltex Pacific resumed war-interrupted development activities in Central Sumatra. Commercial production of crude oil has been under way in the Minas field for more than a year.

VOLUME XL • NUMBER 2

## THE TEXACO STAR

SUMMER 1953

### CONTENTS

The American Petroleum  
Industry Abroad,  
*by Augustus C. Long*..... 2

Behold Bahrain..... 8

From the Word "Go"..... 10

Who Sets  
the "Pump Price"?..... 16

Savings Plan for Oil..... 18

J. S. Leach Receives  
Honorary Degree at Baylor... 22

Texaco Sidelights..... 23

A PUBLICATION OF THE TEXAS COMPANY  
FOR STOCKHOLDERS AND EMPLOYEES

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THE COVER: Opportunities for native peoples to learn new skills and raise their standard of living follow in the wake of the American oil industry's foreign operations. This painting shows a Bahraini employee of The Bahrain Petroleum Company Limited (Texaco affiliate situated on Bahrain Island in the Persian Gulf) being trained in refinery maintenance.





ARABS ASTRIDE THEIR CAMELS FASCINATE THE CHILDREN OF AMERICAN EMPLOYEES OF ARAMCO

# The American Petroleum Industry ABROAD

FORTUNATELY, AMERICAN OIL COMPANIES HAVE  
HAD FORESIGHT AND PERSISTENCE OVER THE YEARS



by Augustus C. Long  
*President, The Texas Company*

Some people prefer to call this the Age of Anxiety or the Era of the Cold War. Within the limitations of their concepts, they are right.

It seems to me, however, that we should accent the affirmative qualities of our times and refer to this as the Age of Energy. Certainly, never before in history have enterprising men by trial and error and hard-won experience applied themselves so effectively to what well may be remembered as the outstanding character-

istic of our age—the seeking and finding, releasing and harnessing of vast amounts of energy that for aeons have lain locked in the fastness of the earth.

At a time when the entire world turns more and more to petroleum as a source of energy, and at a time when the center of world petroleum reserves has shifted from the Western Hemisphere to the Eastern Hemisphere, we can count ourselves blessed that some American oil companies had foresight and persistence over the years. Now, when the free world so desperately needs it, we have extensive participation in the development of foreign oil resources. The contribution of American oil companies to the vast growth of the foreign petroleum industry since the start of World War II has been one of the great achievements of private enterprise and has important bearing on the maintenance of our standards of living and on the present and future security of

BASED ON AN ARTICLE ORIGINALLY WRITTEN FOR AND PUBLISHED  
IN THE MAY, 1953, ISSUE OF THE YALE SCIENTIFIC MAGAZINE





IN THE TROPICAL JUNGLE of Central Sumatra, Americans and native Indonesians combine their efforts in Caltex Pacific's hunt for crude oil. At the Minas field (above) they erect a portable drilling rig.



THE "CALTEX STAR" transports personnel and supplies required by Texaco's affiliate, Caltex Pacific, in its Sumatra operations. The C-47 flies from Djakarta (Java) and Singapore.

the United States. (EDITOR'S NOTE: References in this article to the foreign petroleum industry and to the Middle East and Eastern Hemisphere exclude Russia and its satellites.)

Certainly, the outstanding development in the foreign petroleum industry in the past decade has been the emergence of the Middle East as one of the world's major oil producing regions. Such little-known countries as Kuwait, Iraq, and Saudi Arabia—in which American oil companies have large interests—have jumped into prominence as major suppliers of the free world's oil during the past few years. Before 1939, the only major oil producing region outside the United States was located in the Caribbean area, mainly in Venezuela.

#### New Factor in Our Thinking

Since 1939, the growing crude oil reserves of the Middle East (the estimated oil remaining in the fields already discovered) have increased the oil producing potential of the Eastern Hemisphere beyond that of the Western Hemisphere.

At the beginning of 1953, Middle East known reserves, estimated at 65 billion barrels, were more than twice as great as United States known crude reserves. All Eastern Hemisphere known reserves, totaling 67 billion barrels, were approximately 63 per cent greater than those of the Western Hemisphere.

Before World War II, the United States held 47 per cent of world reserves compared with 25 per cent of a free world total of 109 billion barrels at the beginning of 1953. This is so despite the fact that United States

reserves have increased substantially in this period.

In 1939, the long-term well-being and security of the United States appeared to depend upon reserves of petroleum in this and nearby countries. Today, because of a greatly increased demand for petroleum products, dependence on Middle East reserves is growing.

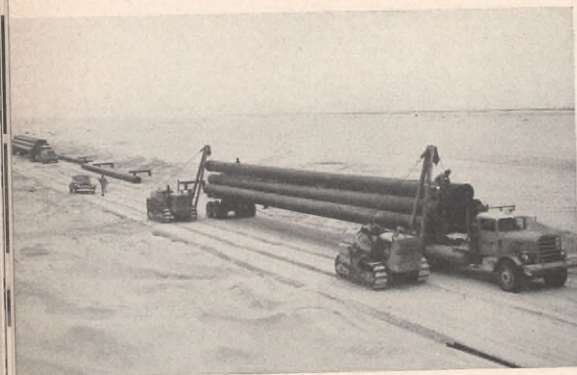
Before World War II, United States petroleum reserves, coupled with the fact that we were the world's strongest nation in the production of energy and goods, acted as a deterrent to any power considering the risk of a long, drawn-out war against the United States or its allies. Germany's bid for domination, as well as Japan's, was based on blitzkrieg tactics, calculated to achieve success without the risk of a long war. Today, the force of such a deterrent has been weakened by the movement of the center of gravity of world petroleum reserves from the Western to the Eastern Hemisphere. The existence of vast oil reserves on the doorstep of Asian and European countries has brought a new factor into our thinking regarding the security of the United States. Now we must think of the security of our country, as well as our responsibility for leadership, as being indeed global in nature. This fact alone adds importance to the rôle of the American petroleum industry abroad.

#### Other Great Changes

The years between the late 1930's and the present also brought great changes in crude oil production, refining, and demand in the foreign petroleum industry as well as in the distribution of reserves.

Since 1939, crude oil production in the Middle East





ACROSS WINDSWEPT SANDS of the Saudi Arabian desert, trucks conveyed huge lengths of pipe that were used to construct the Trans-Arabian pipe line.



DIFFICULT TASKS constantly confront American oil companies engaged in extracting crude oil from jungle as well as desert regions. Here, in Sumatra, a bulldozer pulls a 50-ton Diesel engine to the Caltex Pacific pump station at the Minas field.

and the entire Eastern Hemisphere has increased tremendously. This increased production has made the Eastern Hemisphere independent of Western Hemisphere supplies of crude oil. While in 1939 the Eastern Hemisphere had to import a major portion of its crude oil requirements from the United States and Venezuela, today it imports them from the Middle East.

The importance of production in the Eastern Hemisphere is accentuated when we consider the relationship between United States imports and exports of petroleum. Before 1948, the United States was a large exporter of petroleum. In more recent years, although relatively few people realize it, we have become a large importer. In 1952, the United States' net imports of crude oil and products approximated 521,000 barrels a day.

Along with the increase in the reserves and crude oil production of the petroleum industry abroad in recent years, refining operations were greatly expanded, notably in Western Europe.

Crude oil runs at foreign refineries increased from 1.6 million barrels a day in 1938 to 4.3 million barrels a day during 1952—an increase of approximately 169 per cent. The Eastern Hemisphere looked to the Western Hemisphere for petroleum products before World War II, but today it is well on its way toward self-sufficiency, except for certain specialty products (principally aviation gasoline and lubricants). The Western European affiliates of American companies have contributed materially to this development. Further increases in the refining capacity of Western Europe are expected during the next few years.

In the postwar period, there has been a world-wide

trend toward locating refineries near consuming centers rather than near centers of crude oil production. To a large extent, this change in policy is due to the insistence of foreign governments. Behind this insistence has been the desire to conserve foreign exchange through importing crude rather than products and the desire to increase security and augment employment. This relocation of refinery operations is not always conducive to efficiency. It is, however, one of the many economic and political realities with which the petroleum industry abroad has had to cope.

With the great increase in foreign petroleum reserves since the late 1930's, and the development of production and refining, there has been a great increase in foreign consumption of energy in the form of petroleum. Foreign consumption of crude oil and products of about 4.4 million barrels a day in 1952 was more than double the 1939 volume. Foreign consumption per capita during this period increased by more than 80 per cent. This rise in per capita consumption reflects increases in living standards in almost every part of the free world. In areas such as the Middle East, where vast petroleum reserves have been discovered but where the consumption of petroleum products is relatively small, the effects of foreign petroleum industry operations have been even more far-reaching in other respects.

#### Foreign Peoples Benefited

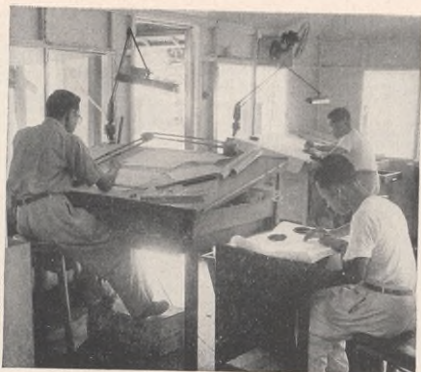
Development of these foreign reserves has transformed the economic life of the areas, increasing their national incomes by many times, and making possible substantial rises in the living standards of the people.

For example, three countries in which revenue from





LIKE THIS drilling crew, many Saudi Arabians have been trained by Aramco to do complicated jobs.



THE INDONESIANS are precise and skillful, and Caltex strives to employ as many of them as possible in Sumatra. These Indonesian draftsmen work at the Caltex Pacific office at Rumbai.



A "CHRISTMAS TREE" in far Sumatra is not as rare as it may seem. To oilmen, it means the assembly of valves and fittings (above) that controls the flow of an oil well.

oil is being used to great advantage are Venezuela, Iraq, and Saudi Arabia.

In Venezuela, the government's foreign exchange earnings from oil amount to about \$500 million annually, providing more than 90 per cent of the country's exchange earnings. Sixty per cent of the government's revenue comes from oil. The revenue from oil has been used to improve highways and ports, to build schools and hospitals, and to improve agriculture.

In Iraq, 70 per cent of all oil revenue received by the government is required by law to be turned over to the Iraq Development Board, which uses the money for such purposes as irrigation and drainage projects, road construction, mechanization of agriculture, and the extension of electrification.

The development of the vast oil resources of Saudi Arabia has been entirely the undertaking of Arabian American Oil Company (known as Aramco), the stock of which is owned by four American oil companies; namely, The Texas Company, Standard Oil Company of California, Standard Oil Company (New Jersey), and Socony-Vacuum Oil Company, Incorporated.

Saudi Arabia is the only Middle East country with substantial production in which the concession is owned and operated entirely by American interests. Oil in commercial quantities was discovered in Saudi Arabia in 1938, but World War II postponed extensive development until the postwar period. To date, millions have been spent in developing Saudi Arabian oil resources, and a period of 15 years passed from 1932 to 1947 before the first payment of dividends was made on this huge investment.

The activities of Aramco have gone far beyond purely

commercial operations. They range from a malaria control program (which has almost stamped out that dreaded disease in Saudi Arabia), and the construction of housing for Arab employees, to a program for setting up the Arabs in independent businesses to furnish various goods and services needed by the country. The Saudi Arabian government has encouraged Aramco in these activities and has set up its own agency—the Arab Development Board—that uses oil revenues to finance projects, all of which are raising the country's standard of living.

#### Friends of the Government

The promotion of confidence and friendship between the people of Saudi Arabia and the Americans has been one of the most important objectives of Aramco management. In this connection, several groups have been established to provide the Saudi Arabian government with technical assistance on development projects. The drilling and maintenance of water wells, the development of agriculture, the servicing of trucks and automobiles, assistance in other transportation problems, and the construction of port facilities and a railroad, are all things in which Aramco has been heavily involved. It has undertaken this technical assistance not as a philanthropist but as a good "citizen" of the country and as a friend.

A foreign government usually is keenly interested in the presence of oil deposits within its borders. Petroleum may become the major source of a foreign government's revenue. This being the case, it is reasonable for the foreign government to seek prompt and efficient development of oil deposits on a large scale requiring





IN COLOMBIA, a geological party, exploring for likely oil-bearing structures, journeys on a jungle river.



MOHAMMED NAGADI owns a masonry block manufacturing plant in Dammam, Saudi Arabia. He was aided in this enterprise by Aramco's Arab Industrial Development Department.



NETHERLANDS CLEANLINESS and neatness are exemplified by this Caltex bulk station at Groningen in northeastern Holland.

the outlay of vast sums of capital. Such large sums are beyond the reach of the individual wildcatter. Often they are beyond the reach of a single large company. Hence, it is easy to understand why foreign governments have let concessions of great size either to a large oil company or to a large enterprise in which several large companies have participated.

Without exception, large capital investments have been necessary to bring about the expansion of the foreign petroleum industry. Some idea of the part United States capital—through American oil companies—played in these developments can be obtained by comparing United States capital investment in foreign petroleum before World War II and in 1950.

In 1936, United States oil companies' direct foreign investment in petroleum was \$1.1 billion. By the end of 1950, it had increased to \$3.4 billion. This investment was distributed almost equally between the Western and Eastern Hemispheres—\$1.8 billion in the Western Hemisphere and \$1.6 billion in the Eastern Hemisphere. The Western Hemisphere investment was concentrated largely in Canada and Venezuela, and the Eastern Hemisphere investment largely in the Middle East.

#### Extraordinary Risks

Great risks had to be assumed in developing the foreign petroleum industry. One risk is inherent and is taken for granted—the risk that great expenditures for mapping, exploration, and drilling may not result in finding oil.

In undeveloped areas abroad, these outlays are a great deal larger than in the United States and the risk

is correspondingly greater. The search for foreign oil often necessitates mapping wild territories, building roads through jungles and across deserts, and constructing towns in remote areas. Often these things must be done before exploration for oil begins.

If oil is discovered, there is likely to be a considerable time lag between the development of the field and the first commercial shipments of oil. Pipe lines, separators, stabilizers, storage tanks, docks, and many other facilities have to be provided. It seems as if foreign oil is generally found in the most inaccessible areas, thus making it necessary to provide electricity and water supply systems, schools and hospitals, train native labor, and to make expenditures which are normally made by other industries or by municipalities in developed areas.

Also, in investing large sums abroad, oil companies sometimes take the chance of not being allowed to repatriate their capital or to remit profits because of exchange difficulties.

Here, in our own country, anyone—whether he is a United States citizen or not—can go out and drill for oil, provided he has enough credit to rent a drilling rig and can bargain for and obtain a drilling lease from the owner of the land. The landowner can dispose of his subsoil mineral rights as he desires. This is not so abroad. By and large, subsoil rights in most foreign countries belong to the sovereign or the state, and the concession contract must be made accordingly. Unfortunately, a few oil concession contracts have been interpreted by the foreign governments concerned quite differently from our concept of the sanctity of contracts.

One of the great risks to be faced is that the enormous



investments made in foreign petroleum can be placed in jeopardy at any time by people who raise the cry of "Nationalization" as a politically convenient means to popularity and power. They might better call it "Expropriation and Seizure" because that is what it amounts to when property is confiscated with no intention of making adequate compensation.

Wherever and whenever we hear the emotional appeal of nationalization, it is always excused on the grounds that it is "for the public good." A quick glance at recorded history shows us that most of "man's inhumanity to man," most of the expropriation of the rights and properties of others—right back to the days of the Roman Empire—have been accomplished by irresponsible political parties operating under the guise of "pro bono publico." The end result has always been that the people suffer.

The possibility that irresponsible leaders will rise to power is always present.

#### Favorable Investment Climate Essential

The growth of the petroleum industry abroad has been made possible, on the whole, by the existence of favorable investment conditions. When such conditions do not exist, as in Mexico, Bolivia, Argentina, and, more recently, Iran, growth and progress have been slowed down.

American companies will continue to be prudent in their foreign investments and the fate of the British in Iran is ample warning of the dangers which face us. The Iranian dispute has been going on for more than two years. It has raised thorny problems not easily solved. But, like every past example of expropriation, it has run true to a clearly established pattern in that both parties to the dispute have been seriously affected. Iran, for its part, has been without much-needed oil

revenue for more than two years. Britain has lost not only the profits from its huge investment in Iranian oil, but also, for the present at least, has lost the huge investment which it poured into this country over a period of years.

Expropriation and abrogation of contract have never worked to the advantage of any country. The confiscation of privately owned oil properties in Bolivia in 1937, in Mexico in 1938, and more recently in Iran; the shackling of private enterprise in Argentina; the poor performance of the nationalized oil industry in Romania—all offer proof positive that nationalization is not the answer to a nation's oil problems.

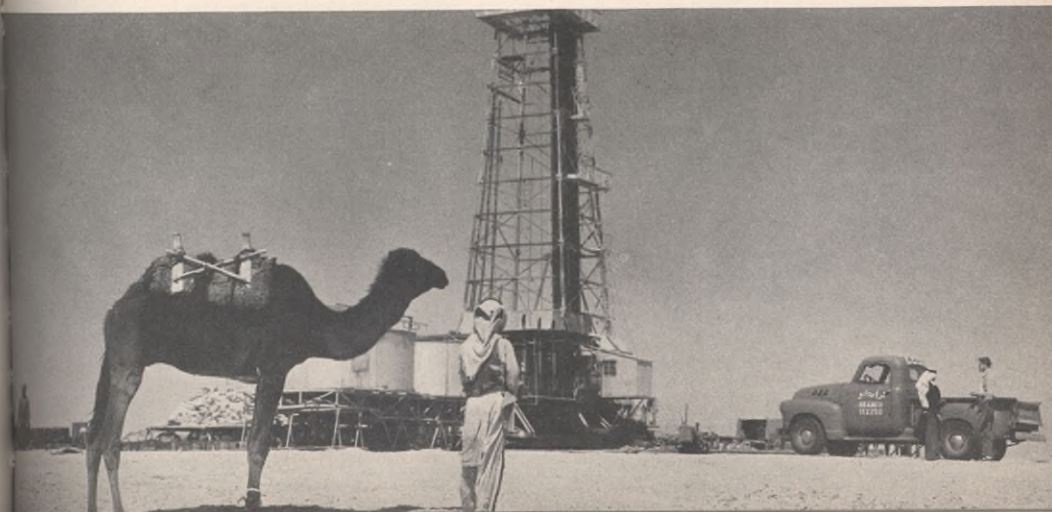
Turkey has found this out by actual experience and recently reversed its policy of exploring and developing oil resources exclusively through a state-owned company. Both Turkish and foreign private capital will now be able to participate in the development of oil resources in that country.

The accomplishments of American oil companies abroad speak for themselves. In good faith, they have lived up to their side of the bargain.

However, American oil companies cannot be expected to invest in foreign operations to the same extent that they have in the past unless certain reasonable and basic assurances are forthcoming. Chief among these is the assurance that sanctity of contracts will be respected. Secondly, the United States Government should let it be known, in the appropriate way, that its policy will be to support the rights of its citizens operating abroad.

The American petroleum industry has operated in the foreign field with great credit to our country. The accomplishments have been outstanding, often despite tremendous obstacles, and the future will prove the wisdom of the industry's foresight. **END**

ONE OF ARAMCO'S DRILLING RIGS NEAR AIN DAR IN SAUDI ARABIA IMPRESSES A PASSING BEDOUIN







THE SETTING FOR MARKET DAY IN THE OLD SECTOR OF MANAMA, BAHRAIN'S CAPITAL, IS UNCHANGED

# "Behold" Bahrain

Metamorphosis has thinned the mystery of the Middle East. Today, Bahrain—historically important archipelago in the Persian Gulf—is the home of people from many countries. Their backgrounds are as diverse as the shapes of the pearls that for centuries were the Bahrainis' main, but meager, source of livelihood. Though graceful dhows rigged with lateen sails still sweep over the sea in search of underwater treasure, oil from beneath the earth now has brought economic stability and modern opportunities to bustling Bahrain.



ANCIENT CULTURE REMAINS apparent in Bahraini garb, but natives are quick to grasp modern business practices in the offices of The Bahrain Petroleum Company Limited.



FOR SAFETY'S SAKE, Western apparel has been adopted by oil field workers. About 6,000 Bahrain citizens are employed by Bapco, which is 50 per cent owned by The Texas Company.



CONSTRUCTION PROJECTS afford employment for many skilled Bahrainis. Private enterprises flourish on Bahrain, and many former Bapco employees are now entrepreneurs.





AS DID HIS ANCESTORS and their ancestors for many centuries before them, an old pearl buyer carefully and skillfully examines and appraises the treasure that younger Bahrainis plucked up from the Persian Gulf. Modern Bahrain's greatest treasure is oil.



THE MERCHANTS OF MANAMA sell considerably more of their exotic wares since Bapco transformed Bahrain's economy and brought retailers new customers. Wives of the company's American employees find it hard to resist such magnificent brocade as this.



IN THE AGE-OLD PATH of their forefathers, some of the native-born continue to fish for their living. Where The Bahrain Petroleum Company's pipe lines run along the sandy coast, these Bahrainis are weighing their daily catch in homemade basket-scales.



IN THE MODERN SECTOR of Manama, wide streets are capable of accommodating the heavy traffic created by modern industry. The Bahrain government (an independent sheikdom) also services and maintains many miles of hard-surfaced highways.



MUCH OF MONDAY'S WASH, though there are presently several up-to-date steam laundries on Bahrain, still gets done by hand in a traditional manner. This open-air laundry is near Awali, where Bapco (one of the Caltex Group) has its local headquarters.



FAMOUS BURIAL MOUNDS of Bahrain date back to antiquity. Their origin remains unknown, but the origin of these pipe lines across Bahrain is Bapco. Oil was found on Bahrain in 1932. The Bapco refinery is one of the largest outside of the United States.



# From the Word

# GO

The old chieftain sat upon the ground where the sunlight was particularly bright and the earth was dry and firmly packed, and he drew the young warrior down beside him with his ancient but sure hand.

"Listen well," he said, fanning away the surface dust with a palm leaf. "Listen well and remember it as clearly as you remember that danger lurks ahead."

Twice he clapped his hands sharply, and six or seven small boys appeared solemnly, bringing him a spear and some large stones and a bush bigger than the tallest boy. Then the old man motioned them away, and they disappeared quietly and fleet of foot, so that now the old man and the young man sat alone in the clearing.

The old man bowed his white head and prayed briefly





## UNTIL ROAD MAPS WERE INTRODUCED, TRIPS WERE FRAUGHT WITH UNCERTAINTIES

to his god of travel. When he had finished his prayer, he took the young man's arm and, with his stone knife, cut three parallel gashes just below the youth's elbow. "A safe journey be yours," he said.

He picked up the spear and placed it before him with the jagged point aimed in the direction of the nearby trail. "This spear," he said as he sat upon his sinewy haunches and spoke softly and precisely to the young man, "is the long, straight river in front of the early morning sun, running as fast as the wind blows near the open sea, and these four stones are the high, clouded mountains—four moons away by the river's path. Where I placed the leafy branches is the thick, dark forest with the tall trees and the soft floor and many good, red berries. As the arrow goes in the direction of the biggest star in the heavens, so will you come to the warm, green region, wide as the skies of Summer. Then, foot after foot, continue until thrice the sun has vanished in its setting place. When the first star of evening winks. . . ."

So might the primitive traveler have set out on his journey, quite differently, indeed, from the start of a trip today . . . quite differently, considerably less inviting, and infinitely more hair-raising.

No road maps guided the ancient wayfarer from place to place; no reliable touring bureau charted his route the safest, best, and most expedient way; no road markers reaffirmed his position; no service station dealers welcomed him with a smile or gave him information about the locality.

Strangers were enemies, and the wilderness through which he traveled was as terrifying as only the unknown can be.

Until fairly recent times, the business of getting places was to remain disorganized as well as hazardous. And it was not until automobile wheels began to roll away the miles that road maps as we know them today—accurate, comprehensive, and easily obtainable—came into being to guide the way.

In the thousands of years since the first human being set forth on a journey, weary travelers have, successively, learned to guide themselves by the stars (though cloudy nights must have delayed them), evolved the compass points (however inaccurate), taught the wheel

to roll (slowly, at first), swapped their knowledge of routes and ways (not always dependable), and, eventually, came up with something resembling a road map.

Of course, accuracy was still a thing of the far future, but even the initial road maps were a tangible improvement over the sticks-and-stones method.

Histories of map making attribute the first road map of sorts to the Egyptians of 1320 B. C. Drawn on papyrus, it was a simple sketch composed of no more than 25 or 30 lines that showed the routes to a gold mine and depicted houses and buildings along the way as well as details of the terrain.

Several years ago, however, an even older land map—believed to date back more than 4,000 years—was unearthed by archeologists in Iraq. This map—a clay tablet which designated routes and compass points—is small enough to hold in the palm of the hand.

These and other crude maps guided a select few of the trip-takers of antiquity, but the ordinary traveler was strictly on his own and ventured upon his perilous trip with such sketchy bits of information as he was able to pick up from others. Adventurous travelers went

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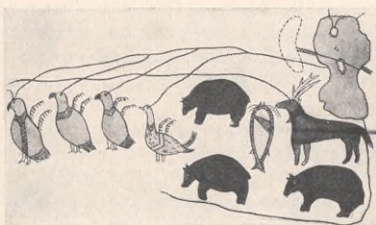
CARTOGRAPHY HAS COME A LONG WAY since maps were inscribed on clay tablets or drawn on papyrus. This young woman is painting in roads that will appear in red on a Texaco Touring Map. This step in modern map making is doubly difficult because the work is done in reverse and upside down.

*Albert Day*





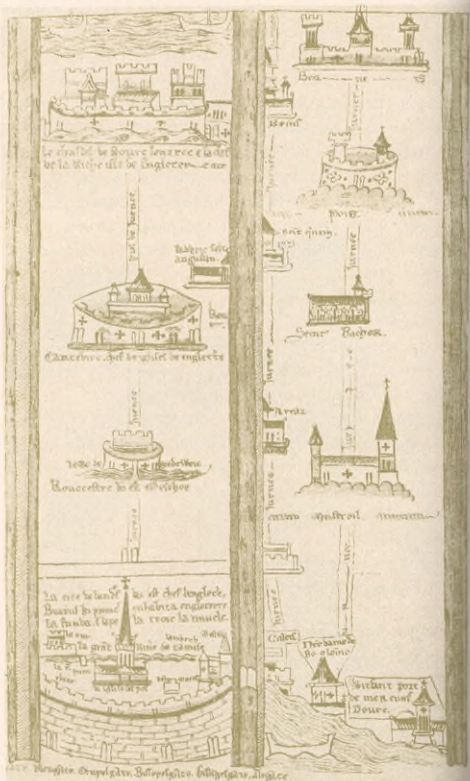
THE INDIANS USED MAPS for purposes other than describing routes. The one above commemorates a war chief's exploits; the map below is a petition.



SHANAWDITHIT, a Beothuk Indian maiden of Newfoundland, drew this map of the Exploits River in 1829. It illustrates the Beothuks' last contact with the white men. The broken black lines mark the white men's routes; gray lines (red in the original) are Indian trails. At the top, the surviving Beothuks are shown marching away, never to be heard from again.



THE PEUTINGERIAN TABLE, three of its 12 segments shown above, is the earliest road map that carries detailed information for travelers. Covering the Roman Empire in Augustus' day, it contains a surprising amount of data (compiled with government and military officials in mind) despite the East-West distortion. Its 534 illustrations ac-



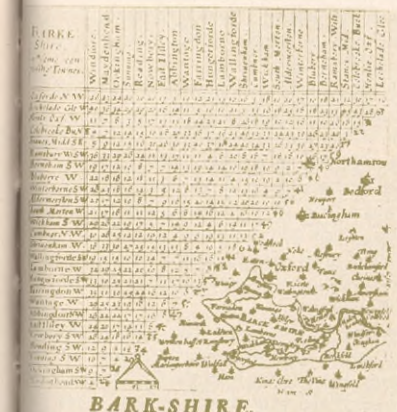
MEDIEVAL STRIP MAP GUIDED CRUSADERS on pilgrimages from London to Jerusalem by way of the great cathedrals. The strip above, first of nine, starts at London (lower left) and proceeds, via Canterbury Cathedral, to Dover. Across the English Channel, crusaders chose alternate routes from Calais (lower right),



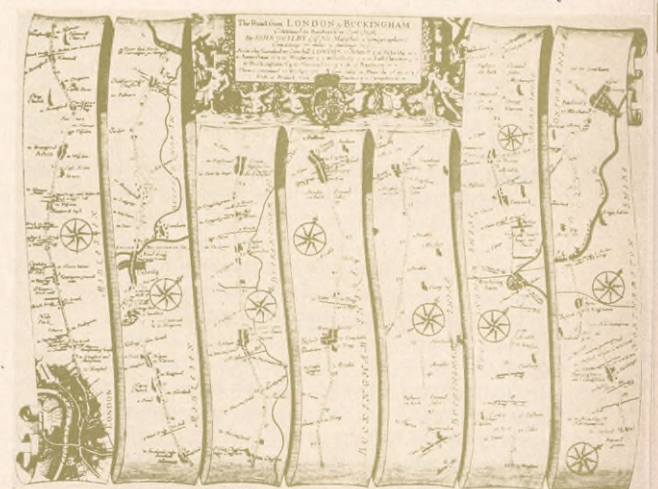


tually were symbols. Thus a traveler could judge the size of the city he would reach by sundown by the number of towers in the city's symbol on the map, or he could find out if the city boasted a bath to refresh his weary body after a long day on the road. In these segments, Italy is shown (bisected by the Apennines) with "all roads leading

to Rome" (which is encircled near the center fold). The "toe" of the "boot" is easily discernible, and between it and North Africa lie Sicily and Djerba. Interestingly, Pompeii is shown, proof that the map goes back to the beginning of the Roman Empire, since the city was buried in ash in 79 A. D. The whole map is schematized carefully.



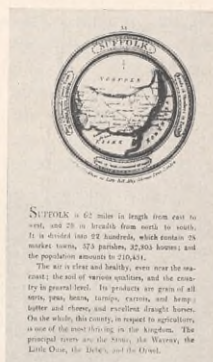
HUNDREDS		
1. Ormer.	10. Thels.	A
2. Gansfield.	11. Reading.	ABINGTON, Har.
3. Kingston.	12. Charlton.	Aldermerton, Th.
4. Wokingham.	13. Sonnyage.	Aldersly, Comp.
5. Wokingham.	14. Wargrove.	Apfelton, Oly.
6. Wokingham.	15. Barncliffe.	Apfelton, Oly.
7. Wokingham.	16. Brey.	Arberfeld, Sm.
8. Wokingham.	17. Rippelmote.	Ardington, Winc.
9. Wokingham.	18. Cookham.	Affhamsted, Mnt.
	19. Oke.	Albury, Sbrn.
	20. Kenbury.	Afton apthorp, Mnt.
		Alton



THIS FORERUNNER of Texaco Touring Maps is one of the first commercial road maps. It was engraved in 1675 by John Ogilby. Instead of route numbers, he depicted landmarks as guides.

BY 1635, ENGLISH TRAVELERS used mileage charts that resemble mileage charts appearing today on some Texaco Touring Maps. "Hundreds" are county divisions similar to townships.

ARMED WITH A POCKET ATLAS, travelers passing through the English countryside early in the Nineteenth Century could mentally keep abreast of the passing scene. This page (right) from an atlas published in 1803 points out, among other items of interest, that in Suffolk County "the air is clear and healthy, even near the seacoast."



SUFFOLK is 62 miles in length from east to west, and 29 in breadth from north to south. It is divided into 27 hundreds, which contain 78 market towns, 374 parishes, 22,864 houses, and the population amounts to 210,451. The air is clear and healthy, even near the seacoast; the soil of various qualities, and the country in general level. Its products are grain of all sorts, peas, beans, turneps, cabbages, and hops; butter and cheese, and excellent draught horses. On the whole, the county is respect to agriculture, as one of the most flourishing in the kingdom. The principal rivers are the Stour, the Waveney, the Little Ouse, the Deben, and the Orwell.



# IN A CAR-TRAVELING AGE, MOTORISTS HAVE A PRICELESS TREASURE—FREE

CONTINUED FROM PAGE 11

beyond the known route and added their knowledge (sometimes their conjecture) to what had been established by predecessors. Some said they saw Paradise (always in the East); others encountered strange peoples akin to today's fantastic conceptions of men from outer space.

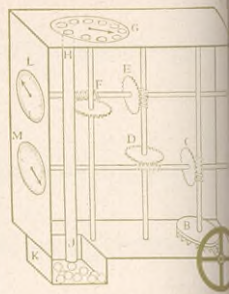
In the later civilization of Greece, where culture and curiosity took on deeper dimensions, map making was conducted scientifically . . . at least, it was highly scientific for the ancient world. Though the Greeks started the rumor that the earth was flat, they were fairly precise cartographers. They borrowed and improved upon an Egyptian method of surveying. When they dealt with places they knew nothing about, they didn't take wild guesses but left blank spaces—quite an innovation. Their maps, often in bas-relief, were displayed for public use—another innovation, though it made it necessary for sojourners to copy portions of the maps or memorize the route.

Word of mouth, however, was still the main source of travel information. The blind minstrel, Homer, for example, was sort of a forerunner to Rand McNally, printers of Texaco's road maps. The author of the *Iliad* and the *Odyssey* got his material from travelers, dressed it up a bit with weird and exotic characters, and sang directions to the accompaniment of a lyre. He went over big at gatherings and stimulated travel greatly, but just how reliable his directions were is a matter of uncertainty. After all, Odysseus himself wandered for 10 years and nobody else seems to have run across the Cyclops or tangled with the Sirens.

In the meantime, the travel-minded Romans were literally riding to greatness. As far as land-travel was concerned, they really got things moving. They built roads of incredible durability; they erected road markers; they produced the ancestor of the Peutingerian table, the most detailed of all early road maps in existence.

The Peutingerian table (which some experts believe was drawn in the Third Century, A.D.) originated in a 20-year mapping project conducted by Marcus Agrippa for the Emperor Augustus. Made in 12 segments, it was 21 feet long and one foot wide and could be folded into a carrying case. It was based on a map prepared for the use of high government officials and military leaders and covered 50,000 miles of paved highway within the Roman Empire and thousands of miles without. The table (see center spread) contained such information as distances from place to place, junctions of highways and rivers, topographical features of mountains and

PUSHED ALONG ROMAN roads, this early odometer measured miles by revolving a set of gears so that a ball dropped at K for each mile traversed.



lakes, types of cities, kinds of accommodations, and locations of harbors, lighthouses, storehouses, brick kilns, baths, inns, stables, and trading centers.

When Rome's dreams of world conquest dissolved, map makers concerned themselves with the local scene, and there followed centuries of little or no progress. The Arabs, however, kept the subject of map making alive as they extended their trade routes to distant lands. Their meager findings were passed on from such cultural centers as Baghdad and Damascus to Europe.

Not until the Middle Ages did cartography in Europe again progress, this time under the scholarly hand of the church, the strongest force of the times. As accurate as these maps were, they frequently failed to include lands where pagan religions were practiced. Probably because they were usually walled around and circular, principal cities were represented by circles—the symbol still employed.

For the first time, in the Middle Ages, maps appear to have been made in some quantity (there are more than 600 existing maps dating from the Eighth to the Fifteenth Centuries) and were, though rare and expensive, available to the layman. Highway travel at this time was more extensive than it had ever been, and pilgrims and crusaders journeyed throughout Europe in almost continuous bands.

During the Renaissance, printed road maps appeared. In Italy, copperplate engravings were made, and in Germany, in 1500, the *Romweg* (a road map engraved on wood) covered the routes to Rome mile by mile.

In Seventeenth Century England, road maps saw an important development as estates were carefully surveyed and mapped for landowners. Maps depicting roads and providing other travel information were printed and sold both individually and in atlases. Printed texts of regional highlights were placed on road maps—an innovation not far removed from the "points of interest" on some road maps of the present. Another innovation—mileage charts—has been retained to this day on many road maps.

The first maps of the New World were, of course, made by Europeans and were to a great extent guess-



work. But the new land of America busily began to put itself on record. The Indians had created numerous routes and trails, some as long as 1,700 miles. Many of the Indian trails later became parts of today's highways.

Highly organized for a primitive people, the American Indians marked their routes by blazing trees, piling up boulders, and placing broken twigs along the trail. Their maps were carefully made—some drawn on wood in animal blood or berry juice, some painted on hide, some carved on trees, and some baked on clay.

From Indian guides the white man learned his new country—and those who became proficient trailmen made a business of guiding others—but the vast land was relatively unexplored until pioneers like Daniel Boone, "Davy" Crockett, and Lewis and Clark opened up new territory to the settlers. Since most of the country was still a wilderness, guides continued to function in place of road maps.

As the Colonies grew and united, as wagon trains drew the West closer to the East, and as, eventually, the United States of America emerged as a new and important nation, map making was developed in the New World. Ultimately, the making of road maps in America was to excel highway cartography anywhere else.

For a long while the old trails were the only land links between the Atlantic and Pacific, and the new nation had to depend on the buckboard, the stagecoach, and the saddle. As in Europe of former centuries, Americans traveled mostly for business, but the bicycle fad in the Nineteenth Century stimulated the average man's interest in touring for pleasure. He wanted to see the countryside and spend a day on the open road. To do this, he took his chances, for roads were unmarked and road maps were an expensive rarity.

Frequently, the cyclist spent his nights in the middle of nowhere, just as lost in the country's bigness as the primitive young warrior who started out with only the old chieftain's directions. And often he was stuck in roads that were:

"Wholly unclassable,  
Almost impassable,  
Scarcely jackassable."

But the cyclist spoke up and, with other cyclists,

formed the League of American Wheelmen, which campaigned for improving roads and publishing road maps.

As a result, route books were published for the cyclist and early owners of something new called the automobile. Route books were pamphlets in which directions were written, and the traveler had to follow such instructions as "turn right at corner of Macauley's Saloon, cross 2 tracks at depot, then turn left over the iron bridge."

The traveler got along fairly well for a while, though not very far . . . until the automobile proved itself to be the answer to family travel.

In 1895, a Chicago newspaper sponsored a \$5,000 auto race and printed a map tracing the course—the first road map prepared for the specific use of the American motorist.

Thereafter, the road belonged to the car travelers, and it stretched as far as the land itself. Road maps were precise, and road markers were placed along the way. Roads were widened, extended, and improved with better surfacing.

Before long, oil companies that supplied the fuel for motoring began to distribute road maps free of charge in an effort to stimulate both car travel and the sale of petroleum products. Their road maps were the finest, the most detailed and complete, and the American motorist found his way farther and farther with accurate routes mapped by the oil companies' touring bureaus.

Since 1929, Texaco Touring Service has been among the foremost, carefully routing motorists along their choice of scenic, expedient, and convenient routes, where all the way Texaco service stations are ready to supply their needs. (Its counterpart for the man with a motor boat—Texaco Waterways Service—has for nearly as long outlined water routes and provided Texaco Cruising Charts.)

This year, it is estimated that more than 65,000,000 vacationers will travel by car with road maps to guide them, and Texaco Touring Service will map the way for a great many of them. In the glove compartment of their cars, or on the seat beside them, will lie thousands of years of work and study, compactly folded. Free though the road map is, it is a priceless treasure for a car-traveling age. **END**

MAKING TODAY'S EXCURSIONS a pleasure, Texaco dealers serve as local guides, augmenting Texaco Touring Service wherever you go anywhere in the 48 states.





Motorist who see similar prices for gasoline at service stations along a highway occasionally level a flat, but unwarranted, accusation at the oil industry.

"It's all a conspiracy," they say. But what they do not realize is that 19 out of 20 retail gasoline outlets are operated by dealers in business for themselves, selling gasoline at prices which they alone establish.

There are some 188,000 service stations in the United States, 95 per cent of which are independently owned or operated by local businessmen, operating at their own risk and deciding their own "pump prices."

Many a dealer leases his station from the oil company which built it and whose brand he sells. But he alone is the one who sets the prices he charges motorists.

One thing the critics overlook is that probably no other businessman on the face of the earth has to sell his product to so mobile or so fickle a buyer: the man in the car who, if he doesn't like a dealer's posted prices or the brand of gasoline he sells, can drive along to another service station farther on. It might be hard to find a more price- and quality-conscious consumer anywhere than the automobile owner. He can pull into a service station, size up what he sees—including the price of gasoline—and if he doesn't like it he doesn't have to lump it.

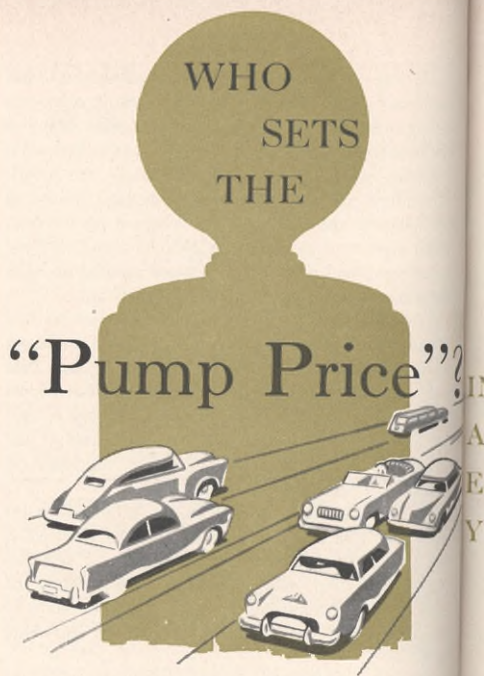
Few subjects are as widely misunderstood by consumers as oil prices. Frank M. Porter, president of the American Petroleum Institute, states: "There seems to be a widespread, but erroneous, belief that in some way oil prices are manipulated through concerted action within the industry."

This Spring, the API published a book by Harold Fleming, widely recognized business reporter on current financial and economic developments, which details the reasons why oil prices are not, nor can be, "manipulated" by anyone or any groups within the petroleum industry. In simple laymen's terms, *Oil Prices and Competition*\* answers the cries of some critics that the oil industry is in a perennial state of cut-throat competition and the cries of others that there is not much competition in oil prices at all.

This summary of how oil prices are arrived at was no overnight publishing enterprise. Three years in the making, it embodies the specific suggestions and rejections of hundreds of oilmen in all departments of the industry. Thus, the book is, to a great extent, the oil industry's own considered, factual answer as told from the viewpoint of an independent outsider.

It covers the whole range of the petroleum industry's pricing habits, from a discussion of crude oil prices to the economics of refining and the wholesale gasoline market. It also includes a concise chronicle of oil pricing, called "Forty Years of Hard Competition."

But the story opens at the service station, because that is where most people meet the petroleum industry in first hand.



There is an outstanding reason why "all 'gas' prices are the same." Intense competition among retail gasoline dealers for the driver's dollar establishes the price you pay at the pump. This healthy competitive state, of course, stems from well-founded principles of free enterprise generated by the law of supply and demand.

Quite simply, if a dealer sets his prices too high, he starts losing customers to his competitors and soon loses money. Conversely, if he cuts his prices, shooting for more volume, he may get all the customers he can handle but his margin of profit may drop—or disappear.

The successful dealer tries, Fleming says, for what the economists call an *optimum* price to bring in the largest total profit rather than the greatest *per gallon* profit. And the dealer who sets himself this goal will keep from either "reaching for the sky" or "selling himself down the river."

This simple principle, which operates in any highly competitive merchandising situation, is the reason why all stations must eventually, as dealers express it, "meet competition."

What, then, are the problems the independent dealer faces in "meeting competition"?

The man who opens a service station, according to Fleming, enters a very competitive business, because, in the first place, he usually handles a widely known brand which competes with other widely known brands.

\*OIL PRICES AND COMPETITION. BY HAROLD FLEMING. 62 PAGES. AMERICAN PETROLEUM INSTITUTE. CLOTHBOUND, \$1; PAPER-BOUND, 50¢.



True, various components of *raw* gasoline have similar basic characteristics. If they did not, it would be necessary to design a different type of auto engine for each one of the hundreds of competing brands of gasoline on the market. Of vital importance to the consumer, however, is the fact that no two brands of *finished* gasoline are identical, because, naturally, each company does its utmost to produce a better finished product.

The man who opens a service station finds his average customer, on four wheels, is an extremely choosy in-

state of cold competition about to break into a hot price war." The retail gasoline structure is always "subject to change without notice," because of changes in methods of station operation, in consumer preferences, in the general economic situation, in the underlying petroleum price structure, and so on.

Price wars always come to an end—but only in the sense that it always stops raining. These wars usually involve some attempt to increase volume and may get started in a variety of ways. And they can hurt, because the law of the survival of the fittest applies to dealers in a rather harsh way, Fleming points out. The dealers with the lowest costs usually come out on top.

In certain areas of the country the brand-name dealer also faces intense price competition from purveyors of what is known in the trade as "unbranded gasoline," which has no precise definition but comes from many sources: from brand-name refiners who have temporarily over-produced or regularly make gasoline of lower quality than house brand; or it may come from small independent refiners. These little-known brands sell at a discount which may be one to four cents below posted name-brands in the same locality and may wreak havoc on gasoline price structures. But it may be viewed as still another manifestation of the robust competitive state of the gasoline industry that these unbranded gasolines can spring up almost anywhere.

A dealer may find he has certain other competitive problems to cope with besides price. Even if all his competitors for some distance around him are posting the same price, some of them may be quietly offering back-of-the-pump price concessions to certain customers. He may give similar concessions, and he may also try to attract customers with offers of premiums, chances on large prizes, and the like. Meanwhile, his competitors may join the competitive fray with such devices as tie-in offers, two-for-one sales, free washing or brake adjustments, even all-day suckers for the kids. But, in a vivid sense, even these are signs of a healthy competitive state.

In summarizing the retail gasoline business, Fleming has this to say:

"It typifies the most strenuously competitive aspects of American business in general." And, he adds, the established retail gasoline dealer is far better equipped than many a businessman to understand just how the profit system works. Few people have as much experience as he in the ways by which free competition aids the man who tries to expand his volume and lower his unit costs instead of merely looking for larger markups to make money.

Fleming believes, "A really hard look at this highly competitive business might dispel some of the conclusions [critics have] drawn deductively about the oil industry from such cloudy abstract concepts as 'monopolistic competition' and 'oligopoly.'" **END**

## INTENSE COMPETITION AMONG RETAIL DEALERS ESTABLISHES THE PRICE YOU PAY AT THE PUMP

dividual. Any driver can be as price- or quality-conscious as he wants with very little effort. He can afford to be elusive and hard to please, since his shopping is almost effortless. He may change brands at the drop of a hat, even switching to an unfamiliar one if he can "fill 'er up" for less and is satisfied with the performance he gets out of it.

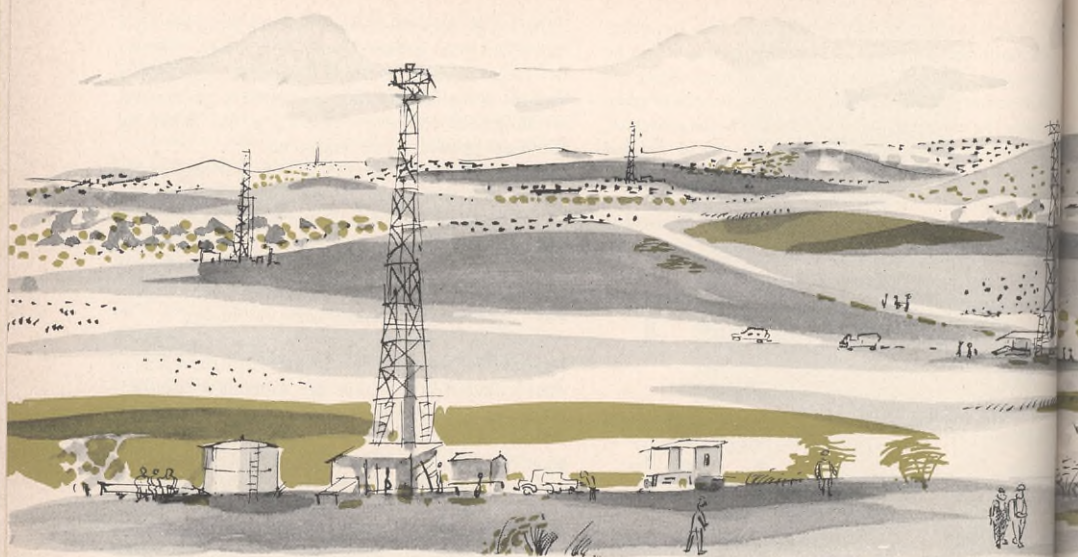
Now, since the retail gasoline market is so mobile and so price-conscious, a cut in price may bring in a lot more business. Some service station men have reported jumping business from 20,000 gallons a month to 100,000 by cutting prices.

If he cuts his price, however, a dealer may find the new customers he gains are at his competitors' expense. And he may discover the dealers around him are meeting his price cuts cent-for-cent. In the end, everybody takes a reduction in markup without selling any more gasoline.

"Thus," says Fleming, "the economics of price cutting to get larger volume and so larger total profit are not so simple as they appear on the surface. Our dealer may find that the level of competitive retail prices eventually turns out to be the result not merely of his own decisions but of the composite reaction of all his competitors in the area—a temporary level arrived at by many minds without consultation or discussion."

The dealer may also find he has touched off a price war which can spread like a prairie fire a radius of 100 miles in all directions. Though critics have pointed at them as concrete manifestations of manipulated pricing, Fleming believes the ease with which price wars break out and spread demonstrates "how fragile is the camouflage of identical prices which sometimes obscures a





# Savings Plan for Oil

FROM WELL TO MARKET, MODERN OILMEN  
WAR ON WASTE. IT'S A FAR CRY FROM THE OLD DAYS



MAN-MADE FORESTS of derricks usually characterized an oil field in bygone years. The idea was to produce as much oil as possible in the least amount of time. Since those days, oilmen have learned that hasty depletion leaves much oil lost forever in the earth.

High above Oregon's timberland, a forest ranger keeps steady vigil for perilous fires, while loggers below select only mature trees to fell and leave the younger ones to produce more timber for tomorrow.

On the Iowa prairie, a farmer "contour plows" his land to prevent erosion, and rotates his crops to prevent soil exhaustion.

In the Maine woods, a hunter protects wildlife by silencing his gun at seasonal intervals and by preserving the natural habitats where animals and fowl live and breed.

At a Texas oil research laboratory, a scientist carefully analyzes cores of rock taken from a well, seeking greater knowledge of the flow of fluids in oil-bearing formations.

All are concerned with the conservation of the nation's natural resources.

The oilman's conservation practices, however, are somewhat different from others.





WIDELY SPACED WELLS, shown in this artist's sketch of a West Texas oil field, represent the modern technique of development used by oil operators at the present time.

Fire, of course, is an enemy of oil as well as an enemy of timber, and oilmen must be ready as forest rangers to prevent and extinguish a devouring blaze. But unlike lumbermen, who can cultivate new trees, oilmen cannot replace reserves of oil and gas withdrawn from the earth. Oilmen cannot plant oil, nor can they leave any portion of it to reproduce itself.

Unlike farmers, oilmen cannot scientifically prepare the earth to yield another crop. No counterparts of irrigation, fertilization, or rotation aid oilmen in conserving an irreplaceable natural resource.

Unlike the hunter, the oilman cannot be seasonally inactive . . . particularly in such times as these when, more than ever, oil is needed for the security of the free world. He must hunt the year around, under snow and under the blazing sun.

To oilmen, conservation means maximum ultimate recovery and minimum waste. It means getting the most out of nature's reservoirs of petroleum, and making the most efficient use of what is produced. It means writing new chapters in the industry's continuing story of research and development.

In addition to his constant search for new sources of petroleum, the oilman is also constantly seeking improved methods of producing and processing oil. Over the years, he has made many improvements that have meant greater utilization of the oil and gas his drilling operations have brought up from under.

Back in the old days, when western Pennsylvania

was the center of oil operations in the United States, oilmen had not yet learned to train, discipline, and analyze oil. When a new field was discovered, they swarmed to the site and each tried to extract more oil from the earth faster than his neighbor. They built their derricks so close that the hills became a man-made forest, and they took oil from the same pool as long as oil flowed or could be pumped from the wells. When it ceased to flow or respond to the pump, they abandoned the wells and moved on to new fields, leaving a great deal of oil lost forever in the ground.

The modern oil industry has put an end to the waste that characterized the Pennsylvania boom in the last century. A little less than 100 years has meant thousands of scientific advances in curbing waste and utilizing the hydrocarbons of petroleum—one of the country's most valuable natural resources—to an ever greater extent.

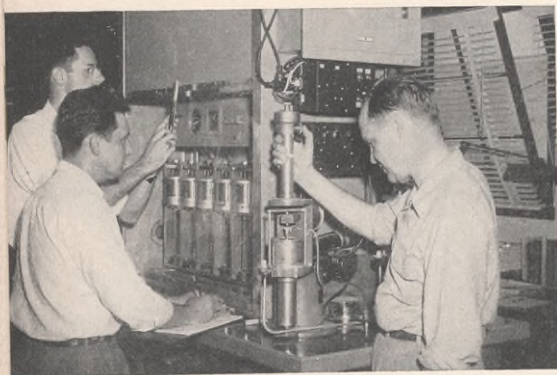
The wild gushers that sent oil flying high over the Spindletop, Texas, and other fields years ago are no more. Today, control devices are installed in the early stages of drilling a well to prevent blowouts. From start to finish, production operations are designed to prevent waste (underground as well as on the surface) when oil is found.

Since the early days, geologists and petroleum engineers have learned a great deal about the behavior of gas, oil, and water underground. They have learned a great deal about the tremendous pressures under





AT TEXACO REFINERIES, experts make certain that every barrel of crude oil is processed properly.



DRILLING FLUID RESEARCH is one aspect of Texaco research aimed at improving drilling techniques.

which oil, gas, and water exist deep down in the earth, and how enormously important these pressures are in the everyday production of oil fields. (Bygone methods of producing oil usually resulted in rapid exhaustion of reservoir energy.) They have learned about the accumulation of oil in porous strata, and, so enlightened, have obtained oil from places where their predecessors would have left it lodged. And as they have learned, they have created scientific means to study the characteristics of an oil field after it is brought in.

This knowledge and these means of analyzing a specific field permit oilmen to predict something of the conditions they will have to deal with and enable them to plan their operations accordingly. Advance planning greatly increases efficient recovery of the oil from the earth, so much so that the average recovery obtained today probably is much greater than the recovery in the early fields of Pennsylvania and Texas. With modern engineering methods, production of more than 80 per cent of the available oil is expected in some fields.

In direct contrast to the hasty depletion of many oil fields in the early days of the industry, the pro-

## PRESENT SAVINGS WILL HELP FILL FUTURE NEEDS

ductive life of a field can now be reckoned in decades, instead of months, because of modern conservation practices.

Some of the most important methods employed in prolonging the life of a field are:

*Pressure maintenance*—to recover more oil by carefully controlling the rate of oil withdrawal; reducing to a minimum the amount of gas produced with the oil; putting back gas brought up initially in order to maintain reservoir pressure; injecting water into the reservoir to maintain pressure. . . .

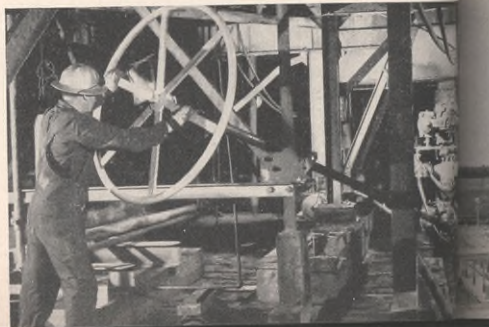
*Secondary recovery*—recovery made possible by creating pressure and re-establishing energy by forcing gas or water into the reservoir (in some instances as much oil has been recovered by secondary operations as was originally produced by the natural pressure). . . .

*Pumping*—mechanically lifting oil to the surface.

Also highly important in the conservation of the nation's petroleum reserves is the practice of *unitization*—developing a reservoir as a single unit rather than as several separate operations drawing from the same source. Unitization affords landowners and oil companies an opportunity to cooperate in an orderly joint development of a field under one sound engineering plan and share proportionately in the production of the field. The end results are highly important from a conservation standpoint: more oil—ultimately—and fewer wells.

*Well spacing* contributes to conservation in a similar way. The first step in modern conservation practices is planned well spacing. Derrick next to derrick is a thing of the past, a reminiscence that fades farther and farther back into the petroleum industry's youth. Today, there may be only one well to every 10, 20, 40, or 80 acres in an oil field—in many gas fields, the spacing may be as great as 640 acres.

BLOWOUT PREVENTER (*below, right*) guards against violent—and wasteful—eruptions of oil and gas. It is for manual control in case the hydraulic controls fail.





Through the Interstate Oil Compact Commission (established by act of Congress in 1935), states where oil is produced are able to exchange knowledge of new and better conservation practices. Member states are informed of scientific advances by the Commission and participate in joint discussions of their respective problems. The findings, solutions, and possible solutions are made available to oil companies to help them produce more oil for the public.

Laws preventing waste and limiting production to market demand have been enacted by various oil producing states. The Texas Company vigorously supports the conservation methods that are practiced and cooperates fully with all state regulatory bodies and Federal agencies in adhering to sound conservation practices.

By no means, however, is the conservation program of the petroleum industry limited to the oil field. Beyond the well, waste is warred on continuously as oil passes through transportation, refining, and marketing facilities.

Improved methods of storage—once a great problem to oilmen—have contributed largely to furthering the supply of available petroleum. Whereas considerable amounts of crude oil were once lost due to storage in open pits and other makeshift practices, millions of barrels of oil have been saved from evaporation, deterioration, and fire by the skill and ingenuity of the industry's engineers. Specially designed storage tanks, carefully conceived vapor-recovery systems, elaborate protective devices . . . all help to minimize hazard and loss.

Modern facilities for the transportation of both crude oil and refined products have likewise lessened losses. The development and expanding use of pipe lines have been tremendously important in conveying oil ever more safely and efficiently. The intricate systems of pipe lines that interlace oil fields, refineries, and markets, cut down excessive handling in loading and reloading and thus make an important contribution to reduction of waste and evaporation.

Greater cargo space in tankers and barges has also

brought about operating economies and reduced losses due to leakage, spillage, and residue left in transportation units. By transporting larger quantities at one time, the oil industry is, in yet another instance, annihilating accumulative waste.

Some useful product is made from every bit of every barrel of crude oil. In laboratories and refineries, conservation continues as petroleum chemists and technologists devise new methods of improving refining processes and seek to utilize hydrocarbons of crude oil and natural gas in more and more beneficial ways. Thermal and catalytic cracking, for example, have helped make possible the manufacture of superior quality gasolines that provide greater power for automotive engines. As a result, two gallons of today's gasoline do the work that it took three to do in the mid-1920's.

In seeking to utilize oil in more and more useful ways, the industry's contributions to conservation are far-reaching. Sulphur, for instance, is extracted from refinery gases in large amount. These same gases are raw material for the rapidly growing petrochemical industry, highly important source of plastics which, in turn, help us as a nation to conserve metals.

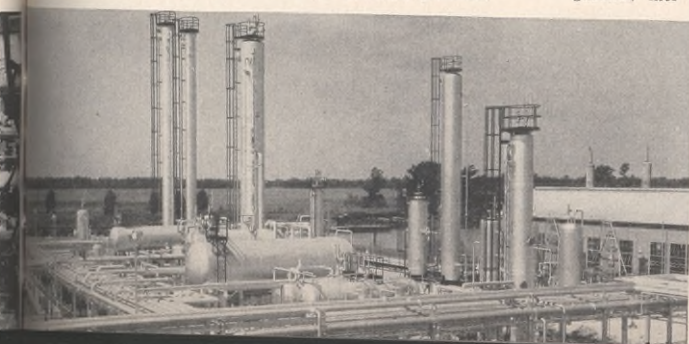
At plants in various parts of the nation's oil producing areas, natural gas that once was flared because there was no market for it, is being processed. Useful products such as natural gasoline, butane, and propane are being extracted from the gas, and the "dry" gas remaining after processing is being sold for use as fuel or returned to oil reservoirs to maintain pressure.

**O**il roars across the sky and speeds smoothly over the highway. It burns steadily through the cold of Winter. It lubricates the productive machinery of industry. It contributes some part of its split personality to thousands of items that you use around and around the clock.

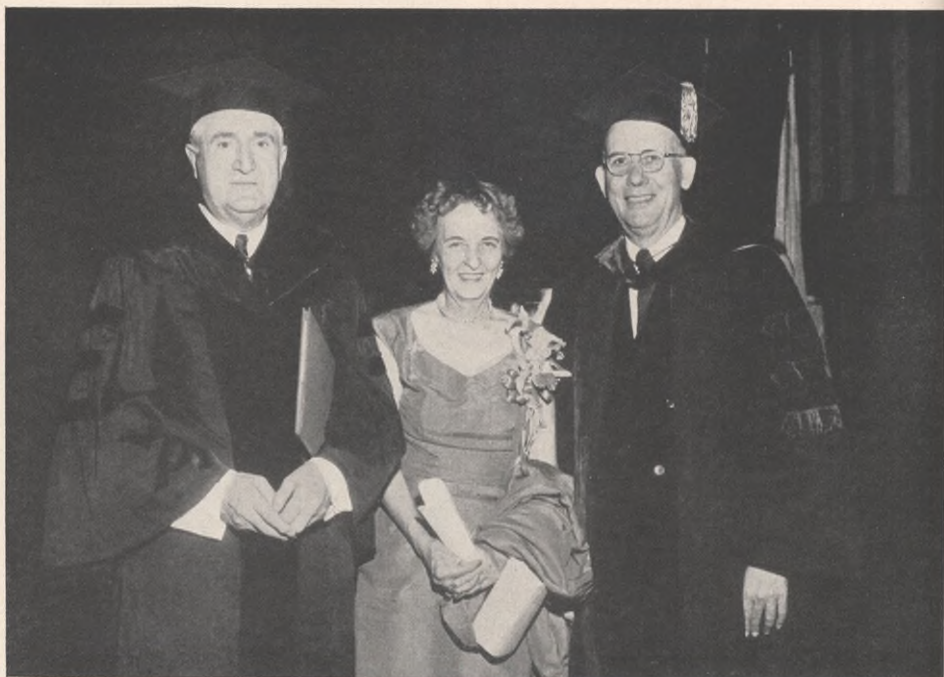
Because of the oil industry's conservation practices, oil is always at your service, filling the nation's demands in the present and at the same time saving itself to fulfill future demands. **END**

CONSERVATION IS AIDED by cycling plants, which extract useful products from "wet" natural gas and return "dry" gas to the reservoir to maintain pressure.

COMPARTMENT CONTROLS, meter, and other devices on this modern Texaco tank truck regulate the flow of gasoline into the storage tanks at service stations.







PICTURED WITH MRS. LEACH and Baylor University president W. R. White (right), Texaco Board Chairman J. S. Leach holds the honorary degree of Doctor of Laws conferred upon him at the university's commencement exercises on May 29.

## J. S. Leach Receives Honorary Degree at Baylor

At its 108th annual commencement exercises on May 29 of this year, Baylor University conferred upon J. S. Leach, Chairman of the Board of The Texas Company, the honorary degree of Doctor of Laws.

Mr. Leach, who was graduated from the university in 1915, attended the ceremonies in Waco, Texas, where, shortly after he joined Texaco in 1916, he worked as a salesman. His rise to his present position of leadership was the basis for the honor.

Texaco's chief executive officer was presented to the assembly by Dr. Wilby T. Gooch, one of his former professors, who said that Mr. Leach was receiving the doctorate because of, among other things, "the demonstration . . . that it is possible for a farm boy to lift himself by his boot straps, as it were, to one of the

highest positions of trust and responsibility in the industrial and financial world."

At the time of this award, Mr. Leach wrote Dr. W. R. White, president of Baylor University:

"The educated man is not merely the man who knows his own field of study; he is the man in whom knowledge is joined with character. For, if our generation's hard experience has proved anything, it has proved this one truth conclusively: that knowledge can be dangerous rather than beneficent unless it is in the hands of those who can employ it with responsibility and restraint. Power can be evil in evil hands or good in good hands. The good life is the life of the well-rounded man in whom intelligence and integrity are inseparably fused."





# Texaco Sidelights

## GRASS ROOTS OPINION

A comment by Texaco Board Chairman J. S. Leach, at this year's annual meeting of stockholders on April 28, triggered a response from the grass roots of America which was as refreshing as it was pointed.

In his statement at the meeting, Mr. Leach noted that stockholders' dividends spanning the half century since The Texas Company was formed, would total in excess of \$1,000,000,000 by mid-1953. One billion dollars sounds like a tremendously large sum, Mr. Leach admitted, until you compare it with our national budget and debt. It wouldn't run the Federal Government five days, nor retire as much as one-half of one per cent of the present national debt, he declared.

Using Mr. Leach's remarks as a theme, the Burlington, Iowa, *Hawkeye Gazette* published an editorial which, in turn, posed this stopper: "Is big business big enough?"

Said the *Gazette*, "Unions often damn it, investigators are constantly snooping for something malignant to lay at its door, and the socialistically inclined citizen would have you believe we are destined for perdition for having permitted big business to grow

so big. Meanwhile, the tax collector stands at the cash register constantly asking big business for more and more."

Thus, the *Gazette* reasoned, when you consider our dependence for taxes on the many great corporations of the nation—the oil companies, the railroads, the automobile concerns, and the utilities—isn't it in the public interest that big business grow even bigger?

The *Gazette* pointed out that a company which has been able to pay out only a billion dollars in 50 years is really "pretty small potatoes after all" when compared with the Federal Government. And, it reminded its readers, from those dividends paid to Texaco stockholders, Uncle Sam has collected several million dollars in taxes on shareholders' personal incomes, to say nothing of what The Texas Company has forked over.

"Yes," concluded the editorial, "The Texas Company is 'big' business but it takes a lot of 'big' to sustain our government . . . national, state and local . . . these days. Perhaps what this country needs most is more Texas Companies." ★

## OIL FOR THE LAMPS OF LEARNING

The oil industry and institutions of higher education have a longer history of cooperative effort than perhaps many people realize. Annually, about 30 oil companies donate a total of \$500,000 for scholarships and fellowships at more than 65 institutions of learning. These are primarily for fundamental research projects which the institutions, unburdened with business pressures, are ideally suited to administer.

The Texas Company, for example, supports some 15 fellowships at more than a dozen universities.

Nearly 100 years ago, a scientific analysis of some Pennsylvania rock oil at Yale College, made by Professor Benjamin Silliman, Jr., led to the drilling of the world's first commercial oil well at Titusville, Pennsylvania, in 1859—an accomplishment which launched America's vast petroleum industry.

Professor Silliman's report indicated that petroleum would yield illuminating oil, gas, paraffin, and lubricating oils—a list which has been added to steadily through the years as a result of research. ★

## SEA QUEEN

On the same day, June 2, 1953, Great Britain crowned a queen in London and The Texas Company, in another colorful ceremony on the other side of the Atlantic, launched a ship at Newport News, Virginia.



The 19,000-ton S.S. *New York* was christened on her ways by Mrs. Madeline G. Baker, wife of Texaco's Executive Vice President, R. F. Baker, in a veritable shower of champagne.

The *New York*, second in a series of four high-speed tankers to be built for The Texas Company by the Newport News Shipbuilding and Dry Dock Company, will have an 18-knot service speed, the same as her predecessor, the S.S. *North Dakota*, launched last December. Their sisterhips now under construction—the S.S. *Connecticut* and the S.S. *California*—are scheduled for launching in September and December, respectively. ★

## GAS BUSINESS

Facilities which The Texas Company is constructing to gather, compress, transport, and market natural gas produced in the Terrebonne Bay and adjacent areas along the Gulf Coast southwest of New Orleans will supply the natural gas requirements of two large chemical plants (projects of American Cyanamid Company and Lion Oil Company, respectively) outside the Crescent City.

Plans call for 111 miles of pipe lines; a gasoline plant at Paradis (in St. Charles Parish) to recover propane, butane, and natural gasoline, as well as to turn out processed residue natural gas for delivery to the two chemical plants; and five compressor stations (two of which will be mounted on submersible barges in



Terrebonne Bay to deliver gas into the main transmission lines at high pressure for movement to the chemical plant sites).

This undertaking marks a progressive step in the conservation of natural gas, produced along with oil, in southern Louisiana. Until now there has been no market for the natural gas obtained in the Terrebonne Bay area.

Estimated gas requirements for the chemical plants are 40,000,000 cubic feet a day. The plants are located on the west bank of the Mississippi River. Initial deliveries of gas are expected next Spring. ★

## BALANCE WHEEL

Restrictions on oil imports "would be detrimental both to the American domestic economy and to the international position of the United States."

J. W. Foley, Vice President and Assistant to the Chairman of the Board of Directors of The Texas Company, had this to say at a hearing before the House Ways and Means Committee in May.

If the industry can be left to make its own adjustments flexibly to meet variations in petroleum supply and demand, import problems that arise can be ironed out—as they have been up to now—by voluntary action of the oil companies rather than by legislation fixing the amounts of petroleum that shall be imported, he told the Committee.

In his statement, Mr. Foley endorsed, on behalf of The Texas Company, the policy formulated by the National Petroleum Council in 1949—the so-called "supplement, not supplant" policy—and recommended four steps for implementing it:

1. Continue to develop the country's domestic resources and to hold in reserve sufficient producing capacity to meet the estimated emergency requirements of the Government.

2. Maintain, develop, and increase American-owned foreign reserves, keeping the market open to foreign oil in order that there may be continuous production to relieve shortages here and elsewhere.

3. Avoid Congressional or other governmental action which would re-

strict or penalize imports by arbitrary quotas, additional tariff levies, or other devices.

4. Undertake a thorough study, through competent, experienced men whose sole concern would be the national interest, to clarify the foreign trade policy of the United States.

Mr. Foley underscored the vital need for both a healthy domestic oil industry and a healthy American-owned foreign industry. "The balance between the two may at times appear to be uncertain," he said, "but the free play of economic forces is a far better balance wheel than governmental regimentation or control." ★

## TO THE EDITOR . . .

"Building good American citizens is the greatest task the public schools are engaged in," writes George J. Hooper, principal of Sidney Lanier School, Tulsa, Oklahoma, in a letter commenting on the article entitled "Guests of the Management" in the Spring issue of *THE STAR*.

Principal Hooper, whose school (grades one through six) sponsored a Business-Education Day on which local businessmen spent a day in the classrooms, says:

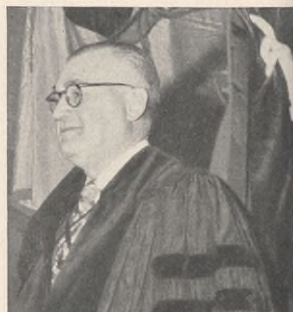
"What the public schools and environment do for the individual also makes business what it is. We cannot draw a dividing line. Business provides a product which meets the needs of the public. The school provides individuals with the background and know-how for business—this includes both management and labor. Their background of thinking and reasoning, habits and attitudes, respect for rights and privileges of others to operate freely to develop one's potentialities is definitely a major task of public school education . . .

"The closer business and public school education align themselves together, the greater will be the progress and solidarity of America." ★

## RECOGNITION

One of eight honorary doctorate degrees awarded by Union College, Schenectady, New York, at its commencement exercises on June 14, 1953, was conferred upon Walter Hochuli, General Manager of Texaco's Domestic Sales Department.

Mr. Hochuli, a graduate of Union



College's class of 1918, received his Doctor of Laws degree at the same ceremonies in which his youngest son, Robert Henry, was graduated as a Bachelor of Arts. His oldest son, Walter, Jr., who was also in attendance, was celebrating the 10th anniversary of graduation from Union.

Carter Davidson, president of Union College, who presented Mr. Hochuli for his degree, said: "... the recognition which Union gives you today is given . . . because you have carried the ideals which you learned in the classroom here, on the football and baseball teams, and as president of the student council into the councils of a great American industry . . . Your alma mater hails you as . . . the type of leader to whom we point with pride as an example of the spirit of American free enterprise."

Mr. Hochuli joined The Texas Company in 1924 as a salesman at Morristown, New Jersey, and was named to his present position in 1945. During World War II, he served as director of marketing and distribution for the Petroleum Administration for War. ★

QUESTIONS AND OPINIONS voiced by men and women shareholders enlivened the discussion period at the annual meeting of stockholders held in New York City on April 28. Some of the shareowners who attended are pictured at the right.







# 500,000,000 POUNDS TO THE MOON



★ and a quarter  
of the way back

If the more than 500,000,000 pounds of  
Texaco Marfak sold to date were stretched  
out in a rope one inch in diameter,  
it would reach from the earth to the moon  
and a quarter of the way back.

Of course, the famous Texaco automobile  
chassis lubricant was not made to transcend  
outer space . . . but s-t-r-e-t-c-h it does,  
clinging longer to vital bearings and guarding  
the chassis by loyal stickability.

Extra-stretchy Marfak also stretches  
the life of a car and affords car-owners  
1,000 miles or more of that cushiony  
feeling so familiar to motorists who have  
their cars lubricated regularly by their  
Texaco dealers.

Naturally, Marfak outsells all other  
lubricating greases of its kind.

THE TEXAS COMPANY

