

*The Philosophical Society of Texas*

PROCEEDINGS

1990

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**PROCEEDINGS  
OF THE ANNUAL MEETING**

**AT HOUSTON**

**NOVEMBER 30, DECEMBER 1 AND 2, 1990**

**LIV**

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**AUSTIN**

**THE PHILOSOPHICAL SOCIETY OF TEXAS**

**1991**

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THE PHILOSOPHICAL SOCIETY OF TEXAS FOR THE COLLECTION AND DIFFUSION OF KNOWLEDGE *was founded December 5, 1837, in the Capitol of the Republic of Texas at Houston, by MIRABEAU B. LAMAR, ASHBEL SMITH, THOMAS J. RUSK, WILLIAM H. WARTON, JOSEPH ROWE, ANGUS MCNEILL, AUGUSTUS C. ALLEN, GEORGE W. BONNELL, JOSEPH BAKER, PATRICK CL JACK, W. FAIRFAX GRAY, JOHN A. WHARTON, DAVID S. KAUFMAN, JAMES COLLINSWORTH, ANSON JONES, LITTLETON FOWLER, A. C. HORTON, I. W. BURTON, EDWARD T. BRANCH, HENRY SMITH, HUGH MCLEOD, THOMAS JEFFERSON CHAMBERS, SAM HOUSTON, R. A. IRION, DAVID G. BURNET, and JOHN BIRDSALL.*

*The Society was incorporated as a nonprofit, educational institution on January 18, 1936, by George Waverley Briggs, James Quayle Dealey, Herbert Pickens Gambrell, Samuel Wood Geiser, Lucius Mirabeau Lamar III, Umphrey Lee, Charles Shirley Potts, William Alexander Rhea, Ira Kendrick Stephens, and William Embrey Wrather. December 5, 1936, formal reorganization was completed.*

*The Office of the Society is located at 21306 Sid Richardson Hall, University of Texas at Austin, Austin, Texas 78712.*

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# The Philosophical Society of Texas

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ON NOVEMBER 30 AND DECEMBER 1 AND 2, 1990, MORE THAN 200 MEMBERS, spouses, and guests assembled in Houston for the Society's 153rd anniversary meeting. The Houstonian Hotel provided a handsome and comfortable setting for the meeting.

On Friday evening, members and guests attended a cocktail hour and dinner at the Houston Country Club. President Frank Wozencraft announced the election of 15 new members and presented certificates to the following: Mr. Lynn Ashby, The Honorable James A. Baker III, Dr. Ronald Keith Calgaard, Mr. George Christian, Mr. John House Duncan, Mr. Kenneth Ray Farabee, Ms. Lyda Hunt Hill, Mr. Richard J. V. Johnson, Mrs. Cyndi Taylor Krier, Dr. William Hodges Mobley, Mr. Dan Moody, Jr., Dr. Diana S. Natalicio, Dr. Mario E. Ramirez, Mrs. Ellen C. Temple, and Mrs. Isabel Brown Wilson.

Thirteen members died during the past year: Mr. C. Stanley Banks, Sr., Mr. George A. Butler, Mr. Marion Thomas Harrington, Mr. Gerald C. Mann, Mr. Malcolm McCorquodale, Mr. Truman O'Quinn, Mr. Woodrow Seals, Mr. John Ben Shepperd, Mr. Preston Shirley, Mr. Hyman Judah Schachtel, Dr. Joseph R. Smiley, Dr. Stephen H. Spurr, and Dr. Logan Wilson.

Saturday's program, "Texas and the Changing World," would have pleased the Society's founding members, who were particularly concerned with that topic as the fledgling Republic of Texas sought to make its way in among the nations. Outstanding speakers led invigorating and thought-provoking discussions throughout the day.

During the business meeting the following officers were elected: William C. Levin, President, William Seybold, first vice-president, Robert Krueger, second vice-president, and Ron Tyler, secretary.

The members enjoyed a reception at the Menil Collection before going to the Ramada Club for dinner and dancing. There the Society's retiring secretary, Dorman H. Winfrey, and his wife Ruth Carolyn, were honored for 15 years of service to the Society.

The new Sunday symposium, featuring Elspeth Rostow as moderator and Admiral B. R. Inman as speaker, attracted a large audience and gave the members an opportunity to discuss the ideas and questions that developed during the Saturday program.

The success of the Houston meeting was due in large part to the local arrangements committee headed by Paul Gervais Bell and Jake Hershey, Bill Guest, and Frank Smith.



## ATTENDANCE AT THE 1990 MEETING

Members registered included: Miss Duff, Hayes, Hill, Natalicio; Mesdames Brinkerhoff, Huey, Kempner, Knepper, Krier, Lancaster, Pape, Randel, Rhodes, Rostow, Temple, Wilson; Messrs Adkisson, Allbritton, Anderson, Ashby, Barrow, Bell, Bennett, Beto, Blanton, Boyd, Bryan, Butler, Calgaard, Carmack, Cavazos, Christian, Clark, Cook, Cooper, Crim, Crook, Doty, Dougherty, Doyle, A. Baker Duncan, Charles W. Duncan, Jr., John H. Duncan, Farabee, Fehrenbach, Fisher, Fleming, Galvin, Garrett, Gordon, Guest, Hall, Hargrove, Harrison, Harvin, Hershey, Hill, Hoffman, Holtzman, Hook, Howe, Inman, James, Jones, Jordan, Kelsey, Kempner, Dan Kilgore, William J. Kilgore, Kozmetsky, Krueger, Lawrence, LeMaistre, Levin, Lindsey, Locke, Lord, McGhee, Margrave, Mills, Mobley, Moody, Moseley, Newton, Herman P. Pressler, Jr., Paul Pressler, Edward Randall III, Risher Randall, Rupp, Seybold, Shilling, Shuffler, Frank C. Smith, Harlan J. Smith, Sparkman, Storey, Sutton, Topazio, Trotti, Tyler, Wainerdi, Walker, Weinberg, Wells, Whitcomb, Winfrey, Woodson, Wozencraft, Wright.

Guests included: Mrs. Perry L. Adkisson, Mary Margaret Albright, Mrs. Joe L. Allbritton, Mrs. Thomas D. Anderson, Mrs. Lynn Ashby, Mrs. Thomas D. Barrow, Mrs. Paul Gervais Bell, Mrs. Jack Blanton, Mrs. Howard Boyd, Bob Brinkerhoff, Mrs. J. P. Bryan, Mrs. Jack L. Butler, Mrs. Ronald Calgaard, Mrs. George Carmack, Dr. and Mrs. Ronald Carson, Mrs. George Christian, Mrs. C. W. W. Cook, Mrs. W. R. Crim, Mrs. William H. Crook, Mr. and Mrs. Bob Davis, Mrs. E. W. Doty, Mrs. J. Chrys Dougherty, Mrs. Gerry Doyle, Mrs. A. Baker Duncan, Mrs. Charles W. Duncan, Jr., Mrs. John H. Duncan, Claire Eyrich, Mrs. T. R. Fehrenbach, Mrs. Joe J. Fisher, Mrs. Durwood Fleming, Mrs. Charles O. Galvin, Mrs. Jenkins Garrett, Mrs. William Gordon, Mrs. William F. Guest, Mrs. James W. Hargrove, Mrs. William C. Harvin, Mrs. Jacob W. Hershey, Mrs. John Hill, Mr. Raymond Hill, Mrs. Philip G. Hoffman, Mrs. Wayne H. Holtzman, Mrs. Harold S. Hook, Mrs. John P. Howe III, Mrs. Bobby R. Inman, Mrs. Thomas N. James, Mrs. Bryce Jordan, Mrs. Mavis P. Kelsey, Mrs. Harris L. Kempner, Mrs. Dan Kilgore, Mrs. William J. Kilgore, Mrs. George Kozmetsky, Joseph R. Krier, Mrs. Robert Krueger, Olin Lancaster, Mrs. F. Lee Lawrence, Mrs. William C. Levin, Mrs. John P. Locke, Mrs. Grogan Lord, Robin McCorquodale, Dr. Elizabeth MacNaughton, Mrs. John L. Margrave, J. C. Martin, Mrs. William H. Mobley, Mrs. Dan Moody, Mrs. John D. Moseley, Mrs. Herman P. Pressler, Mrs. Edward Randall III, Mrs. Risher Randall, Alec Rhodes, Walt Rostow, Mrs. Eddy C. Scurlock, Mrs. William D. Seybold, Mrs. Dudley Sharp, Gloria Shatto, Mrs. Roy B.

Shilling, Mrs. Ralph H. Shuffler, Mrs. Frank C. Smith, Mrs. Harlan J. Smith, Mrs. Robert S. Sparkman, Mrs. Louise Spurgin, Mrs. Charles P. Storey, Dr. and Mrs. Potter Storey, Mrs. John F. Sutton, Toby Tabor, Buddy Temple, Mrs. Robert S. Trotti, Mrs. Ron Tyler, Mrs. R. E. Wainerdi, Mrs. Ruel C. Walker, Elizabeth Weinberg, Mrs. Steven Weinberg, Mrs. Peter Wells, Mrs. Gail Whitcomb, Will E. Wilson, Mrs. Benjamin N. Woodson, Helen S. Worden, Mrs. Frank M. Wozencraft, Mrs. James S. Wright.

Friday, November 30, 1990

## RECEPTION HONORING NEW MEMBERS

FRANK WOZENCRAFT, PRESIDING

WELCOME TO THE ANNUAL MEETING OF THE PHILOSOPHICAL SOCIETY OF TEXAS. I am Frank Wozencraft, president of the Society this year, and this is our 153rd anniversary. We have been at it since 1837. We can't say it is our 153rd meeting, because our forefathers missed a few between 1848 and 1936. But we've been at it ever since 1936. We have gathered every year since then to share good thinking and good company. We look forward to enjoying both this weekend.

To put our meeting in an appropriate perspective, I'd like to share with you a small rhyme about philosophers:

Philosophers who contemplate  
The whys may wait  
Till far too late  
To get around to When and How,  
While those who shout for action now  
May never get around to Why,  
Avoiding riddles till they die.  
But then the greatest riddle yet  
Engulfs us in its endless net.

At this meeting we will be discussing the second greatest riddle, our changing world. Again, we are asking How and Why. How has Texas evolved from the Republic to the Economic Summit? Why is the world exploding all around us? How will we deal with the new global challenge here in Texas? A formidable task. Fortunately, help has arrived. We have 15 new philosophers joining us this evening. Three are only here in spirit, but 12 are here in person. We would like each of you to come forward when your name is called to receive your certificate of membership in our exalted Society. Please remain on stage while the other members join you. Our Secretary, Dorman Winfrey, will now read the certificates to remind us all of our Society's purposes and will give each new member a copy of the History of the Society, which any of you who have not yet received your copy can get tomorrow at the meeting.

Philosophers, here is Mr. Dorman Winfrey, our longtime secretary, to read the certificates. Will the new members please come up here as their names are read in alphabetical order.



Dorman Winfrey: This certificate was designed by Herbert Gambrell back in 1936 when the Society was reborn, and it reads: "To all persons to whom these presents shall come, greeting. The Philosophical Society of Texas, for the collection and diffusion of knowledge (founded December 5, 1837; reorganized December 5, 1936), desirous of advancing the interest of the Society by associating to themselves persons of distinguished eminence, and of conferring marks of their new esteem upon persons of meritorious service, have elected (name of individual) a member of the Society." The certificate is signed by the president, the two vice presidents, and the secretary, with the official seal of the Philosophical Society of Texas.

Frank mentioned that, in addition to this certificate, we will present a copy of this book to each new member. I would like to mention that the woodcuts in this book of the early founders of the Society were done by one of our members, Gerry Doyle. Gerry, would you stand up please.

Frank Wozencraft: Thank you Dorman. Now that the new members know what they are getting themselves into, I would like to call on them to come up and receive their certificates:

Mr. Lynn Ashby, Houston  
 The Honorable James A. Baker III, Washington (absent)  
 Dr. Ronald Keith Calgaard, San Antonio  
 Mr. George Christian, Austin  
 Mr. John House Duncan, Houston  
 Mr. Kenneth Ray Farabee, Austin  
 Ms. Lyda Hunt Hill, Dallas  
 Mr. Richard J. V. Johnson, Houston  
 Mrs. Cyndi Taylor Krier, San Antonio  
 Dr. William Hodges Mobley, College Station  
 Mr. Dan Moody, Jr., Austin  
 Dr. Diana S. Natalicio, El Paso  
 Dr. Mario E. Ramirez, Rio Grande City (absent)  
 Mrs. Ellen C. Temple, Lufkin  
 Mrs. Isabel Brown Wilson, Houston (absent)

Here are our new members gathered with us, some real reinforcements.  
 Let's give them a hand.

I would also like to introduce our officers. You already know Dorman Winfrey, our secretary. Here is Dr. William C. Levin of Galveston, who is first vice-president and president-elect of the Society. Our second vice-president, who under our constitution will succeed Dr. Levin as president the following year, is Dr. William Seybold.

There is one more person I would like to introduce. As I indicated to you before, our good friend Jim Baker could not be with us. He has written a letter, which you will hear tomorrow morning when we introduce to you his representative who is with us this evening, Richard E. Hecklinger, the Assistant Secretary of State for Economic and Business Affairs. Mr. Hecklinger, would you please deliver the certificate of membership to Secretary Baker along with our welcome and our appreciation for everything he is doing for our country.

I would also like to introduce Mr. George McGee, who was president of this society in 1960, 30 years ago, who will address us tomorrow. Not only is he a distinguished Texan and a distinguished philosopher, but as you will hear tomorrow, he belongs to the world. I think that 30 years sets the all-time record, but those of you who intend to attend our meeting in 2020 can start writing your remarks right now. I am sure you will be called on, as George will be tomorrow.

We would also like to thank the local arrangements committee. Everything that we will be enjoying this weekend is thanks to their efforts. And to our Houston hosts, who have graciously supplemented our hospitality here tonight, and at the Menil Collection and the Ramada Club tomorrow night, let me extend our special appreciation. The hosts will remain anonymous, but I would like to introduce the chairman of our local arrangements committee, Paul Gervais Bell, our key man on all arrangements, who is also the new president of the Houston Country Club. Let me introduce the other members of the committee too: Jake Hershey, Bill Guest, and Frank Smith all deserve our special thanks. So do Sue Bell, Amy Guest, Ann Brinkerhoff, Fairfax Randall, and Everett Randall, who made arrangements for the Ramada Club tomorrow evening. And, last but certainly not least, my wife Shirley, without whom, I assure you, this simply would not have been possible. We are adjourned until tomorrow at 9:00 A.M.



## TEXAS AND THE CHANGING WORLD

FRANK M. WOZENCRAFT, PRESIDING

WE WANT TO WELCOME OUR FELLOW PHILOSOPHERS TO THE PHILOSOPHICAL Society's 1990 program. Yesterday evening we convened our annual meeting. We welcomed our new members to a weekend of good company and good thinking. Last evening we enjoyed good company; now it is time for good thinking.

Our subject today deserves good thinking: Texas and the Changing World. The morning is devoted to perspectives on how Texas grew from its early days as a Republic into the Economic Summit of last July, and the global economy that is seething around us. It has been a long journey from those early days when our Society admitted its first foreign member, the Ambassador of the United States. This afternoon we will focus on what Texas must do to compete successfully in the highly competitive global economy that is still taking shape. It won't be easy.

The genesis of this program lies in a recognition first that the Economic Summit would mark a milestone in the progress and significance of this state as well as the world relations that made it possible. It also lies in some visits last spring, lunch with Walt Rostow, supper with Frank Vandiver, and, finally, breakfast with George Kozmetsky and Bobby Inman. That last one was a real finale. By the time the two of them got rolling full speed, I just took notes as fast as I could. But I knew we had a program, and here it is.

As your moderator this morning, it is my pleasure to turn the session over to last year's president, Chrys Dougherty. Before I do so though, I want to assuage the fears of some of you that you can't know what is happening to the football game until lunch. Obviously, we have conflicts every year, but this one is particularly awkward because the philosophical aspects of the conflict in Austin today are clearly recognizable to all of us, and we hate to have a philosophical conflict on this day as well as just a normal schedule conflict. We hope we don't lose too many of you today. To be sure that you can keep track of the score, we have arrangements for a television set at the opposite end of the hall at the Press Club, which is close by this meeting—but we hope not too close. The fault, of course, lies with the Great God TV for moving this annual classic, the A&M/Texas game, from Thanksgiving where it really belongs to the date of our meeting. I wish they would just please return it to that day and then we wouldn't have this problem at all. Maybe the game will be over by our 2 P.M. program.

Now back to Mr. Dougherty. It was really a problem last year for me because, as some of you may remember, he drafted me to head his annual program on the Arts in Texas. He told me this was continuing a time-

honored tradition that the president-elect would take care of the program of the incoming president. It turned out that the tradition had indeed started one year before when he had chaired Cliff Caldwell's program on our public schools in Texas. That seemed fair enough at the time—at least I couldn't figure out any way to argue with it very successfully—and I did learn a lot about art in the process, so it was an interesting experience. But it didn't seem quite so fair when Bill Levin came up to me at the McNay Museum on our final evening banquet last year and said, "Frank, about this tradition, I have already planned my program for 1991. Do I have to do yours too?" So there went the tradition, and I have no qualms about putting Chrys to work. Here he is.

Panel I  
**FROM REPUBLIC TO HOUSTON SUMMIT:  
A HISTORICAL PERSPECTIVE**

J. CHRYS DOUGHERTY, MODERATOR

WELL, IT IS A PRIVILEGE TO BE BEFORE YOU AGAIN. FRANK DID SUCH A GOOD JOB last year, and he has done a good job this year. He is probably our only president that planned and executed two programs in order, and I think that that is a record that we will carry down in the future for some time to come. This morning I want to direct our attention to the program itself.

We have come in this first panel to the subject from the Republic to the Houston Summit. In looking down the road to the future, it is both wise, and I think helpful, to look back at the relevant events of our past. How we got here. So our first panel this morning looks back at the way we have come—the significant events that shape our economic existence here—and, of course, our panelists are eminently qualified to help us do that. I am going to introduce the panel all at once this morning, and each panel today, in order to simplify the time. We have provided you in your program a list of their accomplishments, and I would just like to emphasize one or two aspects in the case of each one of them.

After Lee Hogan finishes his presentation, the last part of the first panel, we are going to have a few minutes as is our custom for questions between the members of the panel and then we are going to ask for questions from the floor. I would like very much when you ask questions from the floor, if you take the trouble to go to the central microphone. The reason for that is these proceedings are recorded and are part of your permanent record of the Society, and therefore the questions are important and it saves time so the speaker doesn't have to try to repeat the questions. So plan to do that as we move forward.

Our first speaker this morning is Ted Fehrenbach. He doesn't need any introduction to most of you. He was born in San Benito. He graduated from Princeton. It tells you in the program that he has published ten nonfiction books, but it doesn't tell you that they are in ten different languages. You know he is chairman of the Texas Historical Commission and the Texas Antiquities Committee. It does not tell you what I think is important, that he received in 1990 the Ima Hogg Award for Historical Achievement, and it doesn't tell you that the Texas legislature has honored him three times for his historical work. Ted is going to talk to us on the Lone Star State and how we got here.

It is a particular pleasure this morning to have our past president George McGhee with us after a long absence. He has finally come home, and we are glad that he has done so. He was born in Waco. God smiled on Waco at that point. He went to Oklahoma University, got to be an engineer of sorts, and was a Rhodes scholar and a partner in DeGolyer/McNorton early on. He has been an independent oil man, but he has been an independent man of the world since then. He was, the program doesn't tell you, Undersecretary of State for Political Affairs, and he is now and apparently continues to be, in addition to having been the U.S. Ambassador to the Federal Republic of Germany, a member of the American Council on Germany, and Germany is bigger now than it was when he was Ambassador to the Federal Republic. You all know that he is an author of the *Dance of the Billions*, and he will talk to us in a moment on Texas in 1960. He talked to us in 1960 and brought us up to 1960. Now he has the duty of bringing Texas up to 1990. A simple matter that George can handle beautifully.

And finally we have in this first panel Lee Hogan, who was born in Houston and went to Georgia Tech, which is a school over there in Georgia somewhere that has a good football team and also has some academic qualifications. He went to the Harvard Business School, and God blessed him by doing that. He is president and CEO of the very interesting Greater Houston Partnerships, which is a combination of the Houston Economic Development Council and the Houston Chamber of Commerce and, as a very interesting development, he is the vice-president for External Affairs of Houston Lighting and Power. That doesn't tell you about the Universal Electric Company, which constructed high voltage lines, not only here but in the Andes. And he is responsible in many respects for getting George Bush, our member who is absent today for reasons that you will suspect, to bring the economic summit to Houston.

Now without more ado I am going to turn the program over to Ted Fehrenbach and let him take it from here. Ted, if you want to speak from there or here it doesn't make any difference, whichever is comfortable.

Ted Fehrenbach: I think it is probably better up here. It may not be as comfortable, but I feel more like I am in command of the situation.

## THE LONE STAR

T. R. FEHRENBACH

TO TRY TO GIVE AN ECONOMIC SUMMARY OF TEXAS FROM THE REPUBLIC TO 1960 may be abusing the leisure of the theory class, but I hope to point out some patterns and a few formative happenings:

Texas history is not a series of unrelated events.

Nor does Texas history revolve solely around wars, battles, and heroic stands or conquests.

The real history of Texas is the story of men and women choosing this land, working upon it generation after generation to make it bloom.

Texas was never a country "flowing with milk and honey," however beautiful it may seem to some of us. It was and is a harsh, stubborn land of heat, frosts, bugs, too little or too much water, and much of that bad. It is and was a land that must be approached with courage, battled with ingenuity and tenacity, and made to bear fruit by human effort. Progress has never been a succession of unbroken triumphs—but there is a clear pattern. Times change, people change, things change, but what has been unchanging in Texas is a pragmatic ability to see and seize, both to use what is provided by Providence and to create what is necessary to exploit it.

Texas is comparable to the land masses of Argentina and Peru. In many ways they have equal resources and area, but which, due to populist or non-pragmatic mindsets, they fail to exploit.

It is the continuity of the Texas present with the past, throughout all change, that we often overlook. What is done by one generation may not bring immediate reward or gratification, but this lays the groundwork for future triumphs by the next.

The things I describe this morning may not seem to be the most dramatic out of our past, nor the ones evoking the most popular images. But these are some of the things that, taken all together, have formed the warp and woof of Texas and made the land and people what they are today—and to a great extent, what they will be tomorrow.

The first economic happening in Texas history was the coming of Spanish cattle. Economics, as we think of it, is a European concept. The native Americans, who were few in number in Texas and did not occupy all of the land, lived on and from the land, but they did not "earn a living" from it in the sense of *homo economicus*, our later tribesmen.

Spanish soldiers crossed and named Texas rivers; friars came to convert the Indians; both made romantic legends and myths. But Spain seeded a permanent presence in Texas, with the movement of Mexican cattle and the



Mexican cattle culture north of the Rio Grande. In the eighteenth century great ranches spilled over the border river reaching up to the Nueces or took form around San Antonio. With these cattle arrived a hardy people, ranchers and *vaqueros* or cowmen, with a horse-and-cattle-raising culture already long formed in Mexico, with its semi-feudal relationships and loyalties, its techniques, its costumes, and even its own jargon with words we all recognize: corral, arroyo, loco, bronco, lasso, pinto, adobe, la riata, and rancho. Those are English words we no longer even bother to italicize.

Cattle and people were suited to the land. Cattle and horses were lean, rangy, ugly, and incredibly tough. The people were brave, gregarious, great horsemen, with enduring, mystical loyalties to race, religion, bosses, and brand.

The next great event economically was the Anglo-American colonization, which brought the Southern cotton-plantation culture to those parts of Texas east of the Colorado River. Spanish Mexicans had never settled more than 4,000 people in all of Texas in their 300 years of tenuous rule. The Anglo-American invasion occupied this within ten years.

Stephen F. Austin chose his future heartland with skill. The country between the Brazos and Colorado, bottom-lands, were outside Comanche and Apache ranges and perfectly suited for the cotton-raising-and-exporting economy of the antebellum South. The land, as Austin wrote, was "as good in every respect as man could wish for, land first rate, plenty of timber, fine water—beautifully rolling."

The Anglo people entered what was virgin territory unmarked by plow or axe. They came for one reason: opportunity expressed in land. This was the first original Texas land rush. Originally they had no social or political agenda (except to be left alone), though as Austin said, they wanted to "redeem Texas from the wilderness by means of plow alone, to spread over it North American population, enterprise, and intelligence."

This was the great American dream of the nineteenth century, and its very nature made conflict with both Amerindians and Mexicans inevitable, changing the borders and balance of the continent.

From 1824 well into the twentieth century, the overwhelming majority of Texans earned their living directly from the soil. As late as 1915 more than half of all Texans, white, black, or Hispanic, were still tenant farmers. Cotton early on was the sole cash crop. It was sold abroad, either in the United States or Europe, for hard money or credits, neither of which existed for long years in Texas. Other crops, corn, beans, squash, the things Indians originally planted, were raised for food, and we must remember that for many decades many Texan families were subsistence farmers—that is, they made little or no actual money from their efforts.

Now to put this in world terms, this was truly a colonial "developing" economy, dependent upon a distant civilization for its artifacts and most goods, dependent upon the export of crops or raw materials for payment.

The next great event was the blending of Mexican cattle culture and Anglo enterprise in the trail drives, the movement of Texan cattle both to northern urban markets and western ranges. Through 1865 Texas was an extension of the Southern Cotton Kingdom, except for small enclaves along the border river and far west.

New markets, population growth in the North, rails, and bankrupt men looking for the main chance created new opportunity—then the longhorn Spanish steer achieved his destiny. There were about four million head running half-wild in the Nueces basin in 1865. In 15 years Texans drove 15 million north, while the herds in Texas actually increased due to breeding. Here was the Cattle Kingdom, as ephemeral in time and as lasting in myth as the Cotton Kingdom in Texas, but it was the beginning of a new business, and a new frontier.

You might say that the history of Texas is a succession of physical, geographic, or economic frontiers, each needing to be met and mastered.

From 1876-1900 we entered the era of Wire, Windmills, and Water, or how the West was really won.

Cotton, not cattle, was still king in Texas (and would remain so well into the next century), but cotton and corn had reached their natural limits along the 98th meridian.

The lands west of the 98th meridian lacked timber, water, and most of the resources Europe-derived settlers took for granted. East Texas was conquered with then-existing technology. West Texas demanded new ones. Texans now were the vanguard of a new, continental industrial empire reaching toward the Pacific. The horse had never figured largely in British America, but Texans now became horsemen. The Colt's revolver was invented by a Connecticut Yankee and first forged in New Jersey, but Texans found the first use for it. Texans devised neither barbed wire nor windmills, but they recognized their value in a land without natural boundaries or fencing materials and where men had to manufacture water.

Wire, windmills, and water drew rails and civilization to the prairie, because civilization as we know it must have markets.

Within a generation Texas went from open range to a land of big pastures, which it still is to a great extent today.

In 1901 some non-Texans discovered petroleum at Spindletop near Beaumont.

You all know the story of Spindletop, symbolic of the start of a new era. Here 17,420,000 barrels of oil were produced in 1902 and here Gulf and Texaco were spawned out of black muck, and it was time. Cattle, like cotton,

had reached its final frontier; thus Spindletop was more than a mere strike and did more than spew new millionaires across the land—it was the beginning of the modern petroleum industry. Petroleum did what cotton, corn, and cattle could never do: it fostered the growth of cities and *metropolises* and hordes of attendant industries; it soon surpassed the value of agriculture and moved the people from the soil, in a process that was fully accelerated by 1960.

Then, another event of state importance occurred; the citizens of Houston got together and realized a long-held dream, an opening to the sea. Texas had never been favored with natural ports or harbors; bars block the mouths of all Texas rivers. Harbors in East Texas, like water in West Texas, had to be man-made. The dredging of the Houston Ship Channel in 1914 was a vast milestone for a region that lived by exporting agricultural and mineral products; this joined Texas to the world.

The Houston Plan in fact blazed the way for every new seaport in America after 1914; its essentials have always been followed since. These include cooperation between local and federal governments, cost sharing, and publicly owned waterfronts. In 1910 Houston sought a port mainly to ship cotton. But now the port was in place for the vast petroleum find in East Texas in 1931, which transformed the Port of Houston into one of the great seaports of the world.

This again was a frontier, seen and mastered by whatever means it took. Here again, a foundation was laid for future years. Houston still ships cotton, grain, and beef, and it still ships oil—but also megatons of other goods and products not even in existence when the channel was dug.

I might discuss another frontier, but it lies outside my scope, which is supposed to end at 1960. This is the Johnson Manned Space Center, which may open Texas to the universe.

Finally, the way we live in Texas has always been affected if not entirely shaped by entrepreneurs. In one sense the whole history of Texas has been one big, long promotion. Austin was the first Texas promoter and entrepreneur. He pushed the idea of people moving here from other states. He dreamed of making something where nothing had been before, and he brought it off.

Friends, the drives and values that make some men or women entrepreneurs go hand in hand with the advance of human frontiers.

Entrepreneurs make things; more important, they make things happen, whether the state of Texas or some glueworks in the boondocks. Our warriors and political hacks and heroes make more impress on our minds, but Texas businessmen, planters, cattlemen, railroaders, oil men, or data-processing tycoons have done more to hold the society together and make

the cities hum. Taking nothing away from Davy Crockett, Bowie, Travis, Garner, Rayburn, or LBJ, I think none of them ever created a private payroll, founded a bank, or laid out a subdivision.

We have been, from 1824 to 1960, one of the larger entrepreneurial pools of the nation. Such people have molded our frontiers, from Gail Borden and Charles Stillman (who completed their empires elsewhere) to King and Kennedy, the Chisholms and Waggoners who pushed their luck in Comanche Country to, as we came to the sixties, men such as Young, Ling, Hughes, Thornton, Murchison, and Perot. These were all products of the frontier ethic; all grasped the essentials of action; all dreamed huge dreams and erected empires, stand or fall.

Entrepreneurs also often overplay their hands. Texas history is history of boom and bust—land booms, rail booms, real estate booms, oil booms, all with recurrent busts. But again a pattern is clear. Busts take down empire-builders, but in some manner the empires themselves tend to survive. Texas itself is the greatest living example.

The game has always depended on the time and place. When cotton was king, Texans made the Cotton Kingdom. When cattle was king, they carved out the Old West. When the game switched to oil, Texans showed the whole world how it was played.

In our history, one bewildering fact is that the games change faster than either people or institutions. For example, in the first six decades of this century our great cities sprang from nowhere—all are twentieth-century creations—while state government changed barely at all. Texas has enjoyed economic life and death on the prairie, boom and bust, growth and no-growth, within a remarkably stable constitutional framework. Our state constitution like the federal, however tattered by amendment, is one of the oldest on earth. Some may see this as non-progressive. Looking at other lands and peoples who try new governments and governmental ideas almost with the change of seasons, I believe there are many sorts of progress we've done well to avoid.

A less prideful fact of our history, however, is that the hurly-burly of Texas, the dominance of frontiers and the need to master a stubborn land, has not fostered a Texan life of the mind. We have our storytellers, true, and our great song-spinners, but we breed and nurture few genuine intellectuals. This may be an effect of history. People who went into the wilderness and tried to live by theory were usually got by Indians. In 1960 we were still importing most of our highly skilled technicians, except in the petroleum and lawyering industries.

Let me leave you with three main concepts or pictures of our economic past. The first is one of successive frontiers, both business and geographical. We have attacked harsh frontiers and made them bloom through boom-and-

bust by courage, tenacity, and eagerness to use technological if not sociological or political advances. When one game plays out, we make or find another. Texans are not constitutionally equipped to sit and stew or contemplate their navels.

The second is the fact that we lived, at least to 1960 (and actually, far beyond) in a colonial-type economy, that is, we grew, extracted, processed, and shipped agrarian or mineral products to which others (Japan comes to mind today) added the value. Thus we always lived at the mercy of commodity markets and prices set in other men's worlds.

The land was the direct source of most of our wealth, be it cotton, cattle, or petroleum. Japanese real estate is pricey because Japanese live and make things upon it; Texas land is mostly valued because of what we can raise on or extract from it. Property therefore logically has been our most respected basis for status, even as wealth based on property made for disparities of income. A little-noted anecdote tells all: In Houston, Dallas, and San Antonio conflicts have arisen between symphony patrons and talented musical directors, when in each city matrons demanded that world-renowned conductors entertain at their teas and were bewildered when such "hired hands" were offended.

Nothing like an industrial society existed in Texas in 1960. The only true enclaves of such, with large corporate enterprises, great numbers of employees, heavily unionized, in single industries directed by non-owning management were around Baytown or Arlington. This often made it hard for Yankee politicians to understand us.

The third is this: Texans have been adaptive, certainly more adaptive than the other peoples who were first on this land, in seizing and expanding on its opportunities. Modern Texas could not have been built by anything but a pragmatic, highly adaptive population, with a will to see and seize, to change habits, tools, and traditional occupations as necessity dictated and opportunity offered. Otherwise, we would still grow cotton east of the Colorado; today, the cotton center, due to newer technology, is in Lubbock County. Dallas would never have raised itself from the prairie by its own bootstraps. Houston would still swelter 50 miles from the sea. We'd have blown away on the Texas wind.

Whatever the future holds, I think we're here to stay, while we continue to change our lives and life-styles. I doubt if a Texan will invent the better mousetrap when one is made—but I wouldn't bet that a Texan won't be the one who buys the company that makes it.

## TEXANS IN 1960 AND TODAY

GEORGE C. MCGHEE

I WAS GREATLY HONORED, AFTER AN ABSENCE FROM TEXAS FOR MANY YEARS, TO be asked by our president to address you at this annual meeting. Frank Wozencraft is an old friend from Dallas, where his family has for many years been one of our most distinguished. Both he and the Society are honored that he is serving this year as our president.

I value greatly my Texas heritage, having been born in Waco at its very center, where my father was a banker and served on the board of Baylor University, before proceeding to Dallas for greater opportunities. I came from ancestors on both sides who, like many of your forebears, made the long trek from Virginia, through the Carolinas and Georgia in covered wagons to East Texas.

Our subject in the Society's meeting in 1960 was "Texas Today and Tomorrow," close to our topic today. St. John Garwood spoke on "The Heritage and Goals of Texas," citing "our best and truest Texas heritage in the field of the spirit" as "that of historic valor"—"the valor to think more boldly," "to look new problems in the face for what they are and for what they may demand of us."

Allan Shivers, speaking on "The Wealth of Texas," pointed out the wealth of a few Texans which contrasted with the lack of an adequate income by the masses. Government expenditures will inevitably rise, Shivers said, doing more and more for the people. He pointed out, however, that unnecessary public spending and dangerous fiscal policies are "crimes against the public trust and private citizens."

Harry Ransom, speaking on "Educational Resources in Texas," urged Texans to "calculate the real wealth of its future educational resources." These included a standard of thinking, the new economics of ideas, the immaterial as well as the material products of research, both physical and spiritual wealth, and power generated by a "critical mass" of ideas.

E. B. Germany, whose subject was "The Economy of Texas," pointed out that the wealth of Texas resources and human wealth available for the financing of organizations for industrial growth in electronics, chemicals, and fabricated metal products must come from industry, as agriculture and oil level out. This requires the creation of a business climate and solution of critical tax and labor-management problems.

In my own foreword to a thin volume publishing the results of our meeting, I summarized as follows:

It is a good thing occasionally for a state, as it is for an individual, to take stock of itself—to assess objectively where it is going. . .

Whereas other states endure depressions and reflect the varying vicissitudes of local, national, and international circumstances, Texas and Texans appear to progress serenely along a well-charted path toward their own unique destiny. . . . And yet, Texas is not without its problems, as is indicated by the current difficulties in balancing the state budget; nor without its shortcomings, as indicated by the relatively low rate of per capita expenditure, compared with other states, for state health, education, and welfare programs. Texas is, moreover, changing.

Newcomers transplanted from the East have taken over entire segments of our larger cities, where they create little replicas of their gray-flannel eastern origins, finding much in common with the Texans who have adopted gray flannels. Texas students study in the East and in Europe. Many do not return, and those who do are considerably changed.

Income from Texas oil, which has long since passed agriculture as the principal source of income in the state, falters in its steady rise and gives the appearance of at best leveling off for the indefinite future. The movement of people from the country and the small towns to the large cities continues apace, with the usual pressure on schools and streets and other community facilities.

Texas and Texans have made brilliant accomplishments in recent years. New oil fields have been discovered, new industries created; new universities, art galleries, and hospitals have been founded. Beautiful residential sections reflect the new wealth of the bulging upper middle class.

On the other hand, there are areas of the state that have not joined in this progress. There exist slums in Texas cities and primitive ways of life in the backwoods as depressing as any in the country.

What is the balanced concept of the present and future role of Texas and Texans? What is myth in the Texas image, and what is reality? Wherein do our heritage from the past and our goals for the future differ from those of others? Where will these goals take us?

Will the newly emerging chemical industry of the Gulf Coast area and the electronic and aviation industries of the Dallas-Fort Worth area carry the economy of the state beyond the point where agriculture and oil have taken us? If so, how will the new wealth of Texans be used to meet the basic social needs of the state and give more richness and meaning to the leisure time and cultural expression of its people?

Will the image of the cowboy in boots and spurs be merged with

that of the electronic salesman shuttling back and forth between Dallas and New York? Will traditional Texan individuality and bigness be absorbed by the increasing integration of the people into the economy of the nation? Will Texas's splendid isolation be whittled away with the shrinking of distances by modern jet transport?

Will the regionalism of Texas, which has up to now marked it as a great empire of its own, survive to make possible a new and unique contribution by Texans toward the nation? If so, what form will this contribution take? Having chafed under the influence of Wall Street for so long, will Texas seek to beat Wall Street at its own game? Or will there emerge some new synthesis of the rugged vitality of the Texas past—with an unfettered creativity for its future?

I will now shift back to the present.

Texas has its own unique problems and patterns of change, resulting from its unique history, its bigness, and its generous endowment of three natural resources: petroleum, timber, and fertile rain-fed land. It is, however, also inexorably affected by changes taking place in the U.S. as a whole, and worldwide, of which the following are, I believe, the most important.

For the first time in 40 years, Texas no longer faces a threat of global or nuclear war, which in 1960 was very real. The recent Iraqi aggression against Kuwait will require sacrifices on our part, but 19,000,000 isolated, limited Iraqis offer no threat comparable to those made by the Germans, Japanese, and Soviets. This should increasingly enable us to reduce military expenditures and, with help from our Western allies and a Soviet government we can cooperate with, make progress in reducing other world tensions. This offers Texans the opportunity, for the first time in a long time, to concentrate on their own problems, without the overhanging threat of international crisis. Texas will, however, as a result, suffer decreased federal defense expenditures, which have in the past contributed more to the Texas economy than to most other states.

The U.S. position in the world has been drastically reduced between 1960 and 1990 by the great diffusion in wealth and power in the world. In 1975 U.S. security exchanges listed 61% of the world's total of such assets. By 1988 this had been reduced to 31%, with Japan's 42%. The U.S. has changed from the greatest lender to the greatest debtor nation. This is not necessarily in itself a cause for regret, in that it represents a great success in helping restore the nations devastated by the world war and progress among the developing nations.



The U.S. was in 1960 going through a minor recession comparable to the mild "supply shock" we are going through now, neither as severe as the real recessions of 1970, 1975, and 1982. Texas had in 1960 a population of 9,300,000, as contrasted with almost 20,000,000 today. Average income was \$2,000 per person. The income of the state from manufacturing was only 60% of the national average.

Production in 1960 from farming in Texas was an important factor, coming principally from cotton, wheat, rice, corn, fruits, vegetables, and grain sorghums. Farm workers aggregated 750,000. Texas was first in the country in the production of cotton, beef cattle, sheep, and Angora goats. Texas farm income from crops has, however, fallen in recent years, from \$3.814 billion in 1985 to \$3.027 billion in 1987. Income from livestock, however, during the same period, rose from \$5.440 billion to \$6.059 billion. Texas average farm values per acre increased a modest \$10.6 from 1980-1987, while land values in most states were declining. Texas agriculture is still in the running.

Texas had in 1960 an income from mining oil, gas, sulphur, stone, and salt that was four times the national average. Texas at one time produced one-quarter of world oil. National oil production peaked in 1970, with Texas following in 1972 with a high of 3,500,000 barrels per day. Except for a brief interruption in the 1980s it has fallen ever since. By 1976 only one in six Texas wildcat wells found oil, and only one in 55 would be really profitable, that is, produce 1,000,000 or more barrels. Seismic crews, a ready index of the oil exploratory effort, totalled 390 in 1960, down from a peak in 1952 of 660. The corresponding figure today is 130.

Now let's have a brief look at the national scene. Although total receipts of the federal government as a percentage of GNP increased only from 18.3% in 1960 to 19% in 1988, total federal outlays rose from 18.2 to 22.3%. This created a serious financing problem which led to unprecedented increases during the 1980s in the federal debt. The distribution of federal outlays, moreover, also changed drastically, defense outlays increasing from 23% to 28%, while funds for human resources expenditures declined from 28% to 21%.

Deregulation of industry started in the Carter administration in 1977 with the airlines, expanding and continuing into the Reagan era to include trucking, railroads, interest rates, buses, oil, and certain utilities. This was an era of *laissez-faire* in which the market was the dominant factor and the creditor class was favored. Texas, to a considerable extent as a result, would in the 1980s go through a series of booms and busts.

Oil received the first of the sledgehammer blows that would hit Texas, particularly Houston, in 1985. The impetus given to the oil industry by the high prices forced by OPEC after the 1973 Arab oil embargo carried the

profitability of oil to new heights. With oil at \$34 a barrel, the seismic crew count rose to an all-time high of 690 and drilling was at record levels. Ample capital was available for wildcat wells. Fortunes were being made overnight. Inflation rose from 4.8% in 1976 to 13.3% in 1980.

The big blow that hit oil came unexpectedly in 1985 when oil prices, which had risen much too rapidly in the light of a world surplus OPEC could not control, fell within a few weeks from \$34 to \$13 a barrel. Employment in the Texas oil industry fell from 4.5 million to 3.5 million. Migration to Houston peaked at 107,000 in 1978, and in 1984 Houston, for the first time, lost in population. Unemployment stood at 8%, above the national average. Sixty percent of drilling rigs were scrapped or stocked. Seismic field parties were cut 50%. Texas production has continued to drop, in 1990, at a 3% yearly rate, when it stood at 1,850 million barrels a day, 50% below 1976.

The major oil companies withstood it, although only with large layoffs contributing to massive unemployment. Most small companies and independents, however, could no longer operate their existing oil fields at a profit and had no funds or incentive to drill exploratory wells. With little hope for a price increase in sight, most just "closed down" for the duration.

The banks, caught up in the enthusiasm of the boom of high prices, lent money against drilling rigs, which would later become idle, and oil reserves at inflated prices. Eugene McElvaney of Dallas's First National Bank, who invented the bank production loan, would have been staggered to see loans based on assumed increases in future oil prices up to 100%. Reputable appraisal firms like DeGolyer and MacNaughton projected future income only at a flat price. Both the banks and their oil-producing borrowers were to pay a heavy penalty for ignoring what they had learned on their way up about oil financing.

Americans have always considered their homes their best family investment and hedge against inflation, which led to active building in the late 1970s spurred on by the "baby boomers." The home real estate bust, which is now nationwide, started in Texas and other oil states in the mid-1980s. Houston had the highest vacancy rates in office space and apartments in the country. The real estate decline spread into 26 major metropolitan areas and arrived in New England, New York, and Washington, D.C., in 1989 with price cuts up to 30%.

From 1987-1988 Houston still had a decline in value of homes of 9.6%, San Antonio 8.1%, and Dallas 2%. Experts do not expect housing prices to improve greatly in the foreseeable future. This is an advantage to Texans seeking new homes and an enticement to outsiders to immigrate to Texas, but a great disappointment to Texans who have lost value in their most important asset. The national 1980s building boom also resulted in so much

new office space that vacancy rates have quadrupled since 1983. Dallas had a 26% office vacancy in June of 1990, compared to 7% in 1980, and Houston had 23% compared to 4% in the same time frame. Analysts say that the commercial building recession, which is now national, could last another five years.

Declining property values were also the major cause of the wave of Savings and Loan failures in the 1980s and the damage to and failure of many banks, which were conspicuously centered in Texas. Unfortunately, Texans' tendency toward bigness was exhibited to the whole nation by press stories of the biggest losses, most conspicuous illegal personal expenditures by officials, and massive thefts which have led to scores of convictions. Only last week the former owner of a now defunct Burkburnett Savings and Loan was sentenced to 13 years in jail for stealing \$8 million. Congress and the administration created the opportunity for crime but unfortunately Texans, along with others all across America, yielded to temptation.

The forced sale of its two leading banks to a North Carolina bank, NNCB Corporation of Charlotte, was a major blow to Dallas. The First National Bank and the Republic National Bank had been largely responsible for Dallas' phenomenal growth in the early years of the city. One wonders how they could have strayed so far from the sound lending policies of Nathan Adams and Karl Hoblitzelle, who founded them. Dallas, in addition to its own losses, is the base for worldwide real estate ownership firms, many of which have also suffered. Trammell Crow, who became the largest private owner of real estate in America, stuck to the sound principles on which his real estate empire is based and has survived.

Texas has, moreover, been adversely affected by recent internal shifts in the American economy. As Kevin Phillips has pointed out in his recent book, there has been a rapid rise of "service" industries concentrated on the Atlantic and Pacific seaboard, in comparison with manufacturing, oil, and mining industries in the center. The Bicoastal Areas, from 1981-1983, enjoyed annual economic growth rates of 4.0% compared to 1.4% for all other areas including Texas. Business failures in the first half of 1986 were 53% greater than in 1985 in Texas, Louisiana, and Arkansas, compared with 2.6% on the West Coast, 2.8% in the East North Central States, and 5.3% in the South Atlantic States. Unemployment in the Heartland Area was also 20% greater than the national average. Recently, however, there has been a small shift away from the service industries, which are experiencing their own recession, which would give Texas a boost.

What does the rest of our country think about the future of Texas? In its October 27, 1989, issue *Fortune* magazine included Dallas and Austin among the ten cities of America out of 50 surveyed which were best for

business. Austin was chosen because of its high growth rate, better schools, and low labor costs. More of its citizens have college degrees than all except two of the top cities in America, largely as a result of The University of Texas which is considered a premier university. The Dallas-Fort Worth metroplex, now with almost a four million population, attracted 66,000 newcomers last year because of attractive suburbs with affordable homes, low taxes, and the beginning of economic recovery.

San Antonio had low living costs and cheap labor with the highest unemployment of the 50 cities surveyed. Its low percentage of skilled workers reflected an inadequate school system. Houston was given credit for a continuing recovery, high wages, and low housing costs, with the possibility that a labor shortage will succeed the present above-average employment. Despite the problems cited the general tenor for these evaluations of leading Texas cities shows a clear upbeat, with recovery fueled by the attraction of available reasonably priced labor and low prices for homes and office space, which are leftover from Texas' recession during the 1980s.

In closing what can I, as your earliest living president, say by way of a bottom line about where Texas stands in 1990? Texas, it is clear, still has something distinctive worth preserving. This is not just the Texas boots and hat and bravado. It is basically something of spirit, free and unconfined, along with the pride and self-confidence that results from living in such a vast rich land while space was closing in on the rest of the world. Texas was too far from the focus of American intellectual and cultural life on the eastern seaboard—too far from London or Paris or Madrid, for them to enforce their discipline. A vacuum such as Texas was there for the taking, on the terms of those who had the vision and guts to fill it.

Sandy Sheehy, in a book she calls *Texas Big Rich*, recently provided an insight into a few score individuals and families who had attained the pinnacles of financial success, many in the billions. In many cases they had achieved notoriety through extravagance or "going broke," or bizarre personal lives. Many were cited as being tasteless, even vulgar, licentious, and parsimonious in sharing their wealth with worthy causes. The fact that they were Texans and operated on a big scale served to amplify both their achievements and failures.

This did not, however, apply to many of the real leaders of Texas among the group cited by Sheehy, and others not included, who have led exemplary business and personal lives. I cite, as examples, most of our Society's founding fathers: our many strong governors like Jim Hogg from Houston; Sid Richardson, leading oil producer of Fort Worth; Will Clayton, leading

cotton merchant, and Jesse Jones, banker, from Houston, both of whom played leading roles in wartime Washington; and Eric Jonsson and Ross Perot of Dallas, who founded great electronics corporations.

Texas may not at this time provide the great economic opportunities which in 1960 offered powerful incentives to outsiders to come here to seek their fortune. When not only immigration to Houston but also population fell for the first time in the 1980s, it meant that an equilibrium had been reached between a leading Texas city and the rest of the world. Modest subsequent immigration into Texas has been compensated for by the exodus of those who saw greater opportunities elsewhere. Silicon Valley captured, at least for the time, the leadership in the electronic industry at the expense of Texas Instruments. Texans are probably not unhappy that Texas has not had the high levels of Japanese investment that California and New York have experienced during the 1980s, even though it would have aided its recovery. But as all economic activity becomes more and more international, and the national origin of capital and markets and ownership becomes less relevant, it is not so important what economic activity in Texas is Texan—and what is not.

One factor which does, however, remain very important is Texas employment, which means everything to the individuals concerned, who are not free to move about the world. Texan management and labor must compete in the world market, which is basically a matter of education and training. The recent interest taken by Texas business leaders in improvement in Texas education should prove very valuable. It must, however, include broadly based education including humanism and the arts, as well as at the professional and trade levels.

Texas has, along with the rest of our country, suffered severe losses during the 1980s. But this has not been all bad. Have you heard the Texas A&M story about the news flash from College Station?: "A&M hit by big tornado. Improvement set at \$5,000,000." Texas has experienced a severe decline in the oil income. Texas has suffered drastic losses in the value of business and residential property and farm and ranch land. But if it has learned from these losses how to avoid them in the future, they will have resulted in valuable "improvements."

A Texan must still think big and seek big achievements, but not just out of greed to be the richest, to own the biggest ranch, or swing the fanciest party at the country club. He must avoid the temptation to take shortcuts that would not pass public scrutiny. He must think straight and act straight. His integrity is his greatest asset.

Thank you very much.

## THE ECONOMIC SUMMIT: HOSTING THE WORLD IN HOUSTON

LEE W. HOGAN

CHRY, THANK YOU VERY MUCH. I AM HONORED TO ADDRESS A GROUP WITH SUCH a storied history in Texas and with a membership composed of so many current distinguished Texans.

Dreams, individual and collective dreams, are the focus of my remarks today. That choice may seem incongruous with my announced topic of the Economic Summit, but I would submit that in this city, at this time, the two subjects are not only congruent, but extraordinarily interdependent.

Because I know so many of you so well, it is perhaps superfluous to restate the affinity I have for speaking.

That interest had led me to speculate on the greatest speech delivered in my lifetime. None is more often quoted than John Kennedy's inaugural address of 1961. None was more dramatic than President Johnson's announcement in 1968 that he would not seek reelection. But, I believe no single address has ever been more effective, more captivating and more enduring than Dr. Martin Luther King's "I Have a Dream" speech delivered on the steps of the Lincoln Memorial on August 28, 1963.

Why was that speech so compelling? Perhaps because of the oratorical skills of Dr. King—his legendary animated style and resonating voice were certainly potent assets throughout his life. Perhaps because of the receptivity of the audience—two centuries of repression creates an unquenchable thirst for leadership, direction, and deliverance.

But I am inclined to believe that the real secret to Dr. King's success was his message—"I have a dream." That message did what every great speech, novel, or poem must do—it translated an emotion into words. It expressed, in simple, concise terms, a need shared by us all. The capacity to produce, nurture, and pursue our dreams seems, in fact, to be an ingredient of human nature that is essential to our physical well being. Arthur Miller said it better in the epilogue to his classic *Death of a Salesman*, when Willie Loman observed, "A salesman is got to dream, boy. It goes with the territory." In that sense, we are all salesmen in our own way.

I, too, have a dream. It concerns the impact of the Economic Summit on Houston. I hope that by sharing that dream with you, I can also provide some insight into the background, operation, and significance of the 16th Annual Economic Summit of the Seven Western Industrialized Nations.

My dream visualizes the Summit metaphorically as a lens—a telescope or a microscope—through which the world viewed our city. Unlike optical instruments familiar to us, the power of this lens emanates from the breadth

of its users: the 2,000 delegates and staff attending, the 3,500 media covering the event, an observing world, and ourselves. All of these used the Summit, knowingly or otherwise, to see Houston more clearly. That metaphorical lens constructed a visual intimacy with our city so powerful that it destroyed, once and for all, the ignorance and myths that have so long and so unfairly defined our image.

The capacity of the Summit to reveal the true nature of our city was further enhanced by the conspicuous parallels that exist between the event and Houston's history, character, and resources. Illustrations of those parallels can be found in three areas: the Summit's decision that led to selection of Houston, the Summit's agenda, and the Summit's proposed official functions.

That revealing process began on Friday, December 1, 1989, exactly one year ago today, when President Bush announced his selection of Houston as the site of the 1990 Economic Summit. The choice alone, because it is the window through which the president has chosen to show our nation to his peers, said a great deal about our city. But exposure before and during the Summit also illuminated the process that produced that choice. More than 100 Houstonians worked under the direction of the Greater Houston Partnership to address every requirement of the White House site investigation staff. Their efforts produced a preliminary proposal delivered to the president in August and a more detailed response transmitted in November defining every advantage, from venues to hospitality, that Houston would provide to the Summit. A significant part of that effort involved many of you making direct contacts with the seven key decision makers—Bush, Sununu, Rogich, Scowcroft, Baker, Brady, and Mosbacher. That consistent and orchestrated message, emphasizing the community's strong and unified desire to host the Summit, was what ultimately convinced the president to select Houston. As that story is told, the world will come to understand that the team concept which produced the Summit decision is the same one perfected in the previous campaigns to build the Wortham, support Compaq's expansion, and add 165,000 jobs in our city over the past three years.

The second optical opportunity, the Summit's agenda, was developed by representatives from each of the participating nations. These representatives are called "sherpas," a term derived from the Himalayan guides who assist mountaineers in their quest for the summit. The agendas were conducted in four plenary sessions between Monday and Wednesday noon. Participation varied from chiefs of state to full delegations, including foreign and finance ministers. It was an agenda that afforded Houston the opportunity to direct the Summit lens onto five parallels: contrasts, similarities, ironies, challenges, and leadership.

1. The contrast of the industrialized nations of the world struggling with the complexities of trade deficits, LDC debt, and exchange ratios in a city that has so recently overcome the greatest economic challenge in its history by developing a diversified economy based increasingly on aerospace, biomedicine, and computers.

2. The similarity between the painful remedies that Summit participants had to consider such as devaluations, deficit reductions, and debt limitations and the pain endured by our city over the past decade. Pain that has included the dismantling of institutions that for generations have stood as symbols of our community, the economic devastation of individuals and families that had dedicated their lives to the betterment of our city, and, yes, even the postponement of dreams that had driven Houston to become the most dynamic city in America over the preceding two decades. If the message of the Summit is that an admission price must be paid to participate in a healthy global economy in the 1990s, let the world know that we've already bought our ticket.

3. The irony of the secret plenary sessions revealing one of our best-kept secrets: Rice University—the quintessential example among private American universities of academic excellence, esthetic beauty, and the successful integration of town and gown.

4. The challenges that remained to face the world at the conclusion of this summer's Summit can serve as a mirror in which we should see ourselves. In the same way that George Bush and his peers will leave Houston cognizant of the tasks that remained, we too should take no comfort in the recovery of the past few years without simultaneously acknowledging the issues that remain unsolved in our community:

- \* a public education system with an annual attrition rate of 5%, which means that one out of every three students who enters fails to graduate;

- \* a multiethnic population that is not sharing equally in the economic opportunities that our recovery is providing;

- \* a cancerous incursion of substance abuse that has invaded every element of our community.

5. The emphasis that the Summit brought to the role that the individual participants will play in solving global problems can serve to illuminate the dependence Houston has historically experienced on the contributions of visionary leaders. Leaders such as:

- \* Jesse Jones—a lumberyard entrepreneur, whose ambitious vision gave us a skyline, the South's largest newspaper, the predecessor to this great banking institution, and, to a significant degree, the very future we are now enjoying.



\* Monroe Anderson—a cotton broker with an acute sense of compassion, whose bequest to “alleviate human suffering” provided the resources to buy 134 acres in 1942 that was the genesis of the Texas Medical Center.

\* Hobart Taylor, Sr.—virtually unknown even today, the grandson of a slave, a successful businessman, whose leadership in 1944 in becoming the first black delegate to a national political convention since Reconstruction laid the foundation for all minority political leaders that were to follow him.

\* Ben Love—the personification of contemporary Houston: energetic, aggressive, and sophisticated. Ben’s life, in fact, has validated the axiom that if you want your dreams to come true, you shouldn’t go to sleep.

\* And most importantly, George Bush, who symbolizes by his past the city’s heritage in energy-driven entrepreneurship and by his current position the role that a multitude of Houstonians are now playing in international affairs.

The third and final opportunity provided by the Summit’s lens, the Summit’s non-agenda functions, similarly disclosed a great deal about this city. Those functions involved a Saturday media reception in the Museum District, a Sunday evening of western dining and entertainment, the chief of state arrivals at Ellington on Monday, the official welcoming ceremonies hosted by the President and Mrs. Bush at Rice, a series of events focusing on the Texas Medical Center, the Wortham Theater and other significant locations in the Houston area, and a joint communique issued at the George R. Brown at noon Wednesday.

Using our optical metaphor, such a schedule is actually a multitude of lenses, and the views they provided of Houston were similarly diverse.

As the delegations moved from one event to another, it was impossible to ignore the compatibility between the international nature of the event and the character of the city. Indeed, the principals and delegates felt comfortably at home in a city where 30,000+ of their respective citizens reside, where the nation’s largest international port receives ships from each of their six countries carrying \$6.5 billion of commerce annually, and where a newly opened international air terminal will welcome two million foreign passengers this year with direct flights to five of the six participating countries and twelve other nations.

Also through those multiple lenses, we had the opportunity to reveal the remarkable infrastructure, both physical and cultural, that induced George Bush to label Houston “the best America has to offer.” Infrastructure which includes the following three highlights:

1. Cultural amenities as diverse as rodeos and symphonies, and as contrasting as Grand Opera and the Grand Ole Opry which disclosed the direct ties that still exist between our heritage and today's Houston.
2. Mobility improvements that made possible the precision of the Summit schedule requiring the simultaneous movement of seven motorcades.
3. The final communique issued at the Brown on Wednesday contained a message of hope generated by the three days of dialogue. The participants recognized that their presence and schedule for those days brought attention to two of the greatest generators of hope in the world: the Johnson Space Center, whose 15,000 scientists and engineers hold the key to the world's ambition, exploration of the stars; and the Texas Medical Center where every year 15,000 foreign patients bring their hopes and prayers for relief, recovery, and life to the largest center of clinical and preventative medicine the world has ever known.

In summary, my dream was very simple: it envisioned that participants and observers would leave the Summit on July 12, 1990, relieved of their ignorance of our communal renaissance and infected by the spirit that produced it, a spirit that is equally applicable to a city or a Summit. That the magnification of the Summit's lens will help the world and Houstonians alike to understand our city better. A city cured in the crucible of economic deprivation; a city regenerated by the continuous production of visionary leaders; and a city increasingly dependent upon, benefiting from, and admired by the entire world.

If that dream seems omnifarious in scope, then it is reflective of our city's activity; if it seems optimistic in tone, then it is in concert with our recovering mood; and if it seems innovative in concept, then it is invention born of necessity. For Willie Loman was indeed right: "A salesman is got to dream, boy. It goes with the territory." Thank you.



Panel II  
**THE NEW GLOBAL ECONOMY**

CHRYS DOUGHERTY

NOW THAT YOU HAVE BEEN REVIEWED, YOUR MINDS ARE FULLY FOCUSED ON THE problems, and you fully understand how we came to where we are, our distinguished second panel is going to help you place Texas in the context of the world picture. Again, let me introduce all of the speakers at once and then we will move quickly into all of them.

Our first speaker needs no introduction. Professor Walt Rostow. He was born in New York City and got his B.A. and Ph.D. from Yale. He was a Rhodes scholar and is a professor of economics and history at The University of Texas. I want you to call your attention to his two recent books which you should have on your table, *The History of Policy and Economic Theory, Essays and Interaction in 1989*. The man who will stand before you is a model of self-sacrifice for the good of our Society. He would rather be at the kick-off (Texas v. Texas A&M) which is occurring just now. He will speak to us in a moment.

To introduce Dick Hecklinger, the next speaker, I want to read a letter that came to the Society to Frank from our new member, Jim Baker.

Dear Frank:

I want to thank you again for the honor of inviting me to become a member of the Philosophical Society of Texas. I accept the membership with gratitude and am only sorry that I am unable to participate in the fine program you have put together in Houston on December 1st. However, I am delighted that Dick Hecklinger, Principal Deputy Assistant Secretary of State in the Bureau of Economic and Business Affairs, will represent the State Department at the event. He is very well versed on the administration's international economic policies, and I know he will give a fine presentation of the issues of particular significance to Texas including the U.S.-Mexico Free Trade Agreement, developments in the Uruguay Round, the partnership of democracy and development, and the President's Enterprise for the Americas Initiative. Again, I am sorry that I cannot be with you in Houston. I am sure the program will be a tremendous success.

Sincerely yours,

Jim Baker III

Our final panelist this morning is Richard W. Fisher who got his B.A. from Harvard with honors. He read Latin American politics in Oxford, and got an M.B.A. from Stanford, which considers itself the Harvard of the West. He is a former trustee of the Stanford Business School Trust. He is a managing partner of Fisher Capital Management in Dallas, a former executive assistant to the U.S. Secretary of the Treasury, and he was an assistant to President Carter in a couple of earlier rounds, the Tokyo Economic Summit in 1979 and the Bonn Summit in 1978. Particularly significant to me, he was a member of the negotiating team on the claims and assets settlement between the United States and the People's Republic of China.

Walt, give us a self-sacrificing talk on your subject.

## THE CHANGING WORLD: GLOBAL FORCES FOR TRANSFORMATION

WALT ROSTOW

MY CHAIRMAN HAS TOLD ME I HAVE 20 MINUTES. ONCE WHEN I HAD TO GIVE AN inaugural lecture at Oxford as visiting professor of American history, I was advised by a very wise man, Oliver Franks who was provost of The Queen's College, that I should have only one theme. Well, with 20 minutes—I've just fixed my timer—one theme is all that can be managed—one theme for global forces of transformation, which is the assigned title of my talk. Transformation of the world economy is a fairly big subject. My one theme is this: the world economy is being driven in many different ways by an enormous technological revolution. This is the fourth technological revolution in the past two hundred years. It consists, as we all know, of microelectronics, genetic engineering, the new industrial materials, and lasers. And out of it has come, of course, the revolution in communications. If it continues the rhythm of the other great technological revolutions, its three predecessors, it will frame the life of this planet down to the middle of the next century.

Its first impact relates to the greatest problem on the common agenda for the next half century, a problem that will reshape the relationship among states. Indeed, it asserted itself in a pathological form in the Iraq crisis. The problem is the diffusion of technology to the developing regions, including the technologies of high mass consumption. To dramatize what I have in mind, think for a moment that by the middle of the next century two countries, each with, if projections are more or less accurate, a billion and a half people, India and China, will command all the then-existing technologies. We are talking about countries about six times the size of the United States or the Soviet Union. But they are not the only new countries which will move to technological maturity. I believe you will have a technologically mature Mexico, you will have a technologically mature Brazil, and perhaps, another one just emerging into what I call take-off, Indonesia, after a long and difficult passage from Dutch colonialism. There are others, of course, that are on their way, and we all know about them, for example Korea, Taiwan, and others.

This emergence of a new lot of technologically mature and economically significant states is going to be the central characteristic around which we will either organize a world of law or we will have a world of chaos. The future may well hinge on what happens in the wake of the Iraq crisis. The Middle East has the potential to move to technological maturity, if it can achieve a certain amount of peace and order.

A second aspect of the technological revolution is that it cannot be absorbed by all nations in the time immediately ahead. Africa, for example, is likely still to lag. In Latin America there are also the smaller states which find it difficult to absorb the new technologies unless they are part of larger units. If I were talking politically, not about the world economy, I would probably build a talk around the paradox we have of simultaneous movement toward very large units, at a time of strong fragmenting pressures. The European Community may very well be enlarged in time by the bringing in of Eastern Europe, and the United States may expand with Canada and Mexico into larger units. But there is likely to be a tendency toward fragmentation. It is as though the nation-state is being undercut from above and below. For the moment, however, my point is simply that the new technologies will not diffuse smoothly; and this unevenness will create frictions and dangers of conflict.

The third problem concerns the advanced industrial countries of the North. The critical issue is whether they are going to be able to cooperate in building an orderly world economy in an orderly world polity or succumb to mercantilist fragmentation.

Now a word about each of the major regions. The Japanese in my judgement do not understand as a nation, instinctively, what we are talking about when we lecture them about liberal trade or free trade. It is wholesome to remember they were opened up for trade at the point of a gun. An American gun. Commodore Perry and his seven black ships that went into Tokyo Bay. They were followed by the British laying down on the Japanese an injunction that they could not have tariffs for 25 years, so the British could sell them manufactured goods. The Japanese began their long career at non-tariff barriers from that day and have been enormously successful. They automatically regard trade as an aspect of national security policy and so should we, incidentally. That doesn't mean we should move toward a protectionist trade policy. It does mean we should negotiate in a different way. To be blunt and provocative, I would say that our negotiations with the Japanese over the past decade and more have played into the hands of the Japanese mercantilists and undercut the wise Japanese who wrote the Maekawa reports. There are farseeing Japanese who understand that, ultimately, Japan will have to cease to be in surplus to every country in the world except a couple of centers of raw materials, Australia and the Middle East oil. Everywhere else Japan is running surpluses; that is its game, and it's not at all interested in the criteria that govern free trade, which is maximization of consumer advantage. They are rough on their own standard of living. They calculate that the one direction in which they can extend their power in the world is by building up surpluses and capital

investments abroad. In dealing with this mercantilist mentality, I think we have gone about it in the wrong way. I believe we should tell the Japanese quietly, without a Nixon shock or anything of that kind, that they can sell in the United States just as much as they buy from us. That we welcome their products. But we don't want to hear anymore about their rice farmers or their inefficient mama-papa stores or all the other political problems that beset them. They can make up their minds what they want to do about them, and that will determine what they can sell in the United States. That they would understand. And then in a little while we might get the victory of the Maekawa group, who have been mainly ignored in Japanese policy, over the mercantilists who still dominate.

As for Western Europe, we all know that the future hinges on the degree of unity achieved there and the degree of protectionism. The present movement toward the unity of Europe is technologically driven. If you look back to the early 1980s, Europe was depressed about its chance in the face of the new technologies. It felt it was being left as a backwater by Japan and the United States. In the past decade Europe has made quite a lot of progress; but it still has some way to go before it will be wholly comfortable in the age of new technology. I am sure it will make it. It has all the conditions for it. But there is the question of protectionism with respect to Europe as well as Japan and the danger of fragmentation if there is not wisdom on both sides of the Atlantic. In the longer run I am an optimist and believe the advanced industrial world will not fragment. The power of these new technologies is partly determined by the fact that they are not homogeneous. It is not like the railroads or cotton textile machinery or even Watt's steam engine. Every one of these new technologies is highly diversified, which means that different countries will establish, within microelectronics or within genetic engineering, comparative advantage. And you can see a mixture in the world even now between intense competition in these technological fields, but also much cooperation trade, and cross-deals that pass over national boundaries. And I think the diversification of this technological revolution will temper the strong instincts with respect to agriculture and other fields, leading to the danger of a protectionist mercantilism.

Eastern Europe is a special case. But it again relates to technology. Elspeth and I, like a great many others, went to Eastern Europe last summer in the Soviet Union, and it took me a little while to figure out, amid the diversity of each case—indeed within Yugoslavia the diversity of each province—what was uniform among the Eastern European countries and the Soviet Union. What is uniform is that they are all caught in a technological time warp. You think you are somewhere in the 1950s when you wander around and look at the streets and the cars and what's in the



shops. The problem is, how are they going to get back up to the technological frontier represented by Western Europe or Japan or ourselves? How long will it take, and what vicissitudes will they pass through?

Our distinguished secretary has a copy of a paper which includes a plan for Eastern Europe and the Soviet Union which I wrote only after some reflection, and after I was home. Any of you who want it can have it. Briefly, I think that we are grossly underestimating our interests in the successful outcome of the transition of Eastern Europe and the Soviet Union to free markets and to joining the advanced industrial world from this technological backwater in which they find themselves. It is a much more difficult job, of course, than the Marshall Plan. The Marshall Plan was finished in four years or so. Western Europe was on its way because it had the political, legal, and social as well as economic institutions. Here there are profound political and institutional as well as economic changes to be undergone. I think it is a job of 10 to 15 years, but with the right action both within these countries and with the help of Japan, Western Europe, and the United States, it could be done in 10 years or so.

My own proposal involves not an exact duplicate of the Marshall Plan but an echo of it in this sense, that the advanced industrial countries offer to respond positively if the Eastern countries will do what they know they have to do. At the moment, they are frightened, some of them, of taking the action that ought to be taken. For example, with respect to fiscal policy and price policy, they can see what happened to Poland and Yugoslavia. They took very bold action, partly under the advice of poorly trained American macroeconomists and forgot the supply side. What they did was to lock Poland and Yugoslavia into a low-grade trap with a lot of unemployment, but there was food in the shops and they had hard currency. Very hard currency, if you travel there. But there was no real lift in the economy. I think they need a jump start. They do have to do these painful things in fiscal and price policy. They've got to make arrangements to start moving heavy industry as well as boutiques into the private sector. In the Soviet Union they've got to have radical agricultural reform which would permit true private ownership. There are a number of things that they have to do including get at the environment which has been permitted to deteriorate in a truly shameful way. They've got to start a big infrastructure environmental program to take up the labor which ought to be pushed out of the factories where labor has been very inefficiently used.

But there are three things I think that we can do if they commit themselves to do these things. One, I think we ought to put about 50, and guarantee 50, Japanese-Western Europe-U.S. plants in the Soviet Union and 25 in Eastern Europe. The plants in the Soviet Union should be in sectors that we agree

would be important, some of them food processing, some of them computers, some of them just machine-tool plants of a modern kind or whatever. And 25 I think for Eastern Europe. They would require the rest of this program to be moving, for example, infrastructure, telecommunications, and so on, if they were to operate efficiently. The Eastern European countries, need, like Mexico for example, a lot of debt forgiveness. Those debts are not going to be paid. They were piled up by their Communist predecessors. They were piled up to buy consumer goods for cosmetic political reasons, but the interest payments are a heavy burden on most of the Eastern European countries.

A third form of help would be to assist when they take away the subsidies for low prices, which have been a heavy burden on their budgets. We ought to put in some food. Western Europe and the United States would have an easier time in the GATT round in agriculture if we just made it clear that they had enough surplus food available so that, while prices would rise, there is no reason for panic. There is no reason for doing what's happening now in the Soviet Union, which is citizens buying up whatever is loose in the shops. In any case, if you want to see what a more or less coherent, jump start, eight-point program looks like, you can get a copy of this paper from your secretary.

I'd only add that I think we in the West have an enormous stake in a successful passage of Eastern Europe and the USSR to stable democracy and competitive private enterprise systems. It is worth remembering that the First World War started with an assassination up a small street in Sarajevo, and the Second World War was triggered by instabilities in Eastern Europe. It's not enough now for us to cheer the people who threw out the Communists, and let them cope as best they can in this very difficult period of transition. A lot of things could happen in the Soviet Union which would be highly destabilizing to the world—a country filled with nuclear weapons, in danger of descending into chaos. I think we're underestimating our stake in these matters.

As for the Pacific, on the ninth of November, 1989, in Camberra, an event happened which may rank with the coming down of the wall in Berlin on the same day; namely, the formation for the first time of an intergovernmental organization for the Pacific Basin. The Pacific Basin in the end is bound to contain the Soviet Union and China, as well as Canada, the U.S. and maybe some Latin American countries, the small islands, and everyone in East Asia and Japan. It's a much more difficult job, let's say, than building the European Community, but I think it will have enormous economic and political significance if it can be done.

We have a much better chance of unifying Latin America around the problem of bringing the smaller and medium-size states into this new technological age than we ever did around trade. Argentina can probably make it technologically as can Mexico and Brazil; but I worry about the countries of the Andean Federation and the other smaller states. The compulsion to get out of their technological backwater and into the front line may lead to Latin American unity, and it would be in our interest to help them in that direction.

In the Middle East after the Iraq crisis, we, as a world community under U.N. guidance with Soviet-U.S. backing, should go for three things: arms control arrangements in the area that would cope with weapons of mass destruction with mutual inspection; political settlements, including Lebanon and the Arab-Israeli issues, which have been sitting around since 1967 with Resolution 242 as the backdrop, everyone fencing and not facing up to the task; and finally, the use of a good part of the oil revenue surplus for true regional economic development. At the moment, those surpluses are used very substantially to buy out blackmailers, to finance terrorism, and to buy modern weapons for use against each other. Again, in defense against the more radical states. That's a tragic use of resources.

I use, at the end of a recent book, a quotation from the *Iliad*, "All on a razor's edge it stands, either dire tragedy or life." Well, that's always been the human condition since the end of the good times in the Garden of Eden. But, as you look ahead to the possibilities of order and prosperity in the world and the dangers of fragmentation and violence, in a community where the capacity to achieve mass destruction is spreading rapidly, as you look at that world, you've got a sense that it's in a fairly precarious, razor's-edge balance.

I think the United States will remain, for the next half century, critical to which way that balance tips, but it's not going to be able to play its proper part unless we deal with the domestic problems which we've taken up this afternoon. Above all, the problem of U.S. competitiveness. We cannot go on as we are. I know some people are complacent and talk vaguely about the globalization of the world economy. But borrowing as we are is costly; devaluation of the dollar in order to sell abroad cuts our standard of living by raising the real cost of imports. We are going to have to pay our way in the world, and we're not doing it now. And there is much more hope, I believe, much more movement in good directions than most people think who watch Boston-Washington exclusively. The kind of cooperation that Mr. Hogan described in Houston is taking place all over the country. Wherever you go, you find the communities working together to try to face up to some of these problems. As a distinguished columnist of the Austin

*American-Statesman* recently said—also as a former president of the Philosophical Society of Texas, who happens to be my wife: “It’s time for us to take stock of what we have done right out in the country and where we have failed on some of the social and economic problems and think of getting those translated into national policy.” Because we still remain, despite the diffusion of power away from the United States, the critical margin on which people everywhere depend to come down on the right side of the razor’s edge.



## THE INTERNATIONAL ECONOMIC POLICIES OF THE BUSH ADMINISTRATION

RICHARD E. HECKLINGER

THANK YOU. IT IS A GREAT PLEASURE FOR ME TO BE HERE TODAY. CERTAINLY TO accept the membership certificate for Secretary Baker, but also to learn a lot about Texas. For someone from New York State and Washington, it has been a very educational experience.

I would like to turn back to the Houston Summit. We thought it was very fitting that the 1990 economic summit was held in the U.S. and particularly in Houston. How fitting it was I didn't fully realize until this morning. This summit marked the end of a decade in which we saw principles espoused by the United States take hold throughout the world economy. These principles include the importance of free and open markets, of individual initiative and choice, and of the need to reduce the role of government through privatization, deregulation, and other means. We saw these principles take hold in the Summit countries themselves—even in France, in the turnaround in its economic policy in the early eighties. They also took hold in the decision by the countries of the European Community to try to emerge from a period of stagnant growth and high unemployment by banding together to form a real integrated market. It is starting to take hold in developing countries, in Latin American, even in Africa, where nations are trying more and more to cast aside economies controlled by the state, socialist economies, and to introduce market forces. And, finally, these principles are taking hold in Eastern Europe and the Soviet Union where we see radical economic reform accompanying and, in some cases, leading a transition into a democratic form of government.

The Houston Summit commemorated these changes and set a course for the next decade. It underscored the close link between freedom and prosperity and the fact that this prosperity depends on the stimulus of competition and encouragement of enterprise. The Summit reaffirmed the main policy lines of the 1980s. Things like macroeconomic coordination, which, of course, has been an interest of Secretary Baker's. A concept called structural reform, which is a favorite of President Reagan and Prime Minister Thatcher, which essentially means loosening restrictions on economic activity and opening up economies to the free flow of goods, capital, and also ideas. The Summit touched on debt policy. And it also concentrated on the importance of economic reform in developing countries as opposed to concentrating just on the amount of aid being given them. The Summit gave more emphasis than ever before to the environment, foreshadowing what we will be seeing more and more in the summits of the

decade ahead. But it barely mentioned energy which was the dominant issue in the 1970s in all economic summits. Maybe that will change next year during the London Summit. Finally, it recognized trade—specifically the successful completion of the Uruguay Round—as the number one issue on the international economic agenda. It was this issue on which President Bush spent much of his effort on the economic side in Houston. It is also this issue that took away your original speaker, Assistant Secretary McAllister, who had to travel to Brussels to negotiate an important part of this Round.

I would like to talk a bit about the Uruguay Round, plus a few other high-priority U.S. policy initiatives, some of which were mentioned in Secretary Baker's letter. But I would like to just take a few minutes to talk about change in the world economic political landscape which we could not predict in Houston, and that is the crisis in the Gulf. And I would like to concentrate on our economic response to the crisis.

We have four main goals in the Gulf Crisis. We want unconditional withdrawal from Kuwait and restoration of the legitimate government of Kuwait. We want to protect the security and stability of Saudi Arabia and the Gulf, and of course we want to protect our citizens and get our hostages back. The economic response to this crisis has four parts as well. The first and the most immediate issue was that of sanctions. We have put together what is possibly the most comprehensive program of sanctions in recent history. Virtually nothing is moving out of Iraq (that means mainly oil, of course, since they don't export much else), and well over 90% of the materials going into Iraq have been stopped. It has been an unprecedented show of international solidarity. These sanctions have two purposes: one is to show Saddam Hussein that the world stands against him. That purpose has been largely fulfilled. The other is to deprive him of the physical goods which he needs to run his country, his economy, feed his population, and conduct his military activity. Now that purpose has not yet been achieved, and we don't know if and when it will be. Iraq is a society which is used to hardship. It is a society that went through eight years of a tough war. Iraqis are used to being without during trying times, and when food is available they make sure they stock up. It is a society with a leadership that will tolerate great suffering among the people and will sacrifice most anything to keep the army going. We know that there are shortages of food, that there are shortages of some spare parts and inputs for industries, and that some civilian industries are closing. But right now the war machine is still being supplied. This is why we have to make sure that Saddam Hussein knows that if he doesn't respond to the solidarity shown by the sanction effort there will be something else, the potential use of force.

The second aspect of our economic policy response to the crisis was to obtain assistance for the nations most severely affected by the crisis, primarily Egypt, Turkey, and Jordan. Secretaries Baker and Brady went to various donors and secured over ten billion dollars of commitments for assistance for these countries, which are essential, both to the conduct of the sanctions effort and to the military effort. They also received pledges of over ten billion dollars for the United States, which was a significant sign of the willingness of our allies to contribute to the military effort.

Third, we are trying to get assistance for the broad range of countries affected by the crisis, primarily through the increased price of oil, through the World Bank and International Monetary Fund.

And last we've addressed the issue of oil supply. At the outset we tried to get other nations to increase production of oil wherever possible. The Saudis responded as did the Venezuelans, the Mexicans to some degree, and the United Arab Emirates. The major portion of the shortfall of about 4.3 million barrels a day has been made up. It wouldn't have been made up without the commitment of the United States to the security of Saudi Arabia.

This crisis has presented us with a lot of problems. There aren't really any good solutions, but there are certain positive things that have come out of it. The first one is the fact that the U.S. has displayed unparalleled leadership on all aspects of the response to this crisis; whether it is economic, military, or political, the United States has been in the lead. At the time of the Houston Summit there was much talk about the passing of the era of U.S. leadership as the Cold War came to an end and as our allies and friends became more powerful economically. This talk has been modified substantially out of recognition that the U.S. has to maintain and will maintain the leadership role in the international, political, and economic arena. Second, the U.N. is finally living up to the hopes that we had for it after World War II. It is a remarkable situation now at the U.N. with the U.S. and the USSR working together, with the tolerance if not active cooperation of the Chinese. Much has been said about this crisis being the test of our ability to handle the first post-Cold War crisis and, as Professor Rostow said, it also is a test of how we are going to see political conflicts handled in the future. I think we have done an excellent job in addressing this crisis. The final chapter is yet to be written but we are on the right track, thanks to the leadership displayed by two gentlemen from Houston, President Bush and Secretary Baker.

Now to go back to trade. At the Houston Summit, leaders said that they would maintain a high level of personal involvement to exercise the political leadership necessary to insure the successful outcome of the Uruguay Round negotiations. We want to get substantial results in all aspects of the negotiations. We have worked for four years. We are coming



down to the final weeks. Ministers from all the GATT countries are meeting in Brussels this next week for what was supposed to be the wrapping up of a very ambitious package covering agriculture, services, intellectual, property, and a whole host of other issues. Unfortunately, on most major issues we are nowhere near completion. And the main problem is agriculture—the same problem that we had at Houston in July. The same problem we have faced for the last seven years as we first tried to get a new trade round going and then tried to negotiate it. The major cause of the problem is the European Community. We agreed in Houston to make substantial, progressive reductions in agriculture subsidies. The United States took this commitment to mean that there would be reductions in all aspects of agriculture subsidies—internal supports, subsidies through border measures like tariffs, and export subsidies. We have proposed dramatic cuts in subsidies to agriculture, 90% over ten years in export subsidies, 75% over ten years in internal supports and border measures. The EC has come up with a rather modest proposal for a 30% decrease in internal support measures alone. It has no proposal for the other areas and as a matter of fact it's promising to raise tariffs on U.S. major exports to the EC—soybeans and non-grain feed ingredients. We are at a stalemate now, and it is going to take intervention at the highest levels of the summit governments, as was promised in Houston, to break this stalemate.

We spend in the developed countries over 250 billion dollars a year to support agriculture. That does not count the damage caused to the developing countries by having to compete on world markets and in their own markets with subsidized exports from the developed countries. It's a travesty of good economic principles, and it is impeding the development of countries in Africa, Latin America, and Asia, as well as now the newly reforming countries in Eastern Europe. There is no more controversial political issue in the economic area than agriculture reform. Europe has a bigger problem than we have. It has about five times as many farmers, many of which are small and inefficient. But we are not saying that Europe has to cast all these farmers off into factories in the cities. We're proposing a phase-in of subsidy reductions. And this will correspond with the social evolution and retirement in the farm communities in Europe. Also, we are saying that some subsidies can be provided—they just cannot be tied to production. So governments can maintain direct support of their farmers to keep them on the land. A German leader once said that the German agriculture problem would be solved if Bonn would make every German farmer a civil servant. And if they cultivate forests and keep a few cows to maintain atmosphere that would be just fine, but that's about as far as it should go.

Again, agriculture is a hard issue and we cannot underestimate that. But we cannot accept lack of progress. If we do, the GATT round will fail. And if it fails, we will find ourselves in a very difficult situation. Protectionism will increase—subtle protectionism not necessarily just by tariffs. There will be an increase in retaliation and counter-retaliation. There will be more attention to regional groupings, and Europe will turn more in on itself. And we will have a lot of conflicts. Trade conflicts between the U.S. and its allies, without the common threat of the Soviet Union to unite us, will have a very damaging effect on our political relationships. Therefore we have got to avoid this. We have to take bold measures. We will have to compromise a little bit, but we have to show progress.

So as we are all waiting for another date, January 15, to see what will happen in the Middle East, we also should be looking at Brussels to see what is going to happen in the next week and in the weeks beyond.

As important as it is, we are not staking everything on the Uruguay Round. We have a host of other policy initiatives to improve international economic relationships in all areas of the world.

This administration has been particularly concerned about Latin America. We have, as you know, negotiated a free-trade agreement with Canada, and we are now working with Mexico for the same type of agreement, possibly including Canada. The president has announced the Enterprise for the Americas Initiative. It has four aspects, debt reduction, investment reform, negotiation of trade framework agreements and free-trade agreements, and environmental protection. This is the cornerstone of our economic policy toward Latin America and has been well received by Latin American nations. It draws on and supports the increasing commitment of Latin American governments to make fundamental reforms in their economies.

We are also doing something special for Central America and the Caribbean. We have put together something we call the Partnership for Development and Democracy in which we, the Europeans, and the Japanese will sit down with the Central Americans and try to coordinate assistance efforts, both bilateral and multilateral, to promote democratic development in these countries.

In Asia, Professor Rostow mentioned the APEC, the Asia Pacific Economic Committee. This is an initiative of Secretary Baker's, started when he was at the Treasury, to bring the U.S., Japan, Australia, New Zealand, and the Asian countries, eventually possibly China and the Soviet Union, into a closer, more cooperative relationship. And Japan is still a major point of concentration. I think we are undertaking policies which strengthen reformers in Japan. We are doing this through bilateral negotiations, both on specific trade issues and also through something called the

Structural Impediment Initiative, where we sit down with the Japanese and talk about how to solve fundamental problems in our economies which prevent the free flow of goods, services, and investment. We have essentially become a lobby for the Japanese consumer, and a main force helping Japanese leaders get their reforms through what is a terribly complex and difficult political structure. We are seeing some results. Our trade deficit has decreased by a third since 1986, primarily due to an increase in U.S. exports. Exports of manufactured goods have grown by over 15 billion dollars.

In Europe, the EC made an ambitious, bold decision to create a single market. It was spurred largely by the United States, Japan, and the Pacific, which were outpacing Europe in the early eighties. Talk of "Euro-malaise" and "Euro-sclerosis" finally got to the Europeans. They decided they had to take strong corrective action. The change in the attitude in Europe is remarkable. The single market exercise still has a long way to go, but already it is a success because Europeans think it is going to succeed. Economic growth has increased and business opportunities for American firms have expanded. We now are running a trade surplus with Western Europe.

Finally, U.S. principles and U.S. involvement have done much to promote what is happening in Eastern Europe and the Soviet Union. And I agree with Professor Rostow, there is an opportunity there which we cannot overlook. There is an experiment which has to succeed, and it is at the top of our political and economic agenda. We are trying every day to determine how we can best help these nations make the political and economic reforms to bring them into the community of market-oriented democracies. We see a significant role for U.S. business. Our leadership has emphasized time and again that the relationship we have with Europe, both West and East, is going to depend largely upon the activities of the private sector. The private sector is going to help provide the know how, the capital, the change in attitudes which are essential in these countries to make this transition. Government is there to help. We are doing a lot of things that will make it easier for U.S. business to work in Eastern Europe and the Soviet Union, but we encourage all of you in the private sector to take a hard look at the opportunities which are there. There are problems, there are difficulties, the reforms are just at a rudimentary stage, but we think that over the long haul there is a place for the U.S. and for U.S. business in Eastern Europe. Thank you very much.

*Questions and Answers*

Chrys Dougherty: Dick, before you leave I'd like for you to explain one thing for some members of our audience. In the context of the general agreement of tariffs and trades, what is a round? When do we have a round, and how often does a round come around? It is a word that we often use and are familiar with, but I am sure not everybody understands.

Richard Hecklinger: We have had seven rounds in the GATT since the GATT was created after the war. Rounds are negotiations, multilateral negotiations, which have focused in the past primarily on reducing tariffs. Tariffs are down about 75% since the end of the war. So therefore the GATT has been relatively successful. But tariffs aren't the problem anymore. It is all these non-tariff barriers and also a lot of other problems that are inhibiting trade, and that's what this round was to get at. This is the most ambitious, the most comprehensive round we have had. It is not only to reduce barriers, but it is also to reform the GATT system, so it is going to be suitable for the next decades rather than for the last two.



## TEXAS AND THE CHANGING MARKETPLACE

RICHARD W. FISHER

ULYSSES S. GRANT (WHO WASN'T A TEXAN) USED TO SAY THAT HE ONLY KNEW two tunes. One was "Yankee Doodle" and the other wasn't.

We all know by name the catchy tune of the "New Global Economy." Like Yankee Doodle, its theme is simple and repetitive, harmonious and pleasant to the ear, and it goes like this: The world is becoming one interdependent marketplace. State boundaries and national boundaries are becoming meaningless. There is no such thing anymore as a "domestic" or "foreign" firm. A decision maker can be anywhere he or she wishes to be, for computerization and telecommunication allows him or her to be *everywhere* at once, especially now that market capitalism is a universal dogma.

In the "Globalization" libretto, the first verse almost invariably starts with "the world is becoming one big homogeneous production facility and marketplace." Honda Corporation, for example, now performs only a minority of its design, engineering, and manufacturing work in Japan. Less than half of Honda's employees are "home"-based citizens, and *more* than half of the company's auto production takes place in the United States. Is Honda Japanese or American or what? Or, take General Motors. General Motors holds a 38% stake in Isuzu and owns half of Daewoo Motors of Korea which makes Nissan cars for Japan and Pontiacs for America. In fact, the Pontiac LeMans is designed by Germans, built by Koreans, and marketed by whatever you call the species of man that inhabits Madison Avenue in New York.

Consider the cellular telephone industry as proof that the national identities are becoming meaningless. In 1989, the United States Government filed a dramatic protest with the Government of Japan for allegedly excluding Motorola and other U.S. cellular phone manufacturers from the Japanese market. It turns out that Motorola designs and makes most of its telephones in Kuala Lumpur, while most of the Americans who make cellular equipment in the United States for export to Japan work for Japanese companies. Who is the U.S. government negotiating for? The citizen workers of Malaysia or the shareholders of those companies? And, by the way, what are the nationalities of those shareholders? In 1989, cross-border trades in equity markets totalled 1.6 trillion dollars. One trade in every seven conducted on the stock exchanges of the world—and one in three on the European exchanges—has a foreign investor on either the buy or the sell side. Who do governments represent in trade talks? What are the nationalities of the corporations of the 1990s?

Consider the lyric, "A decision maker can be anywhere he wants to be." I live in Dallas. I manage 350 million dollars for 60 clients spread across the globe from the United Arab Emirates to Santo Domingo to Tokyo and in the U.S. from Boston to San Francisco, and from Detroit in the North to Miami in the South. I buy and sell U.S. securities, German securities, Dutch securities, British securities, Japanese securities, and so on, and safe-keep them in London. Yet, thanks to the microchip, I am able to communicate with my clients and am able to operate in New York, London, Frankfurt, or Tokyo markets in real time, 24-hours a day. And given the miracle of air transportation and the magnificence of the Dallas/Fort Worth airport, I can visit with any of my clients and be back within a two-and-a-half-day time frame. I was intrigued to read last week that British Telecom has begun using satellite hook-ups with ground stations in the Indian, Atlantic, and Pacific oceans regions to provide commercial airline passengers anywhere in the world with phone, fax, and data hook-ups. You don't even have to be on earth anymore to conduct business.

Consider the refrain that "telecommunications allows a business to be everywhere at once." Apple Corporation recently announced the introduction of three new personal computers. It did so by convening a press conference *not* at its headquarters in California, but instead simultaneously by satellite and television to audiences of potential customers in 121 countries, to whom, incidentally, it will ship products from three different factories using 38 different airlines. "Globalization" is making us all potentially ubiquitous.

And finally, it appears that everyone everywhere is whistling the melody of market capitalism. I quote from a recent London *Financial Times*: "The Soviet Union," it says, "is likely to set up a stock exchange next year. The Soviet Government has already enacted legislation allowing state-owned enterprises...to sell shares to the public. Mr. Stanislav Asserkitov [who is setting up the exchange] said that [at present] only about ten people in the Soviet Union know how stock markets work which means that an exchange cannot become a reality *before next year*." From ten people to setting up an exchange for one of the largest countries in the world, in one year! We appear to be proceeding at hyper-speed toward globalization, hurtling headlong into a brave new world. That's the catchy tune we can all now hum.

The other tune, however, is more vague, is harder to identify and less clear cut, yet lingers in the recesses of our minds, occasionally coming forward to haunt us. We are not quite sure what the lyrics are, but we recognize them as distinctly different and far from harmonious. They raise some disturbing questions:

How will we finance these new market capitalist economies?

What does it mean for the U.S. and Japan and Western Europe, the "old Capitalists," to have to compete suddenly for funds? What does it mean for Texas? What happens to the cost of capital?

With communications and computers providing instant cross-border ingress and egress, what about the predictability of capital flows? How volatile are markets going to become? How do we cope with that volatility?

With money pouring across the borders at unprecedented rates, what becomes of the capacity of national authorities to influence their money supplies, or supervise their banking systems, or regulate their markets, or control their national economic destinies?

What becomes of established businesses in the "old" capitalist countries now that so much new production capacity is being added to the system? And what becomes of the Third World?

How will the "new" capitalist states deal with the harsh realities of capital markets which are, in essence, ruthless and manic-depressive to boot, after decades of predictable, if uninspiring, socialism?

And how can we be sure that those who suffer from the social Darwinism of capitalism won't turn against it, using instantly available communications to thwart it? Remember that in the early nineteenth century, the Luddites destroyed the machinery of the industrial revolution out of fear and anger. Who will be the Luddites of the "Globalization" revolution?

This is the contrapuntal tune we must also listen for as we contemplate the meaning of a "shrinking" world. We should audit both the symphony and the *noise* of "Globalization." Beware—it may not all be music to your ears.

For example, one of the themes that weaves its way in and out of the libretto of "The New Global Economy" is the decline of the United States.

Recently the *Economist* magazine argued that "history is descending on the Americans with a vengeance, pushing them out of the way. Having won the victory of this century with the collapse of the Soviet Empire, the citizens of the United States fear that they may be on the way to the dustbin while Sony (of Japan) and Siemens (of Germany) stand poised to inherit the earth."

There are many here at home who perpetuate this myth. We are bombarded almost daily with woeful tomes like Professor Paul Kennedy's *Rise and Fall of Great Nations*, shameful newspaper ads by Boone Pickens declaring that we "lost the War to Japan," and pitiful requests by Dallas City Councilman Al Lipscomb that recent immigrants go home "because we were here first and deserve the spoils."



I am amused that people now commonly assume that the USSR will change, that Europe will change, that Japan will change, that Latin America will change, that even Canada (who I prefer to think of as the vichyssoise of nations—cold, half-French, and difficult to stir) will change. Yet they assume that America is now somehow static, as if the times have somehow dried up the potential of our nation, frozen it, cracked it, and powdered it into dust. It just isn't so.

Texans understand better than most that America represents a historical novelty. The American experience was the first historical attempt to give back to citizens what the state had stolen from them. We were established as a radical experiment, and we conducted that experiment without entanglement for well over a century. Beginning with the First World War, we were called upon by our wealth and our zeal to project our experience to a larger world. For the most part of this century, we have thus been a crusader for freedom and democracy, defeating first the German imperialists, then the fascists and militarists of the 1940s, and finally the Communists of the Soviet Union and the Eastern bloc. It is safe to say that our crusade is being won. We are reshaping over half of the globe in our image.

Now we must become the *exemplar* of democracy, the *exemplar* of liberty—we must show the world how democracy and capitalism can really work in the modern age.

For this we are well equipped. As my friend and tutor, Joe Nye, has argued so eloquently, the United States, alone among the great nations of the world, possesses all the attributes of strength and permanence. We have abundant natural resources. We have a huge and flexible economy. We have a strong military which respects civilian authority. We have great universities and research centers. We are masters of high technology. We have an entrepreneurial culture. We share a Universalist ideology. And we are possessed of a dynamic and ever-changing demography.

An ever-changing demography may be our greatest strength. Unlike any other country, if you are not happy where you are in the U.S., you get up and move to a place where you wish to be. Texas provides ample testimony to this. This does not happen in Japan, or in Germany, or in the United Kingdom. But more importantly, if you are hungry and eager to improve your lot, you come to the U.S.

Thomas Paine spoke of America as “an asylum for mankind” almost 200 years ago. Two hundred years later we remain such. Almost nine million immigrants entered the U.S. during the 1960s, accounting for 40% of the nation's overall population growth this past decade. To turn a phrase, immigration is the sincerest form of flattery.

Too often, I hear the comment, "Yeah, but these are the wrong kind of immigrants." Well, the complexion of our immigrants has indeed changed. Texans know this better than most. During the past decade over 80% of America's immigrants have been Hispanic and Asian, split 50-50. Only 13% have been Europeans. I note this somewhat nostalgically as the child of European immigrants. But I do so also in awe of the adaptability of our unique brand of democracy. Nowhere is it written that we have to be an Anglo-European nation. Nowhere is it written that to succeed in this great country you have to look like you and me. All that is assumed is that we are a free nation of equal opportunity.

The task we face as a nation is an awesome one: we are seeking to become the first great multiracial democracy in the history of mankind. This is not an easy thing. Not a day passes when the phenomenon doesn't give rise to fear and friction, from the misguided musings of John Wiley Price in Dallas to the prejudicial platforms of David Duke of Baton Rouge. Yet you and I know that this society will not be built by the racists or talkers, the self-promoters or the pretenders. It will be built by the doers.

Let me suggest that we are further along the curve than most people realize. What other country today or what other superpower in the history of the world can claim a society in which the highest office in the land is held by a white, the commander of its military is black, the CEO of one of its most effective hallmark businesses (Coca-Cola) is Hispanic, and 25% of the graduates of its finest universities are of Asian ancestry. These are the Americans of the New Century. This is the America that is the exemplar of Democracy. This is the America that will remain, when all is said and done, the world's greatest nation.

If ever you are tempted in a moment of doubt to concur with the naysayers and the doomsdayers, remember what Mark Twain said of the music of Wagner: it is just not as bad as it sounds. The U.S. is a constantly moving target. There is no "establishment" in the United States. There is no orthodoxy. There is no absolute standard. There is always, to be sure, plenty of confusion. The United States is a *permanently* unfinished country. Our society is unfinished. Our economy is unfinished. Our role in the world is unfinished. The experiment never ends. We should be grateful and excited to be a part of it.

#### *Questions and Answers*

Chrys Dougherty: Thank you for that inspirational note. George McGhee, I would like for you to come up here and join in this panel for the balance of this morning. In the meantime I want to ask the panel to start off if they

have any questions to ask each other, which I'm sure they do. I want to take the privilege of asking one myself. How long can the United States continue to be the world's policeman?

Walt Rostow: I'll answer that question rather narrowly. I do think that latent in the present Iraq crisis is a very serious problem. That if it comes to a war the casualties are going to be—so far as the non-Middle Eastern peoples are concerned—very heavily American. This arose out of perfectly explicable and understandable circumstances, namely that we have the forces at the time being. The Soviet Union, including its military, is in the midst of almost revolutionary confusion. The Germans and Japanese, who have big military establishments, are politically inhibited and, indeed, inhibited by rules that derive from the Second World War, from projecting their military power overseas. The British have contributed substantially, but I am sure that on reflection, unless there is to be a very dangerous American isolationist reaction when the costs of this enterprise are evaluated, we will have to move very quickly to a better sharing of that responsibility both in terms of treasure and, if necessary, of blood. I don't think that will be impossible, but I think, as I tried to suggest, and as the last speaker eloquently suggested, America will remain the most consequential power for some time unless it withdraws in a fit of isolationism. But it will have to be in the world of diffused power, also a world of more diffused responsibility for peace keeping and the maintenance of order and the implementation of United Nations' resolutions. In other words, I think we are seeing a rather abnormal stage of the American role as the policeman. That doesn't mean we won't be the leader, but the proportions will have to change.

Richard Fisher: Can I follow up on that? I think the key point, and the Houston summit was evidence of that, is that we are no longer the sole proprietor in the system; we are the managing partner, as it were. And one thing I think is very clear. It is just a matter of time before some change does take place. The Japanese, for example, will demand and will get a seat on the Security Council. The Germans will likely do the same—there is no reason for them not to. But clearly they need leadership, and we are the only country that can provide it because we have the "hard" power and also the "soft" power.

Walt Rostow: I would underline one other thing about the Middle East. People talk, and I talk, about the need to have an energy policy—I haven't stopped talking since the 1970s, and I am not, of course, alone in this. I want to underline that, so far as the United States national security policy is

concerned, our having an energy policy would radically reduce our imports from the Middle East of oil, which does not permit us to turn our backs on the problems of the Middle East because Western Europe and Japan are dependent. They are critical to the balance of power of any coalition of which we are a part. But I think we would have greater freedom of action if we had better balance of payments. If we really had a rational long-term national energy policy.

Chrys Dougherty: George, do you want to say something?

George McGhee: Yes, I would like to respond to two questions. Richard Fisher has outlined very well the effects of the globalization of the world, and I think you can agree that who puts up the capital, as long as it's cash, who buys the product, as long as they pay in cash, who earns the profits—no one is guaranteed they have to get profits—all aspects that I mentioned, market, capital, and profits can easily be shown as being globalized without too much disadvantage. Even the international balance of payments can be compensated for by foreign loans which we are doing now. But as I pointed out, I think you have to make an exception in the case of the effect on employment, whether it's drastic reduction in wages by having to compete with Mexican level of wages, or whether it's the creation of mass unemployment. This is one factor that is not a commercial factor and is so deeply affective to our national society that it can't be ignored. I would like Richard to respond to that. May I make this comment about "Do we become the global policeman?" I don't think we have to. I think, for example, we have to weigh the cost of any particular action. I consider this something like a man in a bar getting into an altercation with a drunk man who insults him. Do you think to prove your manhood you have to accept the insult and get into a fight and perhaps get killed? I don't think you have to. I would get out. Do you think that we, every time something comes up in the world, have to prove that we are the greatest country and we have lots of courage to go out and lose men on the battlefield? I don't think we have to. We can do it if we think it is worthwhile, and I don't think anyone should take lightly the possibility of losing 50,000 casualties over some rather complicated affair. Many hear arguments for, which are not sufficient, and several insufficient reasons do not make a sufficient one.

Richard Fisher: On the capital issue, you have raised a very important point, and I think we need to consider this as Texans. When you think of the number of assets that are coming into the marketplace, that are being privatized alone by virtue of the new process of market capitalism, and you add on top of that what we have here in the state that we have to find markets

for, you are facing a very tough equation. For example, recently the Argentinians nationalized or privatized their airlines, the Mexicans are privatizing their phone system, the Germans now have announced—this was in the *Financial Times* the other day—that they have 370 billion Deutsche marks in properties in West Germany that they wish to privatize. The British have just privatized and are in the process this week of privatizing their electric utilities system—it's a 19 billion pound issue. You add up all these numbers and you get an awfully huge size. Then you add to that, for example in Texas alone, the properties that have been nationalized by our government that used to be bank assets, some 90 billion dollars worth of properties. The question is, where's the capital going to come from to buy these assets, and I think the answer has to be, and I say this as someone who operates in the marketplace, at a lower price—that is, the equilibrium point appears to be, George, at a lower price, and one can see that regardless of the Middle East there are tremendous deflationary forces in the world. And then one has to ask oneself, what happens to the price you are able to pay those people who work for you? What happens to the price of goods? How does this roll over into the consumer price index? I thought it was interesting last week that McDonald's Corporation, which is a major influence in a certain segment of our society both for employment and for the cost of food, announced that they would permanently lower the cost of all their products in every McDonald's serving food in the United States. This is, I think, the beginning of a ratcheting down in order for the market to clear, and certainly for assets which are readily available being put into the marketplace, we are going to have a hard time finding a buyer.

Louise Weinberg: I want to thank the panel for a highly interesting and substantive set of remarks, and I have just a very minor question I was wondering if anybody on the panel or perhaps a few members of the panel would like to respond to. We all, of course, believe, as Mr. Fisher points out, in good things like globalization, but I'm a little concerned about some of the current impact at home which may seem small-scale and of less glamour. Mr. Fisher talked about some contrapuntal themes to the general prevailing ideology in favor of free trade, deregulation, globalization, but he rejected a vision of the decline of the United States and in an upbeat way called upon us to play an exemplary role. But I think that there are some impacts that are occurring now that seem to be disturbing, nevertheless. I think people are worried when they see our movie industry, a large part of our movie industry, being sold to Japanese owners. I think people are worried when they see an important link in the supply of computer chips being sold to Japanese owners. I understand the subtlety of the remark about

what is the nationality of these corporations—but the question remains, large chunks of downtown real estate in our important cities and not to mention, of course, the plant closings. And I wonder whether the panel might address the wisdom of at least some re-regulation, some tightened-up trade regulatory enforcement, some tightened-up antitrust enforcement, at least on some temporary caretaker basis, to tide us over the more problematic, troublesome current dislocations and near-future dislocations which may occur.

Walt Rostow: I share, as I tried to indicate, a sense that the relationship with Japan has been handled in a way which really misinterpreted the Japanese view of trade in the world. And I regard this as a matter of history and not of ethics or immorality. It is just not conceivable to a Japanese of the generation that lost the war who now dominate Japanese industry on the whole. I know the head of Sony and some of these other men. They were out to do what Japan did in the Meiji restoration. After being humiliated the Samurai brought the Emperor down, the Emperor Meiji, and they said his charter oath was that we shall seek science and technology throughout the world for the greater glory of the Empire, not for the Japanese standard of living. And it's been that way ever since. Now I think a generation from now, a new generation of younger Japanese who know the world better, may well accommodate themselves to what you might call a "GATT mentality." But at the moment, what you have seen is a classic mercantilist effort to push their exports, highly selective, in all directions that they could, generate surpluses, and invest them to get the only form of power that they could manage in the postwar period, which is the power of their investments in various countries. Now, the Europeans did not accept the Japanese in GATT as a regular member. They exercised a rule in GATT which states that you can take special measures for countries whose history and institutions do not conform to those essentially of a free market. And that's why the Common Market has been quite comfortable, for example, with the Poitiers arrangement, which for a time in France passed all Japanese imports into France through Poitiers, which is in the center of France, where there were two sleepy customs officials, which slowed up quite considerably Japanese imports into France. And the problem is a serious one, I think. And I think that I've known a good many of our negotiators who work a year or two years on telecommunications, building airfields, supercomputers, and as one of them said in the *Wall Street Journal* the other day, "Every time you finish a negotiation with a Japanese, it turns out that their interpretation of it is exactly the contrary of your understanding." This was in relationship to supercomputers. Now there is, as was emphasized by our colleague from

Washington, a group in Japan, and I mentioned the Maekawa kind of group where they symbolize it, who know that this game can't go on. But I think it's going on in a way that's quite dangerous to the Japanese, as well as to ourselves, and I respect this structural negotiation, but it is not producing results. With the Japanese, if they agreed to do something in five years, it means never. If it's in three years, they'll do about 10% of what you've negotiated.

Richard Hecklinger: First of all, trade restrictions: as Professor Rostow noted, you can always decrease the role of the Japanese companies by protectionist measures as he mentioned by making all imports come through one port as France has done. There's a cost to that. Having just come back from France after a couple years, I know that the French people have to pay about \$800 for a VCR now. Would Americans want that—there are certainly manufacturers of VCRs and televisions in Europe, more than in the U.S.—at a substantial cost to the general population and economic welfare? I don't want to defend Japan by any means. Japan doesn't play by the same rules, and our economic relationship with Japan is more difficult than perhaps any other, if you take away this agriculture problem with the European Community. But I'm not sure that the answer is to close ourselves off from Japan, prevent Japanese investment in the U.S. Japanese investment does serve a certain positive role. As you say, we are closing companies; we're just looking at a couple of proposals by Japanese companies to take over companies in the U.S. which would otherwise close. Now what do you do? Say the Japanese can't invest there and these people are going to be out of jobs? The Japanese investment is high profile, but it isn't our largest. The U.K. is by far the largest investor in the United States, and Japan is a very poor second.

Richard Fisher: I think you have to be very careful not to be emotional about this issue. And I think the Secretary made a very good point in his speech. Our government, for all practical purposes, serves as the opposition government in Tokyo, and there's a nice symmetry to it because they finance our government in Washington to a degree of the margin. I spent the first three months of this year there as a U.S.-Japan Leadership Fellow meeting all the political, business, and civil leaders in the country—153 of them I think it was. And I think Professor Rostow's point that a transformation over time will take place is indeed correct. You have to remember where they started from. It's a very simple equation. They had surplus labor immediately after the war, and they had no capital. They had to feed their people, house them, etc. And that they did by creating a system of subsidies

and protectionist measures that was superbly successful, given the way they worship and deal with bureaucracies. They now are on the flip side—that is, they have a surplus of capital and a shortage of labor by virtue of their hard-earned success. And they now have to transform their society to deal with that situation. Regulating and protecting is a risky business. We've learned that with our banking system. Charles Dickens had the best definition of regulation, or insurance as he called it, I've ever heard: when one person who cannot pay gets another person who cannot pay to say that he can pay. Now that's what got us into trouble with our banking system. And I think to try to regulate out what is a historical market, economic, financial force, is a risky game to play. It has to be done with a very deliberate hand. And I think the Secretary asked a very good question. What does Dick Gephardt and the Congress do? He can beat up on the Japanese for buying assets. What if they start selling assets in this country? What if they dramatically start selling U.S. government bonds, or start selling real estate in Century City, which they are about to do in Los Angeles? Or refuse to finance us? Then I think you've got a cost that has to be paid. So there's a balance here and one has to be deliberate about it.

George McGhee: Yes, the last lady who questioned about what we should be concerned about in these Japanese takeovers—as I mentioned before, I consider the most important thing the effect on employment, the working conditions. Unemployment is a malaise in our country which is worse than the loss of capital. But I think also, like we have antitrust laws, we could have regulations about industries which are critical to the culture of our country. And to me, for instance, publishing, national television, even entertainment, may fall in this category, and we should perhaps limit the amount that a foreigner can hold. May I make one point on our leadership role in this world? We don't seem to realize that we are now *the* world power. There are not two world powers. We are the only world power. But this has come about, not through any great improvement in ourselves, because we have been in a sense declining relative to the other countries. It happened because we were in a race. The second member in the race stumbled and fell. And in the U.N., the third and fourth members of the race were disqualified because of bad behavior in the past. So we don't have the USSR, Germany, or Japan as competitors in the U.N., and we don't have the USSR any more as competitors in the world. We mustn't let this go to our heads and think that we've inherited the problems of the world.

Judge John Brown: I want to change the whole direction. It seems to me very strange that none of the speakers today, and particularly in this segment of the program, mentioned anything at all about crime—not only domestic



crime, national crime, international crime, big crime, involving all sorts of activities across the world. Is the question of crime one of the global forces that is going to affect the transformation, which is the title of Professor Rostow's concern? That's my inquiry.

Walt Rostow: As the one pure professor here who has no responsibility to anyone but himself, I'll be glad to answer this difficult question. I'm an historian. I know what crime was like in London in the eighteenth century. I know what crime was like in New Haven when I grew up. Yes, we have crime, and in certain manifestations, it is greatly heightened by the scale of the drug problem in the world. There have been drug problems before. But I think it's also worth remembering that it's an endemic problem in all civilizations—not to be complacent about it, but not to be obsessed with it either. And yes, within the United States, if you ask citizens what the order of priority of their anxieties is in our cities, I think crime would rate very high. And I think efforts to deal with it deserve much greater priority. But the greatest weakness, I think, at the moment is the pressure on the public budgets. One of the really worrying things is the number of policemen per thousand in the country, which has not been increasing. And so I would, certainly on the domestic level, put crime very high. On the international level, I think it's the crime connected with drugs, the whole international drug problem which is involved with crime, that deserves a high priority.

Chrys Dougherty: Thank you very much.

## FRANK WOZENCRAFT

LADIES AND GENTLEMEN: I WOULD NOT INTERRUPT YOUR LUNCH FOR A SPEECH, but I would like to share with you a bit of background and a message. When I was considering this program, Dorman Winfrey sent me a collection of the *Proceedings* of earlier meetings. They were absolutely fascinating. One of them was a 1972 meeting which was addressed by a promising young Congressman from Houston on the topic "The World in Transition." So when we decided on this program, I wrote to President Bush, inviting him to update his 1972 speech at this meeting, since he has had so much to do with the world's transition since then. Unfortunately, but not surprisingly, he was very busy elsewhere, and for our country's sake, we are very glad he is. But he has sent us a message which I would like to share with you if I may:

The White House  
Washington

I am delighted to send warmest greetings to all those gathered in Houston for the 153rd anniversary meeting of the Philosophical Society of Texas. My special greetings to President Frank Wozencraft, to former President George McGhee, and to all my dear Texas friends. The theme of this year's Society meeting, "Texas and the Changing World," could not be more timely or appropriate. Recent events around the world have forcefully reminded us that the magnitude and pace of economic and political change can often exceed by a wide margin our most firmly held expectations. Indeed, dramatic and far-reaching change will most likely be the norm rather than the exception in the months and years ahead. Within this exciting and challenging context, individual citizens and leaders from around the world are coming together as never before to share ideas and to identify common interests. Your gathering is certain to be equally valuable and rewarding as you discuss the future of the Lone Star State in the rapidly changing global marketplace. I commend the members of the Philosophical Society of Texas for your contributions toward the study of Texas history as well as specific social and economic issues before the state and our nation. Keep up the good work.

Barbara joins me in sending best wishes for a successful and enjoyable weekend. God bless you.

Sincerely,  
George Bush

I will be pleased to convey to the president your applause and appreciation for the message that he sent us. We are also glad, among other things, that the president took with him to Washington, Lauro Cavazos, as his Secretary of Education. He is with us now, and he will be speaking to us as our first speaker after lunch, so I hope all of us can be there at 2:00 so he can start his speech on time. Thank you very much.

Panel III

NEW DIRECTIONS AND OPPORTUNITIES FOR TEXAS

FRANK WOZENCRAFT

CHARLES W. DUNCAN, JR., IS A FIFTH-GENERATION HOUSTONIAN WHO HAS RISEN to the heights in business and government and community service. He served as president of Duncan Foods, Coca-Cola Europe with the Coca-Cola Company, and secretary of energy and deputy secretary of defense under President Carter, and he has been chairman of the Houston Chamber of Commerce. He continues to serve as chairman of the board of governors of Rice University and in countless other capacities. He is a longtime philosopher and a great friend. Charles Duncan will introduce the speakers and moderate the program from here.

CHARLES DUNCAN

THANK YOU VERY MUCH FRANK. I AM CERTAINLY PLEASED TO HAVE THIS SMALL part on the program and to be able to participate with these very distinguished people. This morning we heard a great deal about change...mostly from a historical and a global perspective. We are increasingly an interdependent world where technology and information flow do not respect political boundaries. As Richard Fisher told us, some fundamental questions were raised. This afternoon we are going to hear about change from a more local view, take a look at how well Texas is prepared for its future, what all of this means for Texas.

Preparing for change is an important order of business, and I suppose in one way or another, this has always been true. Every society has its concerns about the world to come. Throughout history much has been written about the importance of educating successor generations to prepare them for future events. In Texas we are no different, and we are here today to consider them for future events. Fortunately, there seems to be little question as to the availability of opportunity.

We heard something of our history this morning. Historically, Texas has been very hospitable to change—perhaps more so than most societies. In this state, our Texas ancestors have repeatedly demonstrated their ability to alter their ways to take advantage of opportunity.

To make this point, look at the past. It was only a little over two hundred years ago that the King of Spain received an official report from an envoy recommending that Texas should be given back to nature and the Indians. In the history of a people that was not very long ago. From the time of that

dismal appraisal, change has occurred very rapidly. Within some 50 years—not beyond the memory span of one individual—the assessment of Texas transformed dramatically. Thomas Jefferson wrote in 1820 that “the province of Techas will be the richest state of our Union, without any exception.”

Within one additional 50 year span, Texas fought and won a major war, formed an independent nation, and joined, seceded, and rejoined the United States. We might guess that our predecessors of that time also may have convened to discuss “New Directions and Opportunities for Texas.”

Jump ahead one more memory span—a little over 50 years—and you take in the changes brought to the state by the discovery of immense oil deposits—and in another similar span of years the opening of the Manned Spacecraft Center.

What a grand parade of history—in less than four lifetimes from a remote territory to a major industrial state—from a province characterized as “a place where still more space is where nobody is than where anybody is” (to paraphrase Gertrude Stein), to a place that successfully hosted the world economic summit. One must conclude, looking at the data, that Texas has been successfully opportunistic in the past, well able to accommodate and prosper from a set of remarkable changes. Historically we have done very well.

In addition to being opportunistic, Texans have also been optimistic. For the most part, our Texas forebears expected to profit from each and every change.

Besides opportunism and optimism, the history of Texas also has been characterized by pragmatism. As a culture, we have tended to test ideas by their practical consequences. We have valued common sense and learning by doing. The frontier mystique has argued that we can pick up what we need to know on the scene. Formal education has been valued less in the past times than hands-on experience. While we have agreed with Adam Smith that our wealth is in our people, we have concluded that being good adaptable people, it is our right to prosper from change—that history is on our side. We have always been ready and opportunities have not been lost.

Yet today as we hear about new directions and opportunities, we may want to challenge the Texas frontier psyche. We may need to question what in business terms we might call our human resources policy. We are hearing about the commercialization of rapidly emerging scientific findings on a global basis. We are being told about a different type of competition for Texas—one that values “headpower” over horsepower.

The old practical frontier concept that workers can pick up what they need to know on the job is subject to question. The value of formal training needs to be elevated. On the new global frontier, where more complex technologies require better-educated workers, it can be argued that only the technically literate will prosper.

Dr. Cavazos, who will speak to you next, has written that our students, when compared with their peers in other countries, "placed at the bottom in test after test in science, math, biology, chemistry and physics." Do these results suggest that we are properly preparing for the future of Texas?

All societies to some extent, and new societies especially, plan for the future around the assumption that their successors will be better educated and more prosperous than they have been. Are we now producing the first generation of Texans who cannot realistically expect to be better educated and more prosperous than their parents?

As we meet today to discuss Texas and the changing world, we can rejoice about the greatness of Texas as we look backwards. However, our speakers will force us to look forward and may suggest that we reconsider the policies and the values of our past in a new light.

If our human resources policies are among those issues that are the most important, it is fitting that our first speaker is an experienced educator. He is formerly an anatomy professor and president of Texas Tech University. Appropriately also, our speaker is a native Texan, a product of Texas schools and a participant in the on-going national debate on public education policy. Like many who have studied current conditions in education, he has called for the restructuring of the nation's schools. He got his undergraduate degree at Texas Tech, his doctoral degree from Iowa State University, and has received numerous honorary degrees. Who could be more appropriate to speak to us on "Education: A Global Imperative For Texas" than the person who heads our administration's efforts to improve education, and also a person who is a sixth-generation Texan? We are very fortunate to have him here with us today. I am pleased to present to you the Secretary of Education of the United States, the Honorable Lauro F. Cavazos.



## EDUCATION: A GLOBAL IMPERATIVE FOR TEXAS

LAURO F. CAVAZOS

THANK YOU VERY MUCH. IT IS INDEED A PRIVILEGE FOR PEGGY AND ME TO RETURN to Texas, visit Houston, and see so many of our friends from the Philosophical Society of Texas. The last session that we heard made it clear that we are living in a global economy, and it is creating new demands and requirements that can be summed up in one word—competitiveness. Just two weeks ago, I returned from a meeting in Paris of the Organization for Economic Cooperation and Development (OECD). Twenty-three nations were represented by their secretaries or ministers of education. The theme of that meeting was education. It was apparent that all of the nations represented saw education as making the difference in attaining global economic competitiveness. I am convinced, however, that education brings other benefits to a nation in addition to economic advantage. America must have an educated society, because our concept of Jeffersonian democracy is based upon an educated electorate. When the educational system fails, the America that we are dreaming of will not evolve.

At the close of the domestic education summit in Charlottesville, Virginia, the president and the governors of the states and territories issued a joint resolution that stated, "As a nation we must have an educated work force second to none in order to succeed in an increasingly competitive economy." For Texas, as well as for the nation, to move forward will require a highly educated work force. I am concerned that this competitive edge will not occur unless we correct our education deficit in Texas and in America.

I link our education deficit with our budget and trade deficits. The latter two deficits will not be resolved until we solve our education deficit. Just as we can quantitate the budget and trade deficits, I can quantitate our education deficit.

There are approximately 27 million Americans who are illiterate. Another 40 to 50 million adults read at the fourth-grade level and, therefore, are unable to perform effectively in the work place. Texas ranks next to last in literacy amongst the states.

Between 600,000 to 700,000 students drop out of school each year. In Texas last year 92,000 students did not receive their degree after four years of high school. The average graduation rate in the nation is 71.1%. In Texas, the graduation rate last year was 65.3%, low enough to rank Texas 44th out of the 50 states.

The national SAT score fell 34 points from 1972 to 1989. The SAT average in Texas fell by 44 points during the same period. Texas ranks 17th of the states that use the SAT or 5th from the bottom.



After taking the Texas Educational Assessment of minimal skills, only 62% of ninth graders demonstrated mastery of all subjects tested. This means that four out of ten failed to meet the minimal standards for reading, writing, and mathematics.

The top 5% of our high school students know less about mathematics than the average high school student in Japan. Our best high school students—those bound for college—rank near the bottom of students from 13 countries in chemistry and physics, and in biology our students finish last.

This litany of failure quantitates our education deficit. Texas is a full partner in the academic decline that has produced America's education deficit. Like the rest of the nation, Texas may be at risk of failure in measuring up to the demands of competition in a global economy.

What must we do to correct our education deficit? We must emphasize attainment of reading and writing skills and excellence in mathematics and science. There are other strategies to improve education. Perhaps one of the most significant steps was taken in 1989 when the president convened a domestic summit. It was only the third time in the nation's history that a president had called a domestic summit. The first one dealt with the environment and was called by Theodore Roosevelt. The second one was convened by Franklin D. Roosevelt to address the economic depression. It is highly significant that the third domestic summit addressed education. I told the president, "Just by calling this summit, you have taken an enormous step in directing the nation's attention to our educational issues and problems and the opportunities to significantly improve education." We left the summit with three issues to address. One, to set national education performance goals and to report on our achievement of those goals periodically. Two, that we would provide more flexibility in the use of federal education dollars if the states would be more accountable. Three, that we would undertake to restructure elementary and secondary education in the United States.

Considerable time was devoted to developing six national education goals, and for the first time in America's history we made a statement as to where we would hope to be in terms of education by the year 2000. As I review these goals, evaluate them in view of the education deficit in Texas. First, by the year 2000 every child starts school ready to learn. This is an enormous commitment. Early childhood education and the role of parents as teachers must be emphasized if we are to reach this goal. Second, increase the graduation rate to at least a 90% by the year 2000. Minnesota already exceeds this, and Iowa, Kansas, and Wisconsin are close to 90% graduation rate. Clearly, Texas has a long way to go to achieve this goal by the year 2000. The third goal is that by the year 2000 all students demonstrate

competency in challenging subject matter, including English, mathematics, science, history, and geography. Students must also learn to use their minds well so that they are prepared for responsible citizenship and for productive employment. The fourth goal is that by the year 2000 our students be first in the world in science and mathematics achievement. The fifth goal states that by the turn of the century every adult citizen be literate and possess the knowledge and skills necessary to compete in a global economy and to exercise the rights and responsibilities of citizenship. The sixth goal is that by the year 2000 every school in America be free of drugs and violence and have an ambiance conducive for learning.

Some maintain that these goals are not significant or realistic, but I suggest they consider the consequences if we do not reach our goals. Others feel that we cannot reach our educational goals by the turn of the century. I believe that we can, and I have proposed strategies that should be employed to assure that we reach our goals. These strategies call for restructuring education. Educational change is on everyone's agenda, including the business community, teachers, parents, and community leaders. Last year American businesses spent 50 billion dollars on remedial education.

Many advocate that the major ingredient needed to improve education is to provide more funding. I do not agree. It is estimated that this nation will spend 256 billion dollars on elementary and secondary education during the 1990-91 academic year. We spend a higher percentage of our gross national product on education than we do on defense. Between 1980 and last year we increased education spending, adjusted for inflation, by 28% or 40 billion dollars. During that decade we failed to significantly improve the education system.

I am convinced that our system of education as it is structured and delivered today cannot be salvaged. We need to change and vastly improve our schools. Strategies for change include school choice and school-based management. The former empowers parents to choose the school their child will attend, and the latter empowers teachers and principals to manage their school on a day-to-day basis. These teaching professionals accept responsibility in exchange for autonomy. It has been demonstrated that school choice and school-based management are powerful tools to improve schools. With these strategies competition is introduced into education, and schools will be of excellence or they will be declared academically bankrupt. There are many other strategies for changing schools that range from earliest childhood education through adult learning.

Some have said that I have not done my job as Secretary of Education because two years into my tenure as secretary we still have an education deficit, and significant change has not occurred in our schools. I am pleased

that the U.S. Department of Education has little authority. Our job is to do research, gather data, and provide funding for disadvantaged and needy students. Significant change will come from the local school board. There are sixteen thousand independent school boards in America, and in them is vested the power of change and improvement.

Texas has a changing society. A pressing need will be to come to grips with the growing diversity of our society, and the educational opportunities and problems each ethnic group faces. For example, it is estimated that by the turn of the century there will be 40 to 50 million Hispanics in the United States. Today, the ten largest urban school districts in America are already 70% Hispanic or African American. We must prepare teachers who are capable of fully educating a diverse population so that these students can eventually participate in the political, social, and economic life of this nation.

Economic competitiveness in the twenty-first century is entirely based on excellence of education. Unless we act soon to substantially improve our system of education, we will discover the terrible penalty of failing to prepare large numbers of our young people to meet the challenges of our complex economy. The only solution is for Texas to pursue education improvement with the same vigor and purpose it devotes to improving its economy.

CHARLES DUNCAN

THANK YOU VERY MUCH MR. SECRETARY. THAT WAS A VERY INSPIRING TALK, AND it outlines some problems that many of us are terribly concerned about. I will introduce our next two speakers. But first I want to make a comment about Mr. Robert Decherd. The last question before lunch today had to do with crime. I believe it was Judge Brown who asked about crime. Unfortunately, the night before last, Mr. Decherd and his wife were returning to their residence and there was an armed intruder, and at gunpoint they were robbed and that was obviously a very harrowing experience for them, and they just weren't in shape to make the trip to Houston. So, crime has impacted the people who will speak to you this afternoon. Now, one reason I am going to introduce the next two speakers together is I was asking them just before the program started what I should say about them. And they both said the same thing. They said, say that we are witty, we are intelligent, and we are charming. So with that stipulation I will now tell you a few more facts about our two speakers. The next speaker will be Mr. Harden Wiedemann. He is an individual with significant experience in economic development, and as we talk about the future of Texas, economic development, and economic

diversification specifically, are going to be terribly important. He is the former head of the Texas Economic Development Commission and the North Texas Commission. He was actively involved in the efforts that recruited several major new operations to Texas, including the microelectronics and computer technology corporation, sometimes referred to as MCC. And the superconducting supercollider. The SSC. He has also worked for the United Nations in the International Trade Sub-Committee of the U.S. House Ways and Means Committee. Mr. Wiedemann is a graduate of the U.S. Naval Academy. He is the chairman of Bristol Overseas Management Corporation. That is an organization that specializes in offering assistance to U.S. companies that wish to increase their global market share, something that Texas companies are going to have to think about increasingly in the future. He is going to speak to us on the topic of Texas infrastructure. The speaker that will follow him is Mr. Raymond Smilor. The next topic involves commercializing technology. To address this topic, we have the executive director of the IC<sup>2</sup>Institute. That is the Institute of Constructive Capitalism in Austin. He is also an associate professor of management in the graduate school of business at The University of Texas. He is a well-known consultant, researcher, and lecturer in the area of technology transfer and economic development. He is the author of several books, most recently, *Consumer Driven Marketing: Lessons from Entrepreneurial Technology Companies*. Mr. Smilor got his Ph.D. at The University of Texas at Austin, and his subject will be commercializing technology from the lab to the marketplace. First Mr. Wiedemann.



## THE NEW GLOBAL INFRASTRUCTURE

HARDEN H. WIEDEMANN

THANK YOU VERY MUCH CHARLIE FOR THAT VERY KIND INTRODUCTION. LADIES and gentlemen, it is a real pleasure to be here with you today. The title of my talk today is the "New Global Infrastructure." I will address how Texas' infrastructure fits into the new global infrastructure. Before I get into that, let me just tell you that you must be a very important group. I told Frank earlier today that I hadn't heard of the Philosophical Society of Texas before. He told me that this is because you like to keep the nature of your organization quiet in the event that there are people who apply who wouldn't be able to get in. I told him that I first got an inkling of how important this group really was when I got a call from George Kozmetsky informing me that I would definitely be speaking here. There are very few things that I will take Saturday off to do, but this is certainly one of the groups that I would want to come and speak to. Normally I relax around the house, play with the kids, and today I probably should be doing my Christmas shopping. George sent me the agenda for the meeting and it was all laid out, including all the speakers who were already plugged into their spots and their topics. Then I talked with Frank, and he informed me that this was, indeed, a very important group. He informed me that there was no travel expense that would be covered, no honorarium, and indeed they couldn't meet you at the airport to pick you up. So I guess I really am honored to be here. This situation reminds me of the story of Gough Whitlam, the recent and very charismatic prime minister of Australia, who created quite a stir in his country when he announced that he could walk on water. The media, of course, was in a tither. A huge number of media, both the national and international press, gathered at a lake on a particular Sunday morning and waited patiently while Gough prepared to perform his miracle. So he stepped out onto the water one step at a time and indeed he walked across the water from one side of the small lake to the other. Everyone dashed away at high speed to file their reports. The media reported that this was absolutely incredible, nothing like it had ever happened in recent history, and the next morning all of the newspapers were heralding his great achievement. But Rupert Murdoch's newspaper in Canberra had this headline: Whitlam Fails to Swim Across Lake.

So, if you fall into that category of skeptics like Rupert Murdoch's paper as far as how interesting a speech on "infrastructure" could possibly be, I hope you will give me the privilege of defining infrastructure a little bit differently than it might normally be defined. If you want to know the truth, infrastructure could probably be one of the most boring topics you could

possibly ever talk about. If you will think for a moment in your mind's eye about what you visualize when you consider infrastructure, I'll venture that the thing that comes to mind is probably roads or concrete. Infrastructure is traditionally something that if you kicked it hard it would probably hurt your toe. Well, that is not the kind of infrastructure that I want to talk about. If you think about traditional infrastructure in the Dallas/Fort Worth Metroplex, you would probably think of the Dallas/Fort Worth International Airport. But highways, sewage systems, airports, expensive capital assets are not really what I want to talk about. If you talk about the educational infrastructure that Education Secretary Lauro Cavazos presides over, you might think about school buildings, classrooms, chalkboards, desks, chairs. In the scientific world you would think about laboratories, flasks, Bunsen burners, rubber tubing. That is decidedly not what I intend to address. Are these things important? Absolutely. Would I be saying anything new or innovative if I said we have to continue to invest in these infrastructures systems? I don't really think so. "America in Ruin" became the buzzword of the 1980s as far as the clarion call for investing in America's crumbling infrastructure. There is no question that a road with potholes in it does not deliver goods and services as effectively as a new or well-maintained road. But I don't believe that is the point today in terms of the new global economy. So indulge me if you will for a few moments in trying to define things a little bit differently.

In as high powered a group as the Philosophical Society of Texas, I wanted to take the onion of infrastructure and peel back a couple of layers beyond what appeared to me to be the obvious. So the question I think that we have to ask today is: What is at the heart of the new global infrastructure that would allow us as a state, Texas, to compete effectively in what is a world of very disturbing rapidity of change? And so what I would like to talk about today is what I call "soft infrastructure." It doesn't hurt your toe. It is the flip side of hard infrastructure. Hard infrastructure is concrete, runways, sewage systems, the things that I previously outlined. As corporations begin to think more globally and indeed organize everything, marketing and everything that they do, in a global context, and as governments strategize on a global basis, why shouldn't we think of infrastructure in a global context?

So that's what I would propose to do for the next few moments in order to honor Ray Smilor and George Kozmetsky who just got back from Beijing. I would like to break this analysis into the "old gang of four" and "the new gang of four." The old gang of four is characterized by these four words: concrete, capital assets, private, and closed. That would be the way I would characterize traditional infrastructure. Concrete, capital assets, private,

closed. The new gang of four is characterized by (1) process or fluidity, (2) systems, (3) shared, and (4) accessible. Like the revisionists in China, we want to sweep out the old gang of four, and we want to concentrate today on the new gang of four or soft infrastructure, which in my mind is much more important than the old gang of four presuming we all know you have to invest in those capital assets that I mentioned. The two new runways at DFW Airport that we're fighting over so intensely in the Dallas/Fort Worth area are critical. They are necessary but not sufficient to be successful in the global economy. The hard infrastructure is the foundation. The soft infrastructure is the house. Soft infrastructure is much more subject to architectural finesse or new creation. Hard infrastructure is there. It is in place. It needs to be maintained. It needs to be invested in. The new Perot/Alliance Airport in Hasselet, Texas, is a wonderful thing. It is creating totally new possibilities in the Dallas/Fort Worth area, but it is not the runways and the hard infrastructure at Alliance that counts, it is the new global relationships and strategic alliances that it permits that are what are really critical and what we should focus on. The Chunnel, this new tunnel under the ocean between England and France is important. It will open up entirely new possibilities, it will expedite commerce between the U.K. and the rest of the EC. The strategic alliances that are made possible between British and French companies or British and German companies as a result of that tunnel are really in a way much more important than the tunnel itself. So then if airports, highways, and mass transit systems are out, what is in?

I would like to lay out four scenarios that I think illustrate this new infrastructure that we have to strive for in Texas to be successful. This is an example of the "soft" part of soft infrastructure. First, the superconducting supercollider (SSC) would be an example of the new gang of four, a process of fluidity which you would contrast with concrete or a hard capital asset. In the supercollider process we developed a work class team in Texas to go after a project that nobody thought we could win. It was an evolutionary process that took a great deal of time and effort. But the connections and the relationships that were made are lasting and will persist far into the future. These relationships are institutionalized now in the Texas National Research Laboratory Commission, which presides over the building of the supercollider in Waxahachie. There was recently a major conference in Waxahachie on particle physics, which up until now had only been known for agriculture and possibly Horton Foot's films, which had over one hundred eminent international particle physicists coming in from all over the world. To think about all that intellectual and scientific brainpower being assembled in little Waxahachie to me was really mind boggling. Because now this little sleepy Texas town will become truly the world



capital for international particle physics research. Particle physics, as you may know, has more direct input as a scientific endeavor, into practical spinoffs and innovations than almost any other type of scientific endeavor. The economic impact of the supercollider will not be that great. If you look in Batavia, Illinois, at the Fermi lab, they have been disappointed at the jobs and the income that has been pumped into the economy from the Fermi lab. The point is: the SSC resets the curve and redefines the geography, if you will, for Texas as an intellectual capital. It was that SSC team that we put on the field to capture that enormous scientific prize that is the important part of infrastructure, not the fact that hundreds and hundreds and hundreds of tons of concrete will be poured to create the tunnels that the particles will travel in and collide with each other.

The second example I would use of the new or the global infrastructure or soft infrastructure is what the American stock exchange is doing in systems. This second example illustrates the "systems" orientation of the new global infrastructure. The American stock exchange, and I am proud to say my company Bristol is playing a very small role in this, is creating a data base to help their listed companies, which tend to be the smaller companies, say 50 to 250 million a year in sales, the growth-oriented companies. They are creating a data base to assist these companies to go international. Surprisingly, of the 400 companies listed on the American stock exchange, only 15 to 20% are involved in any substantial way in international business. They want to provide a catalyst for new strategic alliances between these AMEX companies and potential joint-venture partners. And they believe that on a microcomputer-based system using a Macintosh and marvelous software called 4th Dimension they can create a data base that will be extremely user friendly for these AMEX-listed companies to go international. All this is modeled on General Electric Country Management and Business Development Group which I will talk about in just a moment.

The third example that I would cite to you of the new soft infrastructure or global infrastructure is what we are doing in the Dallas/Fort Worth area with an organization called the Dallas/Fort Worth International Trade Resource Center. This third example illustrates the "shared" aspect of the new infrastructure. We have developed an international educational consortium that is an example of a "shared resources endeavor" as contrasted with the old gang of four being more closed in its orientation. This shared educational consortium is the following: we discovered in an inventory several years ago that we had over one hundred international efforts underway in Dallas with absolutely no coordination whatsoever. A significant part of those were educational efforts geared to trying to help people

from primary school all the way through graduate school and beyond, well into the management rank of companies, how to be more effective, how to compete in the world economy. But there was no coordination whatsoever among those. So we created the Dallas/Fort Worth International Trade Resource Center. Now every community college, every university, every training institute that offers an international educational course in the Dallas/Fort Worth Metroplex does so at this new facility in the World Trade Center on Stemmons Expressway in Dallas. This example shows how, when resources are scarce, they have to be focused more effectively in order to be more productive. They cannot be spread out over too broad a base. Thus with non-traditional students, non-traditional teachers, teaching courses at non-traditional hours, in a non-traditional classroom, we have a new "shared" international university that we feel is very important as an example of the new shared infrastructure. In it faculty, curricula, materials, courses, students are all shared, thus developing enormous synergy.

The final example is illustrative of the new infrastructure being accessible. We want to contrast this with most traditional infrastructure which is closed. General Electric, which is probably the most successful, international company in the U.S., has 75 strategic alliances worldwide in 63 different countries. It regularly conceives, forms, and grows these strategic alliances in a very effective way. GE recently underwent a fundamental change in the way it structured its worldwide organization. The company has struggled with the tension between a global focus and a local customer-driven orientation. In order to be successful in today's world you have to be close to the customer. However, competition is mandating a global-market orientation. So there is this enormous tension between global and local. GE International throughout the 1980s had been the focal point or the top of the pyramid for all of the GE subsidiaries all over the world reporting into it about their operations, their profits, their losses, their objectives. In 1985 the company changed all that because they didn't think that was consistent with their overall objectives in the new global economy. Now they have a new organization called the Country Management and Business Development Group (CMBDG), headquartered in London. The individual product groups, like GE Lighting, are responsible for all of that particular type of product, like their lighting products, all over the world. Those product groups, avionics, lighting, plastics, etc., are not necessarily headquartered in the U.S. They could be headquartered anywhere, but they are responsible for that entire product segment of GE's activities worldwide. GE International was disbanded, and this new Country Management and Business Development Group was formed. This new business development group goes into a new international market and does the early spade work of assessing the

market, finding new contacts, new business possibilities, for all the various different product groups of GE. Then a senior manager, like Jack Welch the chairman, would go in and do a very high-profile visit that would further develop the CMBDG's groundwork. Finally, the individual product groups, such as lighting, would be introduced to the country through the Country Management and Business Development Group to make their own independent assessment of the potential of that market. Of course the individual product groups have to live or die by their own forecasts and projections because ultimately it's the individual product groups, not headquarters, that are directly responsible for operating results. But this Country Management and Business Development Group, which is clearly, I think, the best in the world at what it does, is a shared, highly accessible general repository of contacts, opportunities, market research, and information to help the entire company across this broad spectrum of operating companies in the different product groups. And it's an example, in my mind, of organization as infrastructure. An example of the new accessible soft infrastructure. It is not a capital asset, it is not a runway, but it is an organizational approach to infrastructure that makes that company more competitive in the global economy.

I think oftentimes we miss the point when we have these national groups that study the fact that we need to invest hundreds of billions in our crumbling infrastructure. That's obvious. The analysis often falls down on how we finance something of that kind. But I think it is important for us also, particularly in Texas, to look beyond the obvious fact that we have to have these systems to have the new infrastructures that are required to be competitive. In conclusion, I would just highlight that what is *not* required in the future as far as infrastructure for Texas is the old gang of four: concrete, capital assets, private, and closed systems. What are required are things like the supercollider team that won for Texas in an example of process and fluidity in the new infrastructure. What are required are new systems such as the American stock exchange is creating with their international data base, which is an example of the systems orientation of the new infrastructure. What we need is a shared approach to resources such as the International Trade Resource Center in Dallas with its international educational consortium. What we need is an accessible approach to infrastructure such as GE has created with their new Country Management and Business Development Group, where organization is infrastructure. I would just add that in Texas we certainly have a leg up on other states in doing this. Because with soft infrastructure, with the new global infrastructure, there is a premium on people, communication, relationships, and technology. And these are all certainly things we excel in in Texas. I think

we will continue to be a more and more competitive state in the overall scheme of things, both nationally and internationally, as the new soft global infrastructure comes into play as contrasted with hard capital assets of the past and traditional infrastructure.

Thank you very much.



## COMMERCIALIZING TECHNOLOGY: FROM THE LAB TO THE MARKETPLACE

RAYMOND SMILOR

I AM GENUINELY HONORED TO BE HERE FOR TWO REASONS. I CAME TO TEXAS ON a hot August afternoon in 1965. I came to Austin at that time to find an education. In addition to finding an education, I found opportunity and, more importantly, a home. I now have two native Texans in my family. And over the years, as I have benefited from this state and the opportunities that I have seen here, I have a desire, which I think is reflected in this society, to give something back. I want to share some of those things that I see happening about people giving something back across Texas in the area of technology this afternoon.

There is a second reason. I am not a technologist, I am an historian. My Ph.D. is in U.S. history. The focus of that was in business history and science and technology, and over the years I have had the opportunity to get involved in business, technology, finance, marketing, management, and a diversity of issues that relate to the business sector in our emerging state. I see in this society a desire to open up, to combine perspectives, to bridge worlds, so to speak, and that is another reason I am pleased to be here.

I want to talk about a new frontier that I see emerging in my state, in Texas. It is a frontier not of cattle and cotton and not of oil and gas. It is a frontier of intellect, technology, and enterprise. We are on the edge of that frontier, and what we do today will determine how we blaze the frontier in this state for the twenty-first century. I would like to talk about this idea of commercializing technology. Of the process of moving technology from the laboratory, where the research is done, to the marketplace, where it is determined viable and profitable.

What I have observed in working with companies large and small and in seeing this process in a variety of settings is that this process is an adventure. It is unpredictable, it is challenging, it takes twists and turns, and it has unexpected outcomes. In that process of unpredictability, there is potential reward. And not just financial reward, but personal, intangible reward that comes by being involved in that process. In talking about the process, I would like to refer to two examples to demonstrate some of the issues involved in moving technology from the lab to the marketplace. One comes from a large company, another a small one. One example represents a major regional economic development initiative. Another, an innovative step for a university. One is something we are all familiar with. Another is radically new and different and revolutionary. But in both I think we see intriguing examples of key factors involved in commercializing technology.

Let me give you a brief prospectus of these two examples.

First, the one that is familiar, that's ubiquitous. That all of you and I use most everyday. It is the example of the ubiquitous Post-its. This is innovative technology, and an example from a large company, 3-M Corporation, a Fortune 100 company, of moving technology from the laboratory to the marketplace. A technical person, Spence Silver, was charged with developing a stronger adhesive. He was suppose to make a bond that really stuck. And he came up with this glue that kept coming off. And as Spence Silver talked to people in 3-M, they would say, "That's interesting Spence. Do you have any that stick?" and Spence would say, "But isn't this interesting. This one doesn't stick. This is different." The fact that something is different, that it is unique, is part of the essence of technology commercialization. What he began to do was go around the company building relationships, talking to other people, asking what can we use this for? He had a unique technology, but he didn't alone have resources to develop something. He put together a team essentially, which in turn took that unique product to the marketplace. Today, 3-M has a cash cow, revolutionary technology that was taken from the lab to the marketplace.

There is another example about a company called DTM, Desk Top Manufacturing. This is a "gee whiz" technology. You watch it and you go "GEE WHIZ, DOES IT REALLY DO THAT?" Yes. Imagine a 3D copy machine. What DTM does is take a computer and draw a three-dimensional graphics picture. Imagine a ball within a box. The company hooks the computer up to a laser. The laser shoots into a powder, and the powder is shaped into that very object. A ball within a box. This could revolutionize manufacturing worldwide. That is the implication of it. It is a company started by a student in the mechanical engineering department of The University of Texas at Austin. It got help from two other people who formed the initial team. This university has taken an equity position in the company. They are now seeking to commercialize this revolutionary technology that is radically new and could obsolete what came before. What factors are involved in these two very different but in many ways similar cases?

[Showing slides] Let me show you some of the factors involved in this adventure of commercializing technology and give you some intriguing insights on what is happening in Texas in this process. What I would like to do is emphasize four factors that seem essential to this process. All four must be present whether you are in the large corporation or whether you are entrepreneurially spinning something out of a university. Those factors are talent, technology, capital, and know-how. By talent, I mean individual drive. The desire of someone to do something with whatever he or she creates. Without that internal drive, that mechanism for self-achievement

in a sense, nothing else happens. And in Texas I have seen this pool of entrepreneurial talent that we see in other places, such as Silicon Valley, Route 128. We see this talent coming, not only from universities, but from large technology-based companies. So this pool of talent is the first prerequisite for the technology commercialization process.

The second is technology. Two elements about this are important. Who performs it, where does it happen? There needs to be this base, this resource of technology.

Third, the fuel for this commercialization process, the *sine qua non*, without which nothing else happens, is capital. But where does the capital come from? If I have talent, someone who wants to do something, and if I have technology, that indeed might be commercializable, I need some way to finance it. Thus, capital infusion becomes necessary.

Last, and perhaps most importantly, is know-how. Not just technical know-how, that is, is this truly feasible, does the technology actually work?—but business know-how, do I have the management, the marketing, the financial savvy to do something creatively with this in the marketplace? These factors determine whether or not technology commercialization will happen.

Now each of these factors is dependent on a set of what I will call initial conditions. There is a sensitive dependence here for each of these. In terms of talent, where does talent emerge? Well, we see key issues related to the climate or environment of a region. The kind of soft infrastructure that Harden referred to is exactly what we are hitting at here. Is there an environment that recognizes and rewards innovation? Is there an environment that tolerates failure and mistakes because they are perceived as part of a learning process. I am reminded of the wonderful comment by Thomas Edison who once was told, "You have tried a thousand things for the filament for a light bulb, and you have failed a thousand times." And Edison's response was, "No I haven't failed a thousand times, I have learned a thousand things that don't work."

At work on this talent, on these individuals, are what we call push-and-pull factors. There are some factors that push people to try to commercialize and others that pull them. Let me explain the difference. Push factors are negatives. In a large company, if someone can't get an idea accepted and they really want to try it, they may opt to leave. In other words, they are pushed out because they can't do it internally. The pull factor is a perception of opportunity and of excitement about doing something new. At the IC<sup>2</sup> Institute, we conducted a very intriguing and important study about spin-out technology companies from The University of Texas at Austin. We studied 42 companies. We looked at the people who started these companies



from technology developed within the university. What we found was that the push factors were not the key motivations. These people did not leave the university because they didn't get tenure, or they didn't like the environment, or they thought it was not stimulating, or they couldn't get funding. They mostly left the university because they saw a new opportunity, an adventure, a chance to put theory into practice. So those pull factors become interesting to observe.

Technology—two key factors here. Do we have a base of R&D (research and development) performers? Who does the research? Well certainly this is where our universities become indispensable to the future of our state. Without that base of R&D the technology cannot emerge. We also see R&D coming from other sources. Large technology-based companies are an example, even inventors are R&D performers.

What makes the commercialization process unique, too, is that technology is different from the kind of other things we buy in the marketplace. It is different from toothpaste and cornflakes. The very nature of technology makes it more challenging. The speed of obsolescence, the cost, the uncertainty of people using something new in the marketplace. These issues complicate setting the technology into people's hands.

In terms of capital, two sources become important. One might be called private capital institutions, the more traditional ones. We see another set of capital organizational structures, which we call technology-venturing developments. There are new types of alliances among business, government, and academia to help fund the technology commercialization process. And in some ways, I think Texas is taking a lead in many of these areas.

Know-how, both technical and business. Technically is the technology feasible, can it work? I am reminded of a wonderful story that a friend of mine told who was dean of the school of engineering at the University of Utah. He knew technology. He was an engineer. His concern was always whether something was technically feasible? On one occasion he had a person who came into his office, and he said, "I have finally done it. I have created the first antigravity machine in human history." My friend was a bit skeptical about this, knowing the laws of physics, and he said, "Where is it?" And the person said, "Well I have it all up here in my mind. All I need is money to make it happen." Since my friend was also a businessman, he said, "Well you go out and develop a prototype. Then come show me and we will talk about financing this." He thought he would never see the person again. Six months later the person came back. He said, "I did it. I built the antigravity machine." And my friend said, "Where is it?" And the fellow said, "Well when I built it, it flew away." Not technically feasible!

The other dimension is business know-how. Can one get the management, the marketing, the finance, the accounting that is required to do something expeditiously so that whatever is commercialized is profitable?

Each of these factors, each of these conditions, has important policy implications for individuals, companies, and regions like Texas. This is a way to think about the commercialization process and some of the policy implications that we wrestle with. In terms of talent, how do we create a climate or environment that encourages and rewards innovation? How do we enhance the pull factors that might spur people to try new things?

A culture of innovation in an organization and a quality of life in a region are important. I mentioned the story of the Post-it at 3-M, as our example of a corporate culture that encourages innovation. Five years ago, 3-M, one of the largest corporations in the U.S., with 60,000 products in the marketplace, moved its first division ever out of St. Paul-Minneapolis to Austin, Texas. That was the first time they ever made a corporate move like that. Today 3-M has six divisions in Texas. I think that is a sign that they see a culture of innovation here.

Part of what we have to continue to wrestle with is quality of life. The environmental issue of preserving our environment is going to be a key force as we go down the road. If technologists and technology companies can go anywhere, if they are not bound as in the industrial revolution of the previous century to the river or to the forest or to the coal pit in order to be near their source of raw material, if they can move anywhere, where do they choose to go? I'll argue they will choose to go where there is an environment of innovation and a quality of life. Consequently, the local infrastructure and the new types of infrastructure that Harden referred to are essential for development of a region.

One of the intriguing facts that we see at work is the role of role models. Whom do we hold up? Whom do we recognize? There is an example of this role model at work in Houston. A new organization has sprung up called ENACT. Entrepreneurs in Action. The organization was started by a local entrepreneur, John McCormick. He is now involved in the major universities in Houston. Why? He benefited from role models in his career and is now identifying other people here who are doing innovative things. I think that's healthy for regional economic development.

In terms of technology, look at the performers and the nature of some of the things taking place. Government funding is certainly key in this process, especially in the earlier, higher-risk stages of R&D. Technology transfer thus becomes important. We see signs of tech transfer at work, the Center for Energy and Economic Diversification at UT Permian Basin, the Center for Technology Development and Transfer at UT Austin, and at UT

Arlington, a robotics center. Why? To try to speed technology transfer that is developing within the university into private companies and other entrepreneurial firms. Science parks provide a source of R&D performers. We have science parks springing up across Texas. One of the leading science parks in biotechnology emerging today in the United States is located in San Antonio. Consortia are another source of R&D performers. We have MCC and Semitech in Austin. These types of alliances, groups of companies together, is a new way for us to think about being competitive. Intellectual property is changing. We are certainly trying to give more intellectual property rights to the inventors of the technology. The University of Texas took an equity position in DTM for the first time in the history of the university.

What this is beginning to say is we are changing some of the ways that we think about intellectual property in the commercialization process.

Concerning capital. We have traditional private capital sources like venture capital firms, and companies, like 3-M, funding internally the development of their own innovations. But we see other kinds of capital sources emerging in Texas to try to provide capital in a very restricted environment in which our banking and savings and loan institutions are having such problems. One is a business angel network, an elegantly simple system to link entrepreneurs with new ideas with private affluent investors who like to invest in new companies. It is a computerized matching system. The Texas Capital Network, a statewide system, has been established in Austin with links throughout the state. Government programs may provide capital. DTM got started with an SBIR (Small Business Innovation Research) grant of \$50,000 in 1986. That federal program provided the seed capital to spur the commercialization of DTM. State venture capital funds are changing. Texas now has the growth fund. We also have an incubator fund in which the state is saying, we need to take a pro-active role in trying to spur the process of commercializing technologies and new products.

Several developments are also contributing to know-how. We see incubators springing up to provide expertise. We now have a Texas business incubator association. There are twenty in Texas, and others are developing. We see educational programs and technical support programs. We have business-planning workshops that are going on statewide to try to provide some of this know-how to people who may have technical expertise but don't have business expertise. We see interesting developments around support groups, advisors, and business networks.

Let me make one comment about the concept of business networks. Networking is a sociological idea. What we are finding is that the key to success very often with good managers and entrepreneurs is their ability to

network, to interact with others. The stronger and more diverse the web of relationships, the better the network, the more likely they are to have access to resources and to problem solvers.

This is all part of the technology commercialization process—a process that is dynamic, challenging, and extraordinarily competitive. This is the next frontier of our state.

I would like to end with this observation. One of the things that I see as people commercialize technology is a desire to turn dreams into realities. People who put themselves into these efforts find that they are really trying to do more than make money. They are trying to turn a dream, a vision, into something real. And I think Texas provides a good environment for that. One of my favorite quotes is from the great German poet and playwright, Goethe. He had an observation about dreams, and I think said something interesting about Texas, though he may not have known it at the time. What he said was, "Whatever you can do, or dream you can, begin it. Boldness has genius, power, and magic in it." My hope is that as Texans we continue to be bold.

Charles Duncan: Thank you very much Mr. Wiedemann, thank you very much Mr. Smilor, and now we are bringing to the podium a man who needs no introduction. Mr. George Kozmetsky. George, I asked the president what the title of your talk would be. He said you knew the subject of the meeting and that you would speak appropriately to that subject. Dr. George Kozmetsky.



## THE WRAP-UP

GEORGE KOZMETSKY

THE 1990S SIGNAL THE END OF A CENTURY AS WELL AS A MILLENNIUM. Historically, during such periods, dramatic changes, upheavals, and events pose unforeseen and unexpected challenges. New forces for change emerge.

For our time and place, these long-term forces for change include the generation of revolutionary technologies and the development of globally competitive market systems. A new Europe for the post-1992 world and the emergence of newer Asian alliances, with Japan in a core leadership role, have reshaped the global marketplace. There is a growing movement for a true North American market that includes Canada, Mexico, and the U.S.A. The impact of changes in the USSR, Eastern Europe, China, and India on the next millennium's marketplace is still evolving. These emerging market system forces have redefined economic development strategies.

The world is also changing in terms of how business is transacted. In many respects, economic transactions for international trade in the past have been an economic exchange of money for goods, materials, or services. In some cases, the exchange involved countertrade. But as we look to the future, the more important economic transactions will be those that involve knowledge-building transactions. Knowledge transactions encompass more than money or goods.

The traditional measures of comparative advantage have to be broadened to include knowledge—or put another way, innovation and technology. This in turn requires that nations and their communities, companies, and firms, as well as academic institutions, implement newer approaches that will account for changes in the twenty-first century, globally competitive market systems.

Today's knowledge-based environment for competing successfully in a hypercompetitive global marketplace is fundamentally different in two key respects from the past. First, the process of change in science, invention and marketing has been dramatically accelerated. Second, new market systems are emerging as a result of the paradox of competition and cooperation in global markets.

### Global Trends

Five major global trends are affecting the world and having an impact on our future success. These global trends will set the direction of competitive international trade and national and community economic development for the next 50 to 100 years.

**1. Expansion of Market-Driven Economies -** Planned economies do not work in a competitive global environment. What this means to each of you graduates is that you will see an era that Walt Rostow calls "regional federalism." That is, an economic global grouping of nations rather than the One World of Wendell Wilke. Regional federalism primarily involves highly developed nations such as Western European nations, the U.S. and Canada, and Japan. They are developing and strengthening the European Market, the North American Market, and the Pacific Basin Market. Some think these regional economic federations are at best involved in a bashing economic war while others see it as a post-Cold War bonus that will provide newer spheres of economic power that will both cooperate and compete among themselves.

The real issue is to find out how to manage the paradox of global competition and cooperation. The U.S. must and should share the world stage with both industrialized and emerging countries. In fact, this is already happening through newer types of alliances that require new leadership. This leadership recognizes the need for collaborative entrepreneurship. Collaborative entrepreneurship upsets the status quo, disrupts accepted ways of doing things, and alters traditional patterns of behavior. It is a basis for building the new world order. Collaborative entrepreneurship results in new organizational alliances among and between business, government, and academic institutions. These alliances incorporate a dynamic private sector; a creative role for government through required industrial policies, initiatives, and development programs; and innovative academic relationships.

The ability to compete successfully in a new world order will require a newer order of cooperation among institutions and organizations that comprise a nation's public/private infrastructures. Many industrialists in the U.S. are reaching the conclusion that there is not enough time to generate a worldwide acceptable "playing field" or to engage in endless complaints about trade barriers. The trend is more toward international collaboration. Few companies of any size can afford to risk their financial health, technology base, or marketing credibility every time they launch a major new product line or service. Policies to accelerate economic development through innovative technologies must enhance links among key institutions to build a variable public/private infrastructure, a strong financial environment, a vibrant entrepreneurial partnership spirit, and a commitment and dedication to risk-taking and risk-sharing.

**2. Movement Toward Democracy and Individual Freedom -** The dissolution of Stalin's Eastern European empire has posed for the USSR a challenge as to how to deal with its own Soviet problems. The problems

concern the fragmentation and unity of different races, colors, cultures, religions, tribes, nationhoods, economic interests, or, simply, size. The problems of USSR fragmentation and unity are also true in other nations: Canada, Belgium, Northern Ireland, and most European nations, and a number of African states. Certain aspects of the fragmentation and unity problems are to be found in the U.S.

From a business management perspective, the movement toward democracy and freedom connotes a rising trend toward entrepreneurship. A trend for individuals to be encouraged and supported in initiating and developing their own ventures. It is an entrepreneurial movement. It is a movement that encompasses all nations aspiring to market-driven economies. It is a movement that encourages the growth of medium-size and small firms to compete in global markets.

**3. Creation of New Infrastructures** - Business productivity in 1990 and the twenty-first century will depend more and more on investments in public infrastructures that lower costs, provide easy and rapid access to local, national, and foreign markets, and enhance instantaneous communication. Consequently, there is a need for smart infrastructures that provide the latest appropriate transportation available and the most advanced telecommunication capabilities while increasing the overall private sector firm productivity. One hardly needs to explain to you that air transportation and telecommunications, particularly for tomorrow's goods and services, form the core of the communities of the future.

**4. Emergence of Revolutionary Technologies** - There are currently a number of technologies that have at least 50 years to run. Developments in computers, semiconductors, superconductors, software, robotics, space utilization, biotechnology, laser and medical instrumentation are occurring with increasing speed.

**5. Accountable Development** - There is a definite shift from *laissez faire* development to new constraints on the environmental impacts of economic growth initiatives. Any major development project must, therefore, demonstrate not only that it will not threaten the environment but that it must also positively contribute to enhancing the quality of life.

### **Strategies for Economic Development**

There are a number of strategies that have been tried, and many are still evolving to deal with the problems of emerging global competition. Three types of strategies have emerged for economic development at the macrolevel. These are catch-up industrialization, targeted industry, and technology venturing. Catch-up industrialization was the hallmark of strategies for globalization in the late 1960s and the decade of the 1970s. A large number of lesser developing countries utilized industrial policies that developed



their abilities to catch up in basic industrial commodities (steel, aluminum, textiles, petrochemicals, and shipbuilding). This strategy relied on lower labor rates or government subsidies to capture market shares at home and abroad. In the short-term, there were benefits. Unfortunately, in the longer run, many nations experienced mounting national debt and untimely write-off of facilities involved. That was usually combined with a worldwide pricing drop based on excess capacity in world markets.

The targeted industry strategy which focused on exports has been very effectively utilized in Japan, Hong Kong, South Korea, and Singapore. The core of this strategy is to rapidly capture market share by cooperation between government and industry. The key elements have been to focus on a small number of domestic major competitors, share development work between firms and government agencies to avoid duplicative efforts, provide for readily available low cost capital, provide mechanisms and incentives for a high-rate of national savings, protect domestic markets, allow for two-tier pricing, and establish mechanisms for export subsidies. Because of the forces of chance involving revolutionary technologies and market systems, neither the catch-up nor the targeted industry strategy are viable for the next round of global competition.

The third strategy of technology venturing involves the commercialization of science and technology through newer institutional arrangements. It concentrates on technology alliances for competitiveness. It is based on creative and innovative ways of linking public-sector initiatives and private-sector resources within and across national boundaries for promoting economic growth.

The technology-venturing strategy is effective in fostering corporate and community collaborative efforts, while nurturing positive government-academic-business relationships. These new types of organizational alliances incorporate a dynamic private sector; a creative role for government through technology policies, initiatives and development programs; and innovative academic relationships. The science and technology policies that promote and flow from these technology alliances are redefining the role and scope of the wide variety of institutions involved in advancing economic growth through technology.

The ability to compete successfully will require a newer order of cooperation among institutions and organizations that comprise a nation's public/private infrastructures. Many industrialists in the U.S. are reaching the conclusion that there is not enough time to generate a worldwide acceptable "playing field" or to engage in endless complaints about trade barriers. The trend is more towards international collaboration. Few companies of any size can afford to risk their financial health, technology

base, or marketing credibility every time they launch a major new product line or service. Policies to accelerate science and technology commercialization must enhance links among key institutions to build a viable public/private infrastructure, a strong financial environment, a vibrant entrepreneurial spirit, and a commitment and dedication to risk-taking and risk-sharing.

### **Technology in the Coming Era**

The current changes in technology are dramatically different than those of previous periods. The following table shows these differences.

Table 1  
The Four Industrial Revolutions

<b>Industrial Revolution</b>	<b>Key Technologies</b>	<b>Managerial Issues</b>
First	Textile, iron from coke, steam engine	One man or one family affair
Second	Railroads and steel making	Exploitation of scale making and investments in production, marketing, and management
Third	Electricity, batch elements and combustion engine	Exploitation of R&D, mass production, and scope (more than one product)
Fourth	Microelectronics, biotechnology, genetic engineering, new materials, robots, waste management technology	Global markets, niche markets, flexible manufacturing, and linking of science, innovation and management for rapid change

In my opinion, the fourth industrial revolution is underway and may well have another half-century or more to run. It is these innovations and key technologies that Texas state officials, industrialists, and academics will need to understand and cope with during the next several decades. The fourth industrial revolution makes it possible for different countries to develop their own comparative advantages in one or more key technologies. Furthermore, they can extend their comparative advantages to be in areas of selected processes in research, innovative technologies, advanced manufacturing, distribution and servicing, and financing.

The transfer and diffusion of the fourth industrial revolution technologies are taking place not only in the established industrial nations but also in developing nations.

Developments in superconductivity, biotechnology, new materials, laser, computers, telecommunications, artificial intelligence, robotics, space use, and the medical field are occurring with increasing speed.

These types of technologies are revolutionary for several reasons. First they reflect fundamental advances in the basic sciences. That is, our understanding of how the world works has been permanently changed through advances in the basic sciences, which in turn have resulted in a new wave of technologies.

In addition, these technologies are widely diffused. Because they are so diverse, because they have so many applications, and because they affect so many markets, no one region or country can dominate them completely. Consequently, many regions and countries will have increasing opportunities to develop and use these technologies for their own purposes.

These technologies spur new industries and regenerate traditional industries. Consequently, they are changing the nature of the workplace, obsoleting old skills, and requiring new capabilities in those affected by them.

As a result, they are creating new types of institutional alliances among academia, business, and government. Given the requirements for research on these technologies and new types of demands for their transfer and commercialization, innovative, organizational structures are being developed.

Ownership issues are thus becoming more important. These revolutionary technologies are requiring greater intellectual property protection. Indeed, the whole area of intellectual assets is becoming an emerging area of study and practice. For example, many of these revolutionary technolo-

gies are redefining the concept of what is man-made. Algorithms are now receiving patent protection, where only a few years ago they were considered unpatentable.

The development of these technologies is accelerated by the information age. Advances in transportation and communication now make technological changes known almost instantaneously anywhere in the world.

And finally, these technologies are revolutionary because they generate more discontinuous innovations faster than ever before. Continuous innovations are modifications of or variations to existing products, or they are new brands in an existing category. Discontinuous innovations, however, result in new products that significantly alter or create new consumption and behavior patterns. They create new approaches that make existing skills and competencies obsolete.

The maquiladora program is an example of the transfer of the early phases of the fourth industrial revolution technologies to Mexico. Maquilas were initially established from the developed nations perspective for lower labor and capital costs. However, because of the nature of new technologies, it is clear to me that the current maquiladora program will dramatically change in the next 30 years. It will shift from a focus on cheap labor and lower capital costs to the development of world-class manufacturing.

Technology venturing addresses the paradox of competition and cooperation. These apparently contradictory themes are actually the keys to understanding and succeeding in the market-driven economies of the 1990s and beyond.

### **Critical Linkages for Technology Venturing**

Technology venturing is an integrative strategy. It links corporate and community collaborative efforts while promoting positive government-academic-business alliances. It accelerates the transfer and commercialization of technology through innovative and cooperative efforts. These efforts in turn enhance the competitiveness of a country, a company, and a community. In short, technology venturing is based on business, academic, and government alliances but the appropriate innovative activities for implementation take place at the community level.

It has taken over six years of research at the IC<sup>2</sup>Institute to understand the critical importance of cooperative community alliances in the process of accelerating the technology commercialization process. National policies are necessary to foster science and technology and its transfer. Their successful implementation always takes place at a community level. Therefore the first critical linkages are those that link academia, business, and government at the community level.

Technology venturing activity within the community is based on linking four critical factors: (1) talent—people; (2) technology—ideas; (3) capital—resources; and (4) know-how—knowledge. Entrepreneurial *talent* results from the perception, drive, tenacity, dedication, and hard work of special types of individuals—people who make things happen. Where there is a pool of such talent, there is the opportunity for growth, diversification, and new business development. But talent without ideas is like a seed without water. When talent is linked with *technology*, when people recognize and push viable ideas, the entrepreneurial process is underway. Every dynamic process needs to be fueled. The fuel here is *capital*. Capital is the catalyst in the technology-venturing chain reaction.

One other element is indispensable. "Know-how" is the ability to leverage business or scientific knowledge by linking talent, technology, and capital in emerging and expanding enterprises. It finds and applies expertise in a variety of areas, making the difference between success and failure. This expertise may involve management, marketing, finance, accounting, production, and manufacturing, as well as legal, scientific, and engineering skills.

Each of these critical factors needs to be nurtured and supported at the community level by creating conditions that build an environment that promotes innovation, technology, and economic development. Support for each factor includes:

**expanding the talent pool.** These conditions include quality of life, insurance, access and communication to other areas domestically and internationally, recognition of successful role models, and development of a culture conducive to innovation as well as support for education and research.

**accelerating the development of technology.** These conditions include governmental funding programs for R&D, technology transfer, science parks, R&D consortia, centers of excellence, and intellectual property.

**increasing the availability of capital.** These conditions include creative governmental programs, traditional venture and private-sector capital pools, tax advantages for investing in R&D and new companies, small business research & development programs, and creation of governmental new-venture capital pools.

**improving availability of managerial, technical, and business know-how.** These conditions include establishment of R&D programs, projects, and institutes, business incubators, availability of educational programs for international management training and assistance, development of technical support and assistance programs, development of

organized networks of experienced people, local advisors, and professional associations and support groups, as well as support for small and medium technology-based firms to determine their individual global strategies policies.

The technology-venturing process begins by addressing each of these critical factors at the community level. Each community, whether rural or urban, can establish its own conditions for success. A community can establish institutes and centers which expand the flow of the talent pool as well as increase the flow of technology. It can set up incubators which add to the talent pool and link them with the community's know-how network of management, business, and technical professionals. It can structure private-sector capital networks that link entrepreneurial talent with private investors. It can sponsor workshops for improving business, technical, and managerial expertise of entrepreneurs in large, medium, and small organizations, and in public and private institutions. These workshops may assist in the transfer and dissemination of know-how for business plan and proposal preparation.

Alliances among academia, business, and government within a community can develop conditions conducive to linking talent, technology, capital, and know-how. By structuring specific programs, projects, organizations, and activities, a community can generate positive economic development and diversification. These activities can be accomplished in harmony with national and regional policies.

Let me cite the Austin Technology Incubator (ATI) as an example of an alliance among academia, business, and government. The ATI is a collaborative effort of The University of Texas at Austin's Graduate School of Business and IC<sup>2</sup> Institute, the Austin City Council, the Greater Austin Chamber of Commerce, the Travis County Commissioners, and the private sector. During its second year of operation, ATI grew from eight to seventeen start-up tenants and expanded to a new 55,000 square-foot facility in addition to a 5,000 square-foot wet-laboratory facility. Four types of firms qualify for entry into ATI: firms in the start-up stage of operations, technology transfer projects from UT Austin, transfer and spinouts from other corporations, and relocations from other geographic areas. ATI has created an innovative environment by offering facilities where start-up technology firms can take advantage of low overhead, shared resources, and a volunteer network of professional and experienced Austin advisors.

Since its inception in 1989, ATI has created 239 full-time jobs at a cost of under \$2,000 per job. Two companies have graduated from the incubator and continue to grow—a UNIX software company and a desktop manufacturing company.

ATI also initiated the statewide Business Plan Workshop Program. Over 1,500 people attended in Austin and other locations throughout the state, including Midland-Odessa, Houston, Amarillo, Tyler, Dallas, and Fort Worth. Additional workshops are planned for El Paso, Edinburg, Laredo, and Corpus Christi.

The technologies of the fourth industrial revolution are critical to the economic growth of Texas. The year 1990 is truly a new beginning for all of us. This year's annual meeting of the Philosophical Society of Texas can be the beginning of a partnership that enriches the lives of all our people.

## PANEL AND FLOOR DISCUSSION

**CHARLES DUNCAN:** GEORGE IS ONE OF THE FOUNDERS OF TELEDYNE, A TERRIBLY successful company. He was for many years the dean of the Graduate School of Business Administration at The University of Texas at Austin. You've heard about IC<sup>2</sup> this afternoon, and he's a terribly entrepreneurial man, and I mean that in the positive sense, and Texas has been very fortunate to have had George Kozmetsky as a resident.

I want to thank all of the speakers. Some of them had a 5:00 airplane, as you see, so I'll thank them in absentia, and thank you very much for having been a very attentive audience. I will turn the program over to the president.

**Frank Wozencraft:** Thank you Charles, and thank you George for a fascinating program. I had the privilege of looking at IC<sup>2</sup>'s building with George when I first visited with him about this program, and I can assure you that it is at least everything that he says it is. George, you're looking remarkably fresh for someone who just got back from China and taught a three-hour class, but we are so glad that you could get here in time to change the slides for Ray, and the program that you have put together has been such a success in showing us what we have to do ourselves in working toward the challenge that we have been hearing about today.

I do have one bit of good news for the speakers who had to run—you can take this back to Ray and Harden—in anticipation of their brilliant performance today, the board of directors this morning authorized reimbursement of their expenses—even before they asked.

Now let's turn to what we have all been waiting for, the Annual Business Meeting of the Society, but before we do that, let us pay tribute to our members who have died during the past year. Bill Levin will guide us through this memorial.

**William Levin:** Will the audience please stand for a moment of silence as I read the names of our fellow members who have departed during this past year: C. Stanley Banks, Sr., George A. Butler, Marion Thomas Harrington, Gerald C. Mann, Malcolm McCorquodale, Truman O'Quinn, Woodrow Seals, John Ben Shepperd, Preston Shirley, Hyman Judah Schachtel, Joseph R. Smiley, Stephen H. Spurr, and Logan Wilson. Thank you.





## ANNUAL DINNER, RAMADA CLUB

**FRANK WOZENCRAFT:** I DO NOT WANT TO INTERRUPT YOUR DINNER JUST TO MAKE a speech, but, after all, this party has a purpose. This party is in honor of Dorman and Ruth Carolyn Winfrey for all their years of service to the Society. I want to make it perfectly clear that this is not a speech; it is a tribute. It may come out almost the same way, but it is not meant to. It is meant to be an honor to these two remarkable people.

To understand how remarkable, you really have to go back to 1975 when Dorman became the secretary of the Society. You have to go back to his predecessor, Herbert Gambrell, who was one of ten stalwart Texans who resurrected the Philosophical Society in 1936. Herbert not only resurrected it, but he became its secretary, and he served in that capacity from 1936 until 1975. That is a pretty long time. I figure it out as being substantially longer than the 15 years that Dorman has served. But Dorman is only the second secretary in the reorganized Society, and he has said that 15 years is enough. In fact, he said that 14 years was enough last year, but we insisted—I insisted—that he could not do that to me. I had this year coming up, and I just wasn't going to do it without Dorman and Ruth Carolyn. Now, the year is up, and they are saying that this is really it.

I really got to know Dorman much better during this past year than I have ever known him before. I keep learning new things about him. It wasn't very long ago that I learned that he was a private at Camp Wallace, Texas—Swamp Wallace it used to be called—near Hitchcock, southeast of Houston. The reason that strikes home to me is because I was there too, in basic training. So, I asked Dorman when he got there, and he said about the end of April or beginning of May in 1942. I said that's funny, I did too. Where was your battery? Well, I was at one of the camps, and he was at the other, but I was still surprised that I hadn't met him until I read an article that he sent me. It starts out: "Passion for Music Swells into Crescendo of Emotion. At Camp Wallace, Private Dorman Winfrey was a regular guy, except on Sundays. While his barracks mates swaggered off to halcyon afternoons in Galveston and Houston, Private Winfrey lay on his cot with his nose in a history book. Then, at the appointed hour, he would put down his book, turn on the Philco, and listen to Auturo Toscanini." Now, that's why I didn't meet Dorman! I was off, around, I guess. I hadn't thought of it that way at the time, but we must all agree that Dorman came out of this thing awfully well, agree, because the history book that he was reading led him on to the Texas State Historical Association. He had been a Junior Historian before. He became its president, and there is now a Dorman and Ruth Carolyn Winfrey Award given in their honor to the outstanding Junior Historian of the Year.

You know about his wonderful career since then. He did not really retire; he just changed gears. He moved from the presidency of the Texas State Historical Association to become our secretary, and we are awfully glad he did. He earned three degrees from The University of Texas. He is an historian, author, and for years director of the Texas State Library until his retirement in 1986. He was the first Junior Historian to become president of the parent organization. As you can tell, he has had a busy time, and he has been invaluable as secretary of our Society for all these years. We know that it is a two for one bargain, too, because when we get Dorman, we get Ruth Carolyn.

For 15 years, Dorman has been the heart and soul of the Society, and he can't retire from that. We will depend upon his advice and counsel henceforth. But while he is at home helping Ruth Carolyn, instead of her helping him, we have something for him to remember us by. This silver tray is engraved as follows: "To Ruth Carolyn and Dorman H. Winfrey, with the deep affection and gratitude of The Philosophical Society of Texas, for their outstanding devotion and service, 1975-1990."

Chrys Dougherty has a scroll to present to Dorman.

Chrys Dougherty: We have another recognition of Dorman's service to the Society, an illuminated scroll which I am happy to present. It reads: "To Dorman H. Winfrey for unselfish service and unequalled devotion to ideals of the Philosophical Society of Texas. Friend and colleague, and a man for all seasons. December, 1990."

You can tell by that applause where our hearts are toward you both.

Ruth Carolyn Winfrey: I want to take a minute to tell you how much the Philosophical Society has been family to us. We always took our two children with us, one is 32 now and the other is 28. They loved to go to Salado where they could ride bicycles and do things. They came to Houston, they went to Dallas, and they have very fond memories. As they grew older, the Philosophical Society became "the Philosof," and it was "Mom, the Philosof called," "Daddy, it's the Philosof." And we will get a call when we get home: "Mom, how did the Philosof go?" So you can see that you are all family to us, and it has been a joy to have been associated with such wonderful people. Thank you.

Dorman Winfrey: Well, Frank and members, this is mighty nice. You learned about this at the same time I did. Frank sent out a letter, and I did not know what was coming off. So, we are all on the same level so far as this is concerned.

A brief word, if I may. The first meeting of the Philosophical Society that I attended was the year that Dr. Harry Ransom was president. I wasn't a member then, but Harry Ransom and Miss Ima Hogg, the program chairman, asked me to give a speech. It was in south Austin where the Austin Opry House is now. A few years later, I was elected a member of this Society. Then, 15 years ago, I got a letter from Herbert Gambrell, which went something like this: The Board of Directors of The Philosophical Society has met and has appointed you secretary of the Society. And Herbert added—and some of you old-timers who knew him will believe this—"This is a command from Buckingham Palace. Obey it." I think, perhaps, Ambassador Ed Clark and others here might have had a hand in my selection—I don't know—Frank mentioned that it was a two-way thing. Well, Herbert Gambrell always had Virginia by his side to aid and assist, and I was blessed to have Ruth Carolyn by my side from the very beginning to aid and assist. The friendship of the Gambrells meant a lot to us, if I might get personal for just a moment. When Virginia's health declined, Herbert wrote me a note and said that Virginia wants to be buried in the State Cemetery. See what you can do about it. I found out that because she had served as the chairperson of the State Library Commission, she was entitled to be buried in the State Cemetery. So we began to do some research and made arrangements for her to have the plot. When she died, Herbert had her cremated and brought her remains to Austin in a little urn. Ruth Carolyn and I went to Weed-Corley Funeral Home and made all the arrangements. Herbert spent a little time down at the Driskill Hotel. A few of us gathered at the State Cemetery. Herbert had a Driskill Hotel towel wrapped around the urn. We took care of the burial. I made a little speech. Herbert gave Ruth Carolyn the towel and told her to take it back to the Driskill.

Herbert wrote me a postcard. He said, "You did such a good job for Virginia, I want you to do the same for me." Well, when Herbert passed on, his nephew was the executor of his estate. The nephew contacted me and said, "We are Episcopalians, and we want an ordained minister to bury Herbert." Well, again we contacted Weed-Corley and took care of the arrangements. Herbert has a marker with some beautiful quotations on it. You might enjoy going out there and seeing it.

Now what about the future for the Winfreys. Well, Ruth Carolyn's antique business is doing pretty good, and I'm going to help her a good bit more in the future. And I have three Texas history projects lined up, one that I had promised three to five years ago, but I am going to carry out those, because I have been given some help from Chrys Dougherty. He has provided me with a computer, and I have now had three lessons. He did not say, "This is a command from Buckingham Palace," but he did say, "I expect you to turn in a chapter shortly after the first of the year."

But on the serious side, for just a moment, at least two speakers today—and I don't think they were members of the Society—looked out into the audience and said things like “a magnificent group of people,” “some of the best talent in the state of Texas,” and a lot of other nice things. I couldn't help but be reminded of what Johnny Jenkins said at one of our meetings. We were standing around, and Johnny looked out at the audience of top people in this state, people who have done things, governors, writers—you know who these people are—and said, “There would be no other place in Texas where you could find a group of people like this. And, you know, I am mighty glad to be a part of it.” So are Ruth Carolyn and I, we're mighty glad to be a part of it. Your friendship means more to us than you can ever know. Thank you.

Frank Wozencraft: Dorman and Ruth Carolyn, you know what you mean to us, and I am confident that we mean that much to you as well. This is not farewell, nor is it letting you off the hook for future service, so Dorman, if she works you too hard, you just let us know.

Meanwhile, we have some wonderful people coming on. As Adam said to Eve, we are entering a period of transition. And that is certainly true of the Society. Dorman's successor, Ron Tyler, is with us this evening. Ron, remember that Mr. Gambrell was secretary for 38 years and Dorman for 15; that means that you take those two, add them up, and divide by two. That's what we expect of you. You have the historical background to know about that. Now, everyone knows who really runs the Society; that's why you need to know Ron.

Another part of the transition is your new president-elect, William C. Levin.

William Levin: I have had good teachers. Dorman became secretary the year I became a member of the Society, and, Ron, I look forward to working with you. I thank you, the Society, for your confidence in me. We look forward to welcoming you to Galveston next December 6 and 7 and think you will have a fine time.

Frank Wozencraft: Let me introduce the other officers and ask them to stand: Bill Seybold, our first vice-president; second vice-president, elected today, is Bob Krueger. Chrys, do you have a word?

Chrys Dougherty: Domain indicated the kinds of things that he did for Dr. Gambrell. We have actually called on him for everything. The only way you really find out about Dorman is to have the privilege of serving as president

of this Society. I just wanted to add my words of honor to Dorman for what this Society owes him. He has been patient with the presidents of the Society, and I say that advisedly. None of the presidents who come in have ever known anything about their job, and Dorman and Ruth Carolyn have has to educate them one by one. I want to thank them for the education that I got in working with this organization, for the privilege of working with him through the years, but particularly while you let me be president of this organization. Thank you Dorman and Ruth Carolyn.

Frank Wozencraft: I would also like to recognize the treasurer of this organization, James Dick.

James Dick: I think it is a great honor to be entrusted with the duties of the treasurer, and I think it has been a great honor to work with a man such as Dorman. He is a great mentor and a great inspiration in so many ways. And all this is in a gentleman who has great modesty as well. I think we are all fortunate to know him, and I am certainly fortunate, from the standpoint of being a member of this Society, to have been able to work on such friendly and personal terms with him and Ruth Carolyn, the most wonderful and remarkable people and wonderful Texans. Thank you.

Frank Wozencraft: You must understand that the board of directors of this organization is composed of the former presidents. It's the only organization in the world that I know of where you work your way up to being director by being president. So you come full-blown into the world as president without knowing a blessed thing about what's happening. That's where Dorman has been our saviour. Now, we have tried to fix that a little bit by amending our by-laws last year to let the first and second vice-presidents be on the board, so Bill Seybold and Bob Krueger will be able to work their way up to becoming directors.

Thank you all for being with us tonight.



## IV. SYMPOSIUM

ELSPETH ROSTOW, MODERATOR

(discussion in progress. . .)

WAYNE HOLTZMAN: INCREASING GROWTH IN CORONARY DISEASE IS A CONSEQUENCE of the loss of famine, and he amusingly recited for us how in the past few centuries it was the famine in countries that eliminated the population that now, by surviving, produces this problem of coronary disease.

But I think population growth, education, seeming inadequacies, both have short-term and long-term considerations, and I'd welcome other people's thoughts about these. In Secretary Cavazos' book we were examining the hole and not the doughnut.

Elsbeth Rostow: Thank you. You've stressed a point that I hope we will remember—namely, that it is inappropriate to regard any of these problems as being soluble by itself. Most are interrelated. Many have both a short-term and a longer-term dimension. Take, for example, the point that Wayne Holtzman made about the correlation between higher standards of living and reduced family size. We've seen that, whenever a given population—ethnic, religious, or economic—moves upward, the tendency is for family size to diminish.

But I should stop. My problem is that it's Sunday morning, and I come from a family of preachers. Jenkins Garrett.

Jenkins Garrett: I would like to address the matter of education again. The Secretary's remarks were most discouraging, but the difficulty is that they are true insofar as elementary education is concerned. I've spent much of my time in the last few years at the level above the high school level, at the university level and the junior college level, and I'm most encouraged in association with the young people who are at the universities today and those at the junior colleges, which oftentimes we overlook. I think our main problem in discussing this matter with some of the advisors and consultants that talk with the students at the elementary level is that some way or another we must learn that every youngster that goes into the elementary school, first grade up, is not a candidate for four-year education. For some reason the counselors that I speak to, from their training, I guess, as teachers, look upon any education short of a four-year senior institution degree as selling out education or selling out that youngster. Now, at the junior college in Tarrant County—it was not originated there, but we copied from others who developed it—a youngster who applies who is in the lower 25% of his high school class is encouraged, not demanded but encouraged, to go the



vocational and technical route, and is not given geometry and that type of math but is given basic math. The youngster who is training for automobile mechanics or aviation mechanics, for nursery training, landscaping, and those fields, their English is more toward helping them write a report. They see a problem, they write what the problem is, and the solution. Their math is more how to add and subtract and use fractions and to operate as a person in a clerk position in a department store, or the math a mechanic has to use to carry out their profession. And I think that when you look at the youngsters who are coming into the universities now, and you are so proud of them, we've got to give more attention to those youngsters who do not reach the universities. I think the junior college movement is pointing out a truth to the elementary schools—they have to start early so that the youngsters can be a success according to the abilities that they have. I believe that if that attitude could be developed as we approach our elementary schools, many of these statistics that we are ashamed of, and it hurts our heart to hear them, will change. It's the approach that we have at our elementary school level that is hurting those students and producing those statistics.

Elspeth Rostow: Thank you. I am tempted to give an answer that occurred to me once when I was a dean—namely, that we might ease the problems of education in this country if, along with a birth certificate, we gave every baby a bachelor of arts degree, from then on any learning that occurred would be postgraduate. (This is not in any way to undercut what Jenkins Garrett said, because he makes a valuable point.) Ambassador McGhee has had his hand up for some time.

George McGhee: I promise to be brief. I would like to raise one point which has been troubling me that I referred to yesterday. Quite recently important economists analyzing the whole economic and political history of our country said that you could conclude that our success mainly derived from the fact that we inherited a wealthy continent, which we exploited, and it was that wealth that made us wealthy. They raised the question, what happens after that wealth, the disposable part of it, is gone. I referred yesterday to something that you are only too acutely aware of—this drastic lowering in the production of oil in this country and in Texas. We produce now only half of our requirements, and we used to be the biggest exporter in the world. Texas produced a quarter of the world's oil. That would mean today that we would be producing about 15,000,000 barrels a day rather than less than 2,000,000. So we have an adjustment to face. Perhaps we don't fully realize how much oil meant to this state during the period it was so

productive. The big fortunes in Dallas, Houston, and Fort Worth that were available for capital for investment in this state, and for investment outside the state, came from oil. Bay City, that vast industrial complex, is based on West Texas oil, which has its outlet in the Bay City area. What will take the place of oil as a source for capital and revenue? We have also pretty well dissipated the natural resources of timber, which I refer to as being one of the real three assets. We still have rain-fed land, vast areas of it, unique in the world almost. Apart from the north European plain, there are very few areas of the world that have the extent of rain-fed good land typified by the Black and Grand Prairies of Texas that are available. In the future, Texas has to find something to take the place of these. If you look around and see what it is, say an industrial project, the same type of manufacture of electronics or other material which can be made anywhere in the world, in many cases we don't really have much unique to offer as an attraction that is inherent with Texas. It has to be sought and developed, but this is the same sort of thing that is available to almost everyone. The population discussion, I think, leads to one very important consideration for the future of Texas. The world is developing this vast population, but more dangerous than the general population is the increased urbanization within this growth. Urbanization in most cities in the world is at the rate of 10 to 12%, where the maximum increase in population, Turkey, for example, is 3%. Even India is down to 2%. But we strangle ourselves and inhibit our future and pollute our country through the process of urbanization, which is not necessary. Decentralization could yield the same efficiency in manufacturing and other things that cities do. Now, take Texas: one thing that Texas has is space, spaces that are good places to live, that are not polluted. You read in the paper today about these people who are going out to the Hill Country to live because there are no chemicals, no bad influences there. If Texas can create the right environment within this space, Texas can assure its future by selling its space, by inviting people to use it, by helping them organize new cities in the open areas, which will be a tremendous asset to the state in building up the hinterland for the industry of Texas in the future. In order to attract people to do this, you have to provide assurance of a good living, and Texas has such a way of living that is attractive to people. For example, think of the people who are attracted to West Texas—Fort Worth west—because they don't like the way of life in the East. We have vast areas that will attract people in the same way that Florida attracted people until it became too crowded. This is, I think, one of our great hopes for the future, the fact that Texas can provide a place where people can live the good life, where it is not polluted so we don't have the deficiency with having to

depollute it as they are now in Eastern Europe. Before you reach the saturation points that have been reached in California and Florida, you could develop a much more populated, healthy, wealthy state. Thank you.

Elsbeth Rostow: Thank you, Ambassador. The answer given yesterday to your question of what comes after our oleaginous period is high technology—an age in which the major natural resource is the brain, not in the ground.

Tom Barrow: Yesterday's program, I thought, was a microcosm of my family. Part of my family came to South Texas before the Texas Revolution; part of it came into East Texas. We have been in the cattle business, we have been cotton farmers, we built railroads, and for sixty years we have been in the oil business. But today I am one of Dr. Kozmetsky's "business angels." So I think we've gone through the whole generation that was described. I'd like to make the point that the technology side is the optimism for the future; at the same time I'd like to paint a few small black clouds. I worried once upon a time about the Malthusian theories of running out of food. Malthus was proven wrong once; I think he is being proven wrong again. I think there will probably be regenerations of neo-Malthusians, but I personally think that we will solve the problems without famine and without war, the two traditional solutions. Let me talk a little bit about the high-tech side I happen to be involved in—I looked very carefully on George's whole list of input industries for what we are in, and low and behold we weren't even on the table, which he looked surprised at. There is another technology out there, another wave of the future. It will be a service industry, but a high-tech service industry. It will be from the stars, or at least the space program, and it is really based on an old concept in which you do need geometry, but you don't need a college degree. It is surveying. We've had surveyors for years and years, from the old Spanish days when they dragged a cowhide behind a horse to measure distances, to some of the laser surveying that is going on today. Surveying for the U.S. basically has been a government monopoly, because no one else could afford it. The problem is, the technology really hasn't changed. It has improved, but it hasn't changed from the days of Columbus. Unfortunately, ladies and gentlemen, the maps that you use in the United States are full of mistakes, official, documented U.S. government mistakes. You think you know where you are; you do not. You know about where you are. There are errors, which were discovered with the satellite program. The shape of the earth is not what we used to think it was, and because it is a new shape, there are up to 200 feet of errors between two "correct" points. That is not terribly significant to most of you, but if you

are flying an airplane and you are in a fogbank, and you don't know where the plane is within 200 feet, it is almost impossible to land the airplane. There are new technologies that will place an airplane within a meter, horizontally and vertically. The leading place this new technology is being developed is here in Houston. We have a new, small company developing this technology, but can we get business in Texas? No. We have a contract in Kansas City. We are negotiating contracts in Chicago, Philadelphia, Norfolk, VA, London, Copenhagen, Czechoslovakia. Why do we have a hard time in Texas? Because—and, Bob, I apologize for this—we are sometimes having trouble with the state government; they are saying we've always done it that way, and would we have to let all these people go? We'd have to put them out on the street. The federal government has just finished their 1:2,000 ft. quad sheets. It has taken them 30 years to map the U.S. There is a new group that has decided that we must do it digitally. The computer is the wave of the future. We could do the same job in three years for half the cost. And I think that will ultimately sell; people must not be afraid of the future. You must look at where opportunities will come from. We will need a great number of what I will call junior college-trained people. If we had one of the 350 graduate civil engineers listed in the paper as UT graduates, these people would go crazy doing this type of work, but a good well-trained technician could probably replace four or five graduate surveying civil engineers. We must seize these opportunities. The world changes, and so does Texas. We must learn how to adapt. I think we can in the future.

Elsbeth Rostow: Please remember that it is just 100 years since the American frontier ended. I would put it to you that 1990 may well play the same pivotal and transitional role that 1890 did. In 1890 we were a society moving rapidly from the farm to the city, from small-scale economic units to large corporations. In 1890, we were about to launch on a new era of activism on the world scene. Yet, in 1890 we still thought of ourselves as operating on the microcosmic level—rather than recognizing that we were well on our way toward the macrocosmic era.

The 1990s have a different but equally challenging frontier. For two generations we have operated under the strictures of the Cold War. How to operate in the post-Cold War world is a challenging and difficult question. Because this is a transitional period—there is a tendency (as there was in 1890) to cling to the policy and habits of the immediate past. It is a lot simpler to do that, a lot easier—but dangerous. Mr. Hershey.

Terry Hershey: I am glad the problems of the population and the caring capacity of the planet finally came up. I was very nervous all day yesterday when nobody was mentioning this. I am glad our space people and our psychologists brought it up and other people followed it. The topic for next year is medical ethics. I think that will be very appropriate with the population problem. Now, my degree happens to be philosophy, and all of you are adopted philosophers. And there is nothing more obvious than that philosophers like to talk. And I think Frank may have discovered something, that for the Sunday after you might have just a gathering, a talkfest. Because programs are planned a year in advance, and topics change, and there are hot topics, and we are all dying to talk about the things we heard yesterday. I think you should consider having a Sunday morning pop-off section.

Robert Krueger: First of all, I think I would have to say, not only for myself, but for everyone here, how marvelous it is to be in such a stimulating group that has so many intelligent people who comment on so many different things; it sets the mind loose on many different tracks, but I would like to come back to something that Steve Weinberg suggested. I suppose for years it has troubled me because I have heard people in American business say how can we compete? We pay so much higher wage rates than anyone else, how can we compete with other nations? In reality, we have succeeded remarkably well in competing. In spite of higher wages—in the past, at least, we no longer are the top wage payers worldwide—we have been able, perhaps because of what Steve mentioned: Henry Ford's idea that by having a middle class that was able to afford things, we in turn were using people to generate the wealth that would create additional wealth for all of us. I think perhaps what we are facing—and I would not begin to know how to take it on—is that in the future, instead of simply working out trade agreements that focus on tariffs or particular regulations about bringing in products, we may have to start looking at rather larger measures. We may have to start working out trade agreements in which we consider not only tariffs, but in which we consider the environmental consequences of the industries that are bringing in or exporting or importing goods. We may have to consider the working conditions of people; do we really want to say that capital can go anywhere and then that capital can go, and there will be child labor somewhere else, and we are enjoying cheap goods because a seven-year-old child is working somewhere else? Is that really the kind of society that we want for ourselves? Don't we want to think in larger terms? If we care about American children, should we care less about Korean children? At some point, we are going to have to—if we are going to be in a global economy—admit that we are in a global world, which implies

global ethics, and that's rather a large and challenging—frankly forbidding—task, to say how would we legislate things like this. But I just have to believe that if we think of these things only in numerical, financial, economic terms, we are going to fall short. If we look, for example, at Mexico—I happen to support maquiladores, as many others do—but I know that people working in maquiladores just across the border, receive, with all benefits, about \$1 per hour. Obviously, the person who looks only at his company's financial bottom line will say, if I can employ somebody at \$1 per hour just across the border in Mexico, and it costs me \$8-\$10-\$12 per hour in the U.S.A., the attraction will be to locate there. Then, what happens to Brownsville, which has to educate the people who cross the border? What happens to El Paso, which has to provide free hospital care for the person who crosses the border to have her child in El Paso? What happens when we in the U.S. today have the majority of our population growth coming from immigrants, and the majority of our immigrants are illegal? What does it mean when people flow that easily? We can't just have capital flow and not have people flow too. And if we have people flow, then we are reminded that all of the national boundaries, the state boundaries, or the familial boundaries that we create, that we are connected in other ways, that as the poet says, "No man is an island." Each is involved. I don't, by any means, have the capacity to know how these things are worked out, but I believe that if we want to think long term, we must think beyond just the movement of capital, we will have to look at this in rather broader terms, we will have to involve, probably in our trade negotiations, if we are talking about a global economy, other global questions as well. We are going to have to work those into our economic equation, because if we don't, we will not only find that most U.S. assets are owned by people who are located somewhere else, but that those people may not care about the conditions of American workers. These things may have to be factored in future trade negotiations. It seems to me shortsighted if we think only in terms of the flows of capital and not people and values as well.

Elsbeth Rostow: Thank you, Bob. As you can see, this remarkably free-form morning has produced one of its promised stars, Admiral Inman. If you do not know who Admiral Inman is, you should not be a member of this Society. If you have not followed his career (as I have) with admiration and wonder, again, you are not a part of the intellectual community. And if you are not grateful to him for the many levels of service which he has performed for us, again, you are in an odd minority. Admiral Inman.

## ADMIRAL BOBBY R. INMAN

SITTING IN THE AIRPORT IN AUSTIN FOR SEVERAL HOURS WAITING FOR THE FOG TO lift in Houston—I'm sure there was no fog here but there was in the surrounding environment outside—I restructured my remarks for the day, knowing I was going to be toward the end of the session instead of the beginning. And what I scribbled out was competing in a dramatically changing world. I want to think about those topics out loud with you for a while—first by dealing with the nature of change impacting on the structure of our relationships with the outside world.

I came to adulthood at the end of the forties. For all of my adult life, there was a certainty about the structure of how the world interacted, built around alliances, a series of political military alliances and then gradually in later years, economic alliances. And in the nineties all of those are in the midst of very dramatic change. Some no longer will effectively exist very far into this decade. Others are growing at a dramatic pace. But how we think about that world and how we think about our interaction with it has to change if we are going to be successful finding our way not only through this decade but certainly in the twenty-first century.

First, let us look at the political military alliances that really formed the framework of keeping us out of a global conflict for the last 40 plus years. The Warsaw Pact is now essentially dissolved, and that has occurred in an incredibly short time frame. It is an objective I spent most of my adult life working toward, and thought if we were fortunate, it would happen somewhere out in the twenty-first century. To see it crumble and disappear in barely a year still is absolutely dazzling to contemplate. But the other principal framework is the NATO alliance. It has been clear for several years that the NATO alliance was going to undergo very great stress even before the collapse of the Warsaw Pact. And that stress was coming about because of a booming economic alliance that I will come to shortly, which had a very different frame of reference for looking at the world. While NATO continued to be bounded by geographic limits that said its membership spanning the Atlantic essentially looked at events in Europe, but did not look at the Middle East and did not look at any other part of the world constructively as an alliance. There is another organization, a smaller one, that was framed to look at broader issues than just economics, the Western European Union. And those of you who have been tracking events in the Middle East recently will have noted that when a number of the nations in Europe decided to commit forces to support the U.N. resolutions in opposition to Iraq's invasion of Kuwait, they made their collective decision under the Western European Union to make that deployment of forces.

On the opposite side of the world, change is also going to impact in this decade on four alliances that have provided the anchor in the other half of this world toward global stability. The Australia/New Zealand/U.S. pact, ANZUS, has already gone through a tough time in the eighties with a New Zealand decision to unilaterally insist on not only no nuclear weapons, but no visits by any platforms that might have nuclear weapons. Australia has tried to be the bridge. The U.S. took a very hard stand against that position. The result is that while there are working relationships on the political side, on the military side that arrangement is already very much in a fragmented condition. The other three are U.S.-Japan, U.S.-Korea, U.S.-Philippines mutual defense treaties. We are in the midst of a generational change in Japan. It may take half this decade until that plays out. We know too little about the leaders who will take over. But they are in their fifties now, and the brief glimpses we've gotten tell us that they are more nationalistic, more arrogant about Japan's great economic power, and less concerned about saving face for those elsewhere. It could go smoothly. But one must at least recognize that with the potential transition of attitudes toward the Soviet Union, if Mr. Gorbachev pulls yet another rabbit out toward the end of the year, and early in '91 gives back four Kuril islands to the Japanese, the driving force for holding together the U.S.-Japan mutual security alliance will have shifted dramatically. In Korea, there are substantial pressures internally in South Korea to back away from the arrangement, or at least to begin to put some distance. A sense that the Soviet Union, may be able to deliver their aspirations of unity, and a doubt that the U.S. might while competing economically. It would not surprise me if before we are halfway through this decade of the nineties, the U.S. is under significant pressure internally in Korea to withdraw a very significant portion of our military forces and perhaps all. And with the U.S.-Philippines, we are now in negotiations. I believe the odds are reasonably high that by the end of '91 the U.S. will have committed to get out of Clark Air Force Base. And while we may still have use of facilities at Subic Bay for another five years, it is doubtful to me that that will last past '96. What that says is the alliances which have been the central structure for permitting forward base deployment of U.S. forces around the world will have substantially changed before the end of this decade....

Turning to economic alliances, one of the oldest of the economic alliances that parallel these political and military arrangements was COMECON, covering the relationship between the Soviet Union and Eastern Europe. Again, it was blown apart by events since November 8-9, 1989, and the opening of the Berlin Wall. It's no longer functioning, and there is little pretense that it has any prospect of playing the role that it had played in the



past which was primarily one of insuring captive markets for the Soviet Union. None of those countries want to be part of a market tied to the Soviet Union.

On the other side, the European Community is moving at a very fast pace toward 1992, when internal trade barriers disappear for 12 countries, and need I remind you that one of those 12 is suddenly much much larger with the addition of 5 states into Germany.

There still exists in Europe the parallel European Free Trade Area. Ten years ago these were rival organizations. Now all that is left for EFTA is for its individual members to try to find some association with the EC. It is clear that we will see through the nineties, efforts of East European countries to become associated in some way with the EC membership if possible. And the remaining countries, including such staunch neutrals as Sweden, are trying to find their way into a formal relationship with the European common market.

Another change, much more recent in vintage, is the U.S.-Canada free trade agreement. And all those naysayers who are very concerned on both sides about its impact on labor and the rest of it should take a very close look at what has happened. There are some pretty dramatic changes, but those changes haven't resulted thus far in significant losses of jobs on either side, at least not caused by the free-trade area. Where there are problems is the broader issue of a spreading recession. And of course lingering are issues about economic alliances where they have not yet been fully developed, such as U.S.-Mexico, and whether that offers the prospect for a North American free-trade arrangement within the near part of the nineties. We have seen out in Asia a dramatic period of growth linking together countries in Southeast Asia that have prospered from political stability and from an infusion of aid. But not yet realized are the larger aspirations for a Pacific Basin economic arrangement or even one broader in East Asia. The reason is simply that Japan would be the center core of any of those alliances, and many of the others nations, particularly those in Southeast Asia, have worried about being overwhelmed.

Even while we have these shifting currents of political, military, and formal economic arrangements, there are dramatic changes taking place in technology that are going to provide a push for these changes. The information revolution continues at an incredibly dramatic pace. We were trying here a few minutes ago to hark back to when this Philosophical Society met and talked about the computer revolution. I think it was '84, I may be off a year one way or other in the timing. Then our speculation about the pace turned out to be, in fact, much too timid. It is proceeding in a much faster pace. Let me remind those of you who are not computer buffs yet that

the first large-scale computer, assembled in 1944 to assist the U.S. effort to break the Japanese and German codes, filled a room as large as the one in which we are gathered. And the supporting equipment to make it work filled a space equally large. A computer now more than twenty times more powerful than that computer is found in a very small lap-top computer that you can easily carry with you as you are going to board an aircraft. That's to 1990. Before the turn of the century we will have at least ten times more power than that lap-top, and conceivably even a hundred times more, in a single chip only slightly larger than your thumbnail. That is the pace at which events are proceeding in the ability to take vast quantities of data, store it, manipulate it. What that really means is that information handling in the next century may well turn out to simply be designing special purpose machines for whatever function the human mind can envision that you want where cost will not be a factor.

**Materials.** The decade of the chemist is already with us, while the incredible pace of change in new materials. Buildings may well be built by the turn of the decade with materials that will prove to be much more resilient and much easier to deal with than steel and aluminum and concrete that we deal with now. The early advances in materials have been again in the defense arena, in the stealth technologies. But I think we are moving at a pace now where commercial exploitation of what can be accomplished in creating new materials is quickly going to outstrip any potential military use.

And finally in the biotechnology area, and here I am just racing on looking at the clock. There will be major gains in the agricultural side. But the most dazzling ones will be in the human side. The ability not only to deal with disease but the ability to deal with healing of the human body in very dramatically different fashions. The prospect that with the twin investments, we will be able both to extend life expectancy but also to feed the burgeoning population of the world. The real point to think about in those changes though is what do we do with the population which suddenly is far healthier and anticipates working at a far, far, greater length of time than we ever envisioned just 40 years ago?

There are so many other changes that I could focus on. Two that leap out, that I think, must be touched briefly. One is the international flow of capital. The fact that capital now moves at such incredible rates daily, back and forth across national boundaries, across oceans. That increasingly and particularly after EC '92, with a single currency and, now more likely with Mrs. Thatcher's retirement, a single bank, the whole management of the flow of capital will be done very differently in the years out ahead than it has been done now. The international rules for trade, which have provided a

framework, not always a happy one, but at least the one in which we structure discussions about trade and opening markets and flow. The General Agreement for Tariffs and Trade is getting very close to dissolution. If the GATT is not successful in the very near time, literally in the next weeks in completing successfully the Uruguay round, there will be a very strong momentum to simply set it aside and to say that negotiations in the future will be done on bilateral arrangements, by occasional new groupings.

But again, the rules of the game which have helped shape how we dealt with that outside world could suddenly change on us very dramatically in the next few weeks. What must we, as a state as well as a country, have to be successful at the international economic marketplace through this decade and particularly in the next century? Political stability is absolutely essential. And if you will look at where the economic gains have been achieved, it is when there have been long-sustained periods of political stability. We do not benefit from chaos in the Soviet Union. The prospect of being able to keep resources focused on growth is directly tied to political stability, and if events in the Soviet Union in the next seven or eight months swing even further toward chaos, that's going to be a real damper on what's possible to achieve. And there are many other parts of the world I could deal with, certainly right now the Middle East, at the forefront of our concerns, on the issue of political stability essential for growth.

For economic success at the international marketplace, there must be readily available capital at competitive rates; a skilled and motivated work force, absolutely essential, there is no give on that requirement; and a strong base of science and technology. There must be a clear and successful focus on innovation, on quality, on safety for individuals, and safety for the environment. There must be protection of intellectual property because increasingly it is the intellectual contribution that makes the difference in this economic success.

A quick scorecard on how we are doing. On innovation, the U.S. still is the most innovative society. But we are not the most innovative in moving to capture economic growth. There is an area where we sort of sit back presuming because we were innovative at so many things that it was just an automatic right. On quality, we almost lost the game. We went through a long spiral being advised from the financial side that the route to economic success was the short life cycle, throw away and replace. The Japanese took the U.S. doctrine on quality and turned it into a great success. If you'll look at the last four years when the dollar has plummeted, then made a fairly significant recovery, and then plummeted again against the other major currencies of the world, and the advantage that that should have given us in the international marketplace, and then look at the reality of the U.S. trade

balance, exports did go up to a number of countries, but imports stayed dramatically high. The only logical answer I can find is that U.S. consumers voted with their pocketbook for products that they judged to be a better quality. So we can talk all we want about negotiations and barriers and pressures to open market, but if the U.S. consumer decides that the foreign product is the better quality and they want to buy it, under what arrogance do we insist that other countries accept our products without regard to quality?

Now the good news is that there are a number of U.S. companies that have come to understand this, they've gone back and captured the fundamentals, and one of the happier surges is the turn toward truly total quality management, not just testing at the end of a product line. But we have a very long way to go. On safety, our U.S. construction firms are breaking new ground, leading the whole world toward the years of success of conducting projects with no fatal injuries, with minimal lost time. And that's spreading now to other companies as they suddenly discover it's also very good business. That if, in fact, you've got an established record for years of first-rate performance on safety, that your insurance rates are lower, for the major efforts you undertake.

What we don't yet have is the parallel recognition that a comparable drive and approach on dealing with environmental matters is likely to be every bit as successful economically for the corporations that pursue it. But it's getting over that first hurdle as one looks at the liabilities and the costs that says we are still letting issues of safety in the environment be driven by those who are simply opposed, instead of by those who understand that you can do both, that you really can care for the environment and create jobs and opportunity. That's relatively the good news to report.

On intellectual property, here we must get broad international agreement for protection and our leverage to bring that about is declining as the political and military needs of other countries begin to weaken. They don't see external threats, and, therefore, their economic concerns become paramount. On issues of capital, I don't need to tell this group that we are in a period of very tight capital. Now the good news is that interest rates in Japan have gone up very significantly. After the election today honesty again returns to the German scene, you know. Right now we have a wonderful campaign in the East saying, with unity accomplished, we're going to pay all the bills to make you successful, and in the West saying this economic union really isn't going to cost very much and we can do it without additional taxes. That one's going to be tougher than no new taxes prove to be here over the long term. Inflationary pressures, cost of capital are going to rise. So what it really does say is that we are in a period where in relative

terms U.S. corporations' competitive position won't be as severely off base from the cost of capital. That's the good news. The bad news is, going into a recession with a very fragile financial system and with regulators more concerned about criticism for their performance than about the effectiveness of the system, we're going to see increasingly all over the country the kinds of constraints upon lending that we in Texas have already seen for the last four years. Now, in a very selfish point of view for Texas, that says we get a little breathing room while everybody else joins us in our misery. But for the country at large, it's not promising about the pace at which we work our way through this recession. Skilled and motivated work force—one has to look at both education for the skilled part and at motivation which says as a society we still have not begun effectively to deal with the issue of drugs. As long as the demand for drugs remains high, and it's accepted in the society at large as an acceptable activity, then the motivation part is going to be very, very hard. And if you don't believe me, talk with your friends who are still active in the corporate world about the impact of the work force for the general issues of productivity, attendance to the workplace, performance overall.

On education, the report card has to say that we're still in a downward trend. For all of the great efforts that have been made here in this state over the last eight years to deal with the issues, the trends are still going against us. The dropout rate from our school systems here is still extraordinarily high. And need I remind you that with the second largest prison population in the country, nine out of ten of those inmates are school dropouts. And relatively few of those who go in come out with any educational skills that offer the prospect that they will become contributing members of the work force.

The science and technology base is at this point in time the country's greatest overall strength in this international competition. Science here still leads the rest of the world. There are a few places where there are inroads, but it's still very, very strong. In creating new technology, we lead in most areas, but no longer in all. In turning that technology into products, we increasingly trail both the Japanese and our West European colleagues. We cannot count on resting on our laurels in keeping a strong base of science and technology. If my colleague Hans Mark had gotten here, that was my handoff line for him to pick up to talk about the greatest strength in the base of science which is in our great universities. Here we've seen some surges in the eighties and some pioneering work in Texas to deal with new approaches to fund and sustain. But as we look at the nineties, one has to conclude that much more needs to be done.

In 1983, I had a wonderful look at my own country after thirty years of looking at the outside world. That exciting adventure came about through doing a site selection nationwide on where to put a new joint research venture called MCC. Fifty-seven places in twenty-seven states competed. Austin won going away. But it wasn't an Austin effort, it was a Texas effort. And there were many great strengths that attracted that consortium—quality of life, cost of living, good transportation systems, a positive attitude in state government about economic activity. But there were some cautionary flags, particularly related to education related to the other competitors. But there were promises of events to be undertaken and of a momentum to be sustained. No one said that was tied to oil at \$30 a barrel or to the health of financial institutions and the value of real estate. I have to honestly tell this group that if that same competition were taking place in 1990, I'm not sure what the outcome would be after looking at the last six years: '85, '87, '89 actual depression in investment; '87 sort of leveled; '89, they looked a little better. Now '91 looms in front of us. I was flipping through the newspaper and saw that on taxation of the individual per capita, we're 46th out of 50 states; in investment in education, we're about 43rd, 44th, maybe 46th after the next one; investment in the other health and human services, somewhere below 46th, and in one case, 52nd when you bring in two non-states—Puerto Rico and Guam.

Now as we go into the challenges of a legislative session looking at the nineties, it's my judgment for us that we can't count on sustained economic growth, economic opportunity, jobs for a dramatically changing prospective work force given the demographics, unless we make dramatic moves to bring up Texas's standing in a great many of those areas. Businesses are simply going to look at where they have the prospect of support in doing business out ahead, and those statistics are going to raise major questions. Now, other states are going to be in great difficulty as the recession hits them later and hard. So we've got some opportunities. My greatest worry, and at this point I'll finally stop, is that instead of taking a comprehensive look at how do we deal with each of these problems separately, what we're going to hear is, well, let's just sort of equalize everything. The one place where we've got the fastest start toward building the world of the twenty-first century in our institutions of higher learning, from the small jewels in the non-public higher education area to the great leading research institutions. And if I leave you with nothing else in this process, in where do we start to deal with this myriad of problems, we cannot permit reduction in investment in those activities to pay for the large number of other problems we've not been dealing with. Thank you very much.

Elsbeth Rostow: I know I speak for all of us not only in thanking Bob Inman for a remarkable tour de force, but also in thanking both Nancy and Bob Inman for getting up at 4:00 this morning in order to attempt to get here at an earlier hour. They are now on their way to New York. So we've promised that this meeting will break exactly at twelve, which gives us a very few minutes. But I think it would be a shame not to allow you a chance to have one crack at the Admiral.

Frank Smith: Admiral, I'm Frank Smith. And you mentioned a couple of points that I'd like to ask you a little further about. In saying that the American consumer voted with his pocketbook, I feel like it's worthwhile pointing out that if he were trying to buy a camera or a VCR or a camcorder, he had very little choice. All of those came from Japan, and the other point I feel is worth mentioning is that in recent years a great deal of our technical expertise and capital has been devoted to aircraft, missile systems, and other implements of war that we hope, with the end of the Cold War, we won't have to devote such a large portion of our national product to. Do you not feel that if we can redirect our technical expertise toward consumer products in the nineties, will that not rectify this problem, give us American products to buy that will greatly improve the balance of trade?

Bobby Inman: My honest answer to you is that I think the likelihood of that making the difference is almost nonexistent. It's easy simply to blame our position on the money we've been putting in defense. In fact, if you'll look at it carefully, less than 6% of GNP at its height went into Defense spending. So there's an enormous GNP out there. Could we get some additional benefit? The answer is yes. We could get some additional contribution, but it is miniscule in comparison to the larger scale of the problem. Investment in education, the basic quality of the work force going forward, ranks much higher, and if you'll look at the overall cost of the investment at this point—it isn't so much money as it is what we get out of it ultimately. But, more importantly, it's what we put into it as individuals in a great many cases.

If you go back and look at history, we spent a significantly higher percentage of our GNP for defense in the 1950s than we have in the 1980s, but you can document a far superior contribution of technology flowing out of that investment into commercial products. Much of the early work in computing came in that process. What's the difference? The difference is that in those years the investment cycle from initiation of research to product in Defense was 4-5 years. And we had an early flow through of technology for commercial use. And then beginning in the early 1960s we applied a whole new standard to how we thought about investing in our defense

forces. The systems analysts in their arrogance led us to believe that the human mind could make superior decisions beginning at the research phase and that we could measure each of those. The end result, as we kept adding layers of bureaucracy to avoid making mistakes, it's now 12-13 years in investment in defense before you see a product flowing out to the forces. It is very unusual these days, very rare exceptions like materials, where the earliest use of technology now takes place in defense. It is most often in the commercial sector. I think the revolution that you're going to see in the nineties, that's going to have a far more dramatic impact than the level of funding is going to be because quality's coming back in American products. You're going to increasingly see defense use commercial products, not products built to military specifications. And, therefore, you're going to have much of the military investment buying off of what's happening in the commercial arena. I happen to think we'll get a lot more for the money, but it will also help broaden the base for use of technologies that are created here. It's the damage over 25 years of our failure to focus on quality and the shortfall in investment in new talent absolutely eclipses the amount of money we spend on defense in this overall issue of competitiveness at the international marketplace.

Elsbeth Rostow: Apparently you have answered all possible questions. I will end my part in this program simply by thanking the chairman for allowing me to listen to all of you this morning. I wholly support the suggestion that we continue to have a period during the annual meeting when the membership can raise questions and make points. I hope we can incorporate such a session earlier on the program but, however scheduled, the principle is an admirable one, and I trust it will be followed. I think all of you for participating and turn the podium over to the chairman.

Frank Wozencraft: Thank you so much, Elspeth, and thank you so much Admiral Inman. We really appreciate the uniquely talented program that not only the two of you have made possible, but this membership has made possible. This was really a membership program. Indeed, the whole program was geared that way because, of the 15 speakers whose biography you see in your program, 10 are members. The other 5 were recruited by members. It's the strength of this membership that produces the kind of program, the quality of program, that we have. Our programs reflect what the membership does. This was an experiment...

Elsbeth Rostow: It also saves money.



Frank Wozencraft: That's also true. There was a little tentative concern about whether people would show up for a Sunday morning program. I think we just proved that it may be a self-selective process. There are certainly those who will, and I think each of you has enjoyed participating in this morning's discussion, as I certainly have.

It's been a great privilege for me to be your president this year. I want to thank the officers and directors and above all the membership for everything they've done to make this a successful year. Our Society is unique, and we must keep it that way. We cherish our heritage, and each annual meeting proves its strength. We'll see you in Galveston. Thanks to you all.

## NECROLOGY

ROBERT BERNERD ANDERSON

1910-1989

PRESIDENT EISENHOWER WROTE IN HIS DIARY IN JANUARY 1956 CONCERNING Robert Anderson: "He is one of the most capable men I know. My confidence in him is such that at the moment I feel that nothing could give me greater satisfaction than to believe that next January 20, I could turn over this office to his hands. His capacity is unlimited and his dedication to this country is complete" (*The Eisenhower Diaries*, p. 308).

Robert Anderson did not become president. Instead, he was appointed by President Eisenhower as Secretary of the Treasury in 1957 and served in that capacity for four influential years. At the time of his death in 1989, the largely laudatory obituary in the *New York Times* was headed "Robert B. Anderson, Ex-Treasury Chief, Dies at 79." But the subhead added: "A prison term cast a pall over a distinguished achievement in both public and private sectors over many decades, ending in an unexpected, inexplicable fall from grace."

Robert Bernerd Anderson was born in Burleson, Texas, in 1910, the son of a cotton and dairy farmer. Graduating at 17 from Weatherford College, he received his law degree from The University of Texas at 22 and was elected to the state legislature at the same tender age. World War II moved him from an active career in Texas to Washington, D.C., where he served as an aide to the Secretary of the Army.

The emergence of Dwight Eisenhower as a presidential candidate in 1952 marked the transition of Robert Anderson from the Democratic to the Republican party, although he did not switch formal allegiance immediately. He served with distinction as Secretary of the Navy in 1953-1954, as well as Deputy Secretary of Defense in 1954-1955. In these roles, as well as at the Treasury, his reputation spread throughout Washington as a highly efficient, often brilliant, administrator.

Mr. Anderson left government service in 1961 to resume an active role in the private sector, where his many assignments included a limited partnership in the investment banking firm of Loeb, Rhoades and Company; an advisor to Phillips Petroleum, Texaco, and other oil companies; and an array of directorships and consultancies. In addition, he served as partner in the Robert B. Anderson and Company investment house. Over the years,

he operated with quiet skill as an international trouble-shooter for four different presidents; he participated actively in the Panama Canal negotiations. Whether in the public sector (where his influence ranged from moving to end racial segregation in navy posts to a campaign to preserve the dollar) or in the private sector (where he was widely respected), Anderson fully justified the "intense admiration" that President Eisenhower felt for him.

How then to explain the fact that in 1987 Mr. Anderson, 77 years old, was sentenced to prison after pleading guilty to income tax evasion to the extent of \$127,000 and to operating an off-shore bank in the British West Indies which cost investors more than \$4 million? His many friends felt that the answer was to be found in the heavy strain placed upon him in caring for his wife, Ollie Mae, who suffered from Alzheimer's disease for ten years before her death in 1987. His own explanation was that he placed trust in associates who proved unworthy and that his struggle with alcoholism clouded his judgment. He had completed his sentence of one month in prison and five months house arrest over a year before his death in Manhattan, not far from Greenwich, Connecticut, where he had lived since the 1950s.

It is tempting to measure a career by its termination—tempting but in this case wrong. Robert Anderson's contributions to his state, to his country, and to the world made a permanent and valuable mark on this century. It is almost as if there had been two Robert Andersons: the distinguished and effective public servant twinned to the successful and influential businessman, lawyer, and economic advisor; and the negligent older man whose mistakes cost him heavily in the final two years of his long life. This Society elected the real Robert Anderson and was proud to be associated with him.

E. R.

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JACK LAWRENCE BUTLER  
1918-1991

JACK LAWRENCE BUTLER, DISTINGUISHED JOURNALIST, EDITOR, AND COMMUNITY community leader, died March 17, 1991, at Fort Worth, Texas, at the age of 73. Jack was born in Seymour, Texas. His family moved to Mineral Wells, Texas, where he graduated from high school. After graduating from the School of Journalism at The University of Texas at Austin in 1939, his first employment was with the Tyler *Courier-Times*. In Tyler he met and married Mary Louise Ford. Throughout their marriage of 49 years Jack and "Mary Lou" were partners in many activities. In January 1943, he joined the Fort Worth *Star-Telegram*, the daily newspaper at Fort Worth, Texas, where

he remained until his retirement in 1980, except for his service in the U.S. Navy in 1944-1945. This enterprise was not unfamiliar to Jack because as a boy in Mineral Wells he managed a *Star-Telegram* delivery route.

Serving initially as a courthouse reporter he rose through the ranks to political writer, city editor, news editor, assistant managing editor, editor (1962-1975), vice-president and editor, and retired in the capacity of senior vice-president at the end of 1980.

One gains a sense of the breadth and influence of Jack Butler's work and life by assembling some of the descriptive words found in the articles and published tributes authored by fellow journalists and friends upon his death. Such words and phrases include "sage leadership," "true gentleman," "personal and professional integrity," "dedicated newsman and citizen," "a passion for truth and justice," "constructive influence in community affairs," "Christian," "leveling influence in the community," "caring," "master of quotes," "responsible and understanding."

Phil Record, associate editor of the *Star-Telegram*, may have stated it best: "Jack was an outstanding journalist who had that rare gift of being able to demonstrate both courage and compassion in the performance of his work. He was an editor blessed with foresight, an editor whose wisdom helped guide this community through some very troubled waters."

Jack Butler had a unique approach to management and in the analysis of problems daily facing an editor. I presume it would be called "Butler's Way." When one brings up Butler's name in conversation with a former associate or close friend of Jack, rarely does one not relate his "favorite Butler story."

Jack Butler's influence in community affairs was enormous. He unselfishly served as a director, officer, or committeeman of innumerable local civic, cultural, religious, and educational endeavors. Among these I would name the Chamber of Commerce, United Way, Methodist Church, Tarrant County Community Council, Parents and Guidance, Fort Worth Boys Choir, Fort Worth Arts Council, and The University of Texas at Arlington Journalism Department.

Honors and recognition of Jack's dedication to journalism and his community are legion. He was appointed Capital Cities Distinguished Lecturer in Journalism at T.C.U. for the years 1978 through 1981, and was the subject of a memorial resolution of the Texas State House of Representatives in 1991, which described Butler as a man who "adhered to the highest standard of personal and professional integrity" and who provided sage leadership in his community.

Other honors include an Honorary Doctor of Letters Degree from T.C.U. in 1981; a scholarship established in his name for minority students at Texas Woman's University by the *Star-Telegram*; receipt of the Brotherhood

Award of the National Conference of Christians and Jews in 1972; induction into the Mass Communications Hall of Fame at Texas Tech University in 1982; founding president of the Texas Association of Professional Journalists; and selection as a jurist for the Pulitzer Prize in Journalism for three years. Upon his death two scholarship funds were established at The University of Texas at Arlington in Butler's memory, the first for students in the field of mass communication and the second for students in the School of Journalism.

In addition to his wife, he is survived by a daughter, Ellen Butler Mays of Fort Worth, and a son, Lawrence Ford Butler of Naperville, Illinois, and three grandchildren.

J. G.

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MARVIN KEY COLLIE  
1918-1989

MARVIN KEY COLLIE, ONE OF THE MOST DISTINGUISHED TAX LAWYERS THIS STATE lawyers this state has ever produced, and a member of this Society since 1964, died on January 2, 1989.

Born in San Antonio on July 16, 1918, Marvin grew up in Ranger where his father was an insurance agent. After his father's death when Marvin was 11, the family moved to Amarillo where Marvin went to high school and became state champion debater in 1935. During the summers from age 12 on he worked at various political jobs under the tutelage of his uncle, State Senator Wilbourne Collie. After two years at Washington and Lee University, where he was a member of Sigma Alpha Epsilon and of the Glee Club, he transferred to The University of Texas, where he received both the B.A. and LL.B. degrees in 1941. At the university he renewed his affiliation with Sigma Alpha Epsilon, was named a Goodfellow, and was elected to Phi Delta Phi Honorary Legal Fraternity.

During law school, Collie held a summer clerkship with the Houston firm of Vinson and Elkins. Upon graduation he became a full-time associate of that firm. In 1942 he went into the army and was assigned to the Counter Intelligence Corps. That same year he married Nancy Morriss of Dallas, whom he had met when she visited a Hockaday friend in Amarillo while Marvin was still in high school. They had continued to correspond and visit frequently through college and Marvin's law school years. After graduating from officer candidate school he was assigned as a CIC agent to the Air Corps and served in London attached to the Air Transport Command. This

gave him opportunities to travel to Italy, Africa, and the Middle East. He was discharged from the army on February 1, 1942, and returned to practice law with Vinson and Elkins, where he became a partner in 1951.

Marvin developed the federal tax practice of the firm as a separate specialty. In that process he attained for the firm and for himself state and national recognition. He and the tax group which he headed had a significant part in helping to draft the Internal Revenue Code of 1954, which replaced the 1939 Revenue Act. In this effort Marvin worked with former United States Representative Wilbur Mills, Chairman of the House Ways and Means Committee. The University of Texas Law School then began a series of annual tax institutes designed to provide continuing education in the field of federal and state taxation, and Marvin was chosen as the chairman of the planning committee, a position he held for ten years. The positions of distinction in this field which Marvin held included Chairman, Tax Section, State Bar of Texas, 1952-1953; Chairman, Committee on Natural Resources, Section of Taxation, American Bar Association, 1952-1954; Council, Tax Section, American Bar Association, 1954-1958; Member, Advisory Committee of Commissioner of Internal Revenue, 1963; Tax Consultant to the American Law Institute, 1963-1969; and Presidential Task Force on Business Taxation, 1969-1970. He was chosen a member of the American College of Tax Counsel, of the American College of Probate Counsel, and of the American Law Institute and served on the Council of the Real Estate, Probate and Trust Section of the American Bar Association, 1953-1957. He also served on the Advisory Board of Tax Management, Inc., which publishes one of the most useful and widely used commentaries on federal tax law. During 1983-1985 he served as adjunct professor at The University of Texas Law School. Few have served so effectively and have been so honored.

Stepping aside briefly from the tax practice, Marvin, at 39, was chosen and served as president of the National Bank of Commerce in Houston from 1959 to 1961. Later he was a member of the Board of Directors of the First City National Bank of Houston and of the Houston branch of the Federal Reserve Bank of Dallas. He also served as a member of the Committee on Federal Relationships of the Association of Reserve City Bankers.

The wide range of his public service and the recognition of his outstanding abilities brought him membership on the Boards of Trustees of the Methodist Hospital of Houston, the Baylor College of Medicine of Houston, the Houston Museum of Fine Arts, and the Robert A. Welch Foundation and on the Boards of Directors of The University of Texas Ex-Students' Association, The University of Texas Foundation, and the Travelers Corporation of Hartford, Connecticut. He was chairman of the Administra-

tive Board of the First United Methodist Church of Houston, 1958-1960, and president of that board from 1980 to the date of his death. He also served as president of the Business Planning Council of Houston during 1948-1950. Marvin was named a Distinguished Alumnus of The University of Texas in 1977. He and his wife Nancy in 1981 established the Marvin Key Collie Endowed Presidential Scholarship in the Humanities at The University of Texas at Austin. With Nancy, Marvin was instrumental in establishing the Neuhaus Education Center, a nonprofit educational foundation in Houston devoted to teaching the basic language skills of reading, writing, and spelling to all students, including those students with language learning differences, especially dyslexia. The Nancy and Marvin Collie Library at the center continues to serve as a tribute to his and Nancy's leadership.

Marvin is survived by his wife, Nancy Morriss Collie, his daughter, Gwynne Collie Brooks, his sons, Marvin Key Collie III and David Wade Collie, and his sister, Doris Collie Hall. His mother, Gladys Stanley Collie, survived him but has since passed away. Two grandchildren, William Harrison Collie and Sydney Marie Collie, children of Marvin Key Collie III, have since been born.

He leaves a heritage of the highest professional attainment, an example to be emulated of extensive and useful public service to his profession, his church, and his community and an enduring memory of treasured friendship to those privileged to have known and been associated with him.

J. C. D.

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FRANK NEVILLE IKARD, SR.  
1913-1991

FRANK NEVILLE IKARD, SR., A WIDELY KNOWN AND DISTINGUISHED MEMBER OF this Society since 1979, died in Washington, D.C., on May 1, 1991.

Frank was born in Henrietta, Texas, on January 30, 1913, where he grew up and attended high school. He entered The University of Texas in 1932 where he obtained both the B.A. and LL.B. degrees, graduating in 1937. While at the university he distinguished himself in many ways. He was elected to the Cowboys, the Friars, and was president of his fraternity, Beta Theta Pi. He served as president of the Interfraternity Council and as foreman of the Cowboys. After graduation he practiced law in Wichita Falls with the firm of Bullington, Humphrey and Humphrey until 1942 when he entered the military service. He went with his unit to Europe in 1944. Taken captive during the Battle of the Bulge in December 1944, he was placed in

a German prison camp and, being put to work in a brewery, remained until liberated by the advancing American army in 1945. Frank, a 6-foot-5-inch man, reported that he was fed only rutabaga. By the time he was released his weight had dwindled to 120 pounds.

Returning to the United States in 1945 and being released from the army, he recommenced practice with his firm in Wichita Falls. In 1948 Governor Beauford Jester appointed Frank a judge of the District Court for the 30th Judicial District at Wichita Falls, where he served until, in a special election in September 1951, he ran for and was successfully elected United States Congressman from the 13th District of Texas. In Washington and a Democrat, Frank became a protege of Speaker Sam Rayburn and a close friend of Lyndon B. Johnson and Lloyd Bentsen, with whom he served in the Congress until 1961. He was a member of the House Ways and Means Committee, and it was thought at one time that he had a chance ultimately to become Speaker of the House. He is credited with helping to build their strong power base during those years. In 1961 he left the Congress to become chief spokesman for the oil industry as executive vice-president of the American Petroleum Institute. Becoming president two years later, he served in that office until he retired in 1979. He frequently testified before the Congress on oil, gas, and other energy issues and greatly increased the effectiveness of that lobby. Under his leadership it came to be regarded as one of the more effective lobbying groups in the nation's capital.

The *New York Times* says, "In October, 1973, when Arab oil-producing countries embargoed oil exports to the United States after the outbreak of the Arab-Israeli War, precipitating a worldwide energy shortage, Mr. Ikard led the oil industry's defense against charges that it had contrived the shortage to raise prices. The embargo was lifted in March, 1974."

After his retirement from the American Petroleum Institute, Frank practiced law in Washington with the firm of Danzansky, Dickey, Quint, and Gordon. He served on a number of governmental advisory councils, including the Natural Gas Advisory Council to the Federal Power Commission, 1964-1970; the Advisory Board of the Center for Strategic Studies, Washington, 1966-1969; the National Petroleum Council, 1964-1983; the President's National Advisory Council on Highway Beautification, 1966-1968; the President's National Citizens Committee on International Cooperation, 1965-1968; and the President's Industry-Government Special Task Force on Travel, 1966-1968. He was a member of the United States National Conference on the World Energy Congress, 1967-1969, and on the World Petroleum Congresses, 1963-1970. He was also a member of the board of directors of Sheller-Globe Corporation, First American Bank, N.A., Washington, Consolidated Petroleum Industries, Inc., and Independent Refinery



Group, Inc. Frank also served as trustee of the John F. Kennedy Center for the Performing Arts, Washington, as chairman of Meridian House International, and as vice-chairman of the Board of Regents of The University of Texas at Austin. Later he was counsel to the firm of Laxalt, Washington, Perita and Dubuc. In September 1989, he became chairman of the board of the Institutional Communications Company, of McLean, Virginia, which is engaged in the field of fiberoptics. He held that position until his death.

Frank married Jean Hunter on October 15, 1940, and they had two sons, Frank N. Ikard, Jr., and William Forsyth Ikard, both of Austin, Texas, who survive him. Jean Ikard died in 1970. Frank was married a second time on July 22, 1972, to Jayne Keegan Brumley in Austin. She and a stepson, Bryan Brumley, Moscow Bureau Chief of the Associated Press, also survive him, as do seven grandchildren.

An excellent lawyer, a good judge, an outstanding member of Congress, and an extremely effective advocate for the entire energy industry, Frank's career is a model for many in generations to come.

J. C. D.

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MALCOLM SCOTT MCCORQUODALE, JR.  
1933-1990

IT IS ALWAYS TRAGIC WHEN WE LOSE A FRIEND IN HIS PRIME. FOR THE Philosophical Society of Texas and his many friends, the unexpected death of Malcolm McCorquodale was especially shocking. He was in training for a long-awaited bicycle race from Paris to Brest to Paris in 1991 when a heart attack struck him down on April 27, 1990. He was 56 years old and apparently in excellent health, having completed 56 one-hundred-mile bicycle rides in the prior year and having won the Gold Medal in the Senior Olympics bicycle time trials for Houston in Memorial Park in 1989.

Malcolm Scott McCorquodale, Jr., was born on June 22, 1933, in Houston, Texas. He attended St. John's School and graduated from the Gilman School in Baltimore, Maryland. In 1951, he went to Princeton University, majored in history, and spent his junior year abroad in France, where he studied at the Sorbonne and at the Ecole Politique. In 1955, he graduated from Princeton University, summa cum laude.

After graduation, he spent two years in the army in SHAPE headquarters, writing precis from the French newspaper for the U.S. commanding general. In December of 1958, he married Robin Hunt, also a native Houstonian. They have three sons: Malcolm Scott McCorquodale III, Angus Howard McCorquodale, and Wilmer Hunt McCorquodale.

In 1957, Malcolm joined Schlumberger Limited as assistant to the chairman of the board, Jean de Menil. In 1961, he graduated from the South Texas College of Law, after which he became a lawyer for Schlumberger and soon moved with his family to New York City and then in 1970 to Paris, France, where he became general counsel for the *Companie de Comteurs*, a subsidiary of Schlumberger.

In the summer of 1974, he returned to Houston to become executive vice-president of the Menil Foundation. He retired in 1980 and followed his interests and hobbies in art, photography, music, American history (especially the Civil War), and French philosophy, history, and literature. He was bright, charming, able, talented, and many-faceted.

In addition to the Philosophical Society of Texas, Malcolm was a member of the Civil War Roundtable, the Religious Society of Friends, the Cultural Arts Council, the Municipal Art Commission, and the Houston Bicycle Club.

Malcolm became a member of the Philosophical Society in 1976 and attended virtually every Annual Meeting until his untimely death. He was accompanied to those meetings by his wife Robin and, while they were living, by her mother and father, the late Eugenia and Judge Wilmer Hunt, who was a long-time member of the Society. Robin attended the 1990 meeting. The Society encompassed a great many of their interests just as Malcolm embodied many of the qualities and interests of the Society. His congenial warmth and enthusiasm will be greatly missed.

F. M. W.

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STEPHEN H. SPURR  
1918-1990

STEPHEN H. SPURR, A MEMBER OF THE PHILOSOPHICAL SOCIETY OF TEXAS SINCE 1973, was a distinguished forest ecologist of international renown who served as president of The University of Texas at Austin from 1971 to 1974. He also was a professor in the Lyndon B. Johnson School of Public Affairs and the Department of Botany from 1971 until his retirement in 1983, when he was designated a professor emeritus.

Steve, who was born on February 14, 1918, was the youngest of five brothers whose father, Joshua Edward Spurr, was a well-known geologist for whom, in recognition of his many scientific contributions, a prominent mountain in Alaska was named. Although his father was retired by the time Steve was born and most of his brothers were already out in the world, his

mother, Sophie Burchard, encouraged his budding precocity and appetite for learning. He entered the University of Florida at the age of 16. Highly motivated to be a scientist like his father, he had a secret desire to write poetry and memorized long passages from epic poems as well as contemporary literature. A love of limericks and a quick wit spurred Steve on many occasions throughout his life to fashion puns. A deeply sensitive and introspective person, he was a modest and somewhat shy individual who liked people and welcomed diversity. When asked in his later years to write an autobiography, he was unable to do it, writing instead a short essay he called "Apologia" in which he stated why, in good conscience, he could not produce an honest autobiography.

After receiving a bachelor of science degree in botany in 1938 from the University of Florida, he went on to earn his masters and doctoral degrees from Yale in forestry and forest ecology. During 1940-1950, he taught at Harvard University and served as acting director of the Harvard Forest. His days at Harvard were among his happiest, a time when he married the former Patricia Chapman Orton and started a family that remained intensely loyal and close-knit throughout his lifetime.

After serving two years as a faculty member at the University of Minnesota, he accepted an appointment in 1952 at the University of Michigan where he remained for the next 19 years. Long before most other scientists, he recognized the subtle, complex interactions among all living creatures and the physical environment surrounding them. As a pioneering ecologist, he quickly developed an international reputation exploring related aspects of silviculture, forest botany, geology and soils, and environmental policy. During this time he was the founder and first editor of *Forest Science*. A prolific writer of scientific articles and books, he also invented several measuring tools widely used in forestry.

Upon returning in 1960 from a very successful Fulbright research sabbatical in New Zealand, Spurr realized that he needed to strike out in a new direction. After 20 years of research and teaching in forest ecology, he was getting a little bored with traditional academic life. For the first time, he thought it might be interesting to try his hand at university administration. Encouraged by early successes assisting President Hatcher at the University of Michigan, he accepted a half-time appointment as special assistant to the academic vice-president. At one time or another during the following 10 years, he served as assistant to the vice-president for Academic Affairs, dean of the School of Natural Sciences, and dean of the Horace H. Rackham School of Graduate Studies at Michigan. While he didn't seek a presidency, it was obvious that a person of his eminent qualifications would be at the top of many shopping lists for university presidents. While happy

at Michigan, he finally succumbed to an offer from The University of Texas, realizing that UT Austin had a potential for academic growth and excellence surpassed by no other institution in the country.

Spurr arrived at a time, in 1971, when faculty morale was low and the academic administration at both the System and UT Austin levels had been almost completely purged. In the subsequent three years, he managed to win the support of the faculty, recruit new deans, and settle serious conflicts concerning control and freedom of *The Daily Texan*, the student newspaper. Significant advances were also made in the improved status of women and minorities on the university faculty and recruitment of qualified minority students. While the Board of Regents remained true to its agreement not to interfere with the appointments of key deans and academic staff, by 1974 several regents were getting a bit restless, particularly since the deanships of the LBJ School of Public Affairs and the Law School had become open. A coronary bypass surgery weakened Spurr at a critical period, leaving him without the energy and dedication necessary to resolve the conflicting demands of the regents, faculty, students, and alumni. Although his recovery was excellent, he was abruptly fired as president late in 1974 after choosing not to resign under pressure. A shocked community of faculty and students rallied to his side. To this day, the full story of this event has not been told.

Although dismissed as president, Spurr remained a professor of botany and of public affairs, continuing to teach, to lecture, and to serve on numerous national commissions and boards, both in the field of higher education administration and in his academic specialty of ecology and environmental policy. He served on the President's Advisory Panel on Timber and the Environment and has been a member of the National Academy of Sciences Committee on Renewable Resources for Industrial Materials. Among many educational policy groups, he was active as a trustee of the Institute for International Education, the Carnegie Foundation for the Advancement of Teaching, the Educational Testing Service, and the Carnegie Council on Policy Studies in Higher Education.

Among honors bestowed on him were Yale University's Wilbur L. Cross Medal for outstanding achievement in professional life, several distinguished lectureships at U.S. universities, teaching excellence awards, election to honorary societies such as Phi Beta Kappa, Phi Kappa Phi, and Sigma Xi, and honorary doctorates from other universities including his original alma mater, the University of Florida.

By the late 1970s, with the development of Parkinson's disease, his health took a turn for the worse. Gradually he lost his ability to speak. By strenuous effort he was able to compensate for this growing handicap with patient

assistance from his family and close friends. After his service as president of the Society of American Foresters in 1980-1981, the Society awarded him its 1985 Gifford Pinchot Medal for outstanding contributions to North American forestry. Earlier, he had won the Distinguished Service Award of the American Forestry Association and the 1984 Forest Farmer Award of the Forest Farmers' Association. One of his last honorary doctor of law degrees was bestowed on him by the University of Michigan in 1988.

Alert and active mentally until his last months, Steve's ability to communicate faded away, as did his physical health. He died on June 20, 1990. In addition to his wife, Patricia, he is survived by a son, Daniel Spurr of Newport, Rhode Island; a daughter, Jean Spurr of San Francisco; and two grandchildren, Adria and Stephen Spurr.

W. H. H.

## OFFICERS OF THE SOCIETY

*For the Year 1991*

*President*

WILLIAM C. LEVIN

*First Vice-President*

WILLIAM D. SEYBOLD

*Second Vice-President*

ROBERT KRUEGER

*Secretary*

RON TYLER

*Treasurer*

JAMES DICK

*Directors*

WILLIAM C. LEVIN

WILLIAM D. SEYBOLD

ROBERT KRUEGER

FRANK McREYNOLDS WOZENCRAFT

J. CHRYS DOUGHERTY

JOHN CLIFTON CALDWELL

ELSPETH ROSTOW

WILLIAM PETTUS HOBBY

JOE R. GREENHILL

JENKINS GARRETT

WAYNE H. HOLTZMAN

## PAST PRESIDENTS

*Mirabeau Buonaparte Lamar	1837-59
*Ira Kendrick Stephens	1936
*Charles Shirley Potts	1937
*Edgar Odell Lovett	1938
*George Bannerman Dealey	1939
*George Waverley Briggs	1940
*William James Battle	1941
*George Alfred Hill, Jr.	1942
*Edward Henry Cary	1943
*Edward Randall	1944
*Umphrey Lee	1944
*Eugene Perry Locke	1945
*Louis Herman Hubbard	1946
*Pat Ireland Nixon	1947
*Ima Hogg	1948
*Albert Perley Brogan	1949
*William Lockhart Clayton	1950
*A. Frank Smith	1951
*Ernest Lynn Kurth	1952
*Dudley Kezer Woodward, Jr.	1953
*Burke Baker	1954
*Jesse Andrews	1955
*James Pinckney Hart	1956
*Robert Gerald Storey	1957
*Lewis Randolph Bryan, Jr.	1958
*W. St. John Garwood	1959
George Crews McGhee	1960
*Harry Hunt Ransom	1961
*Eugene Benjamin Germany	1962
*Rupert Norval Richardson	1963
*Mrs. George Alfred Hill, Jr.	1964
*Edward Randall, Jr.	1965
*McGruder Ellis Sadler	1966
*William Alexander Kirkland	1967
*Richard Tudor Fleming	1968
*Herbert Pickens Gambrell	1969
*Harris Leon Kempner	1970
*Carey Croneis	1971
*Willis McDonald Tate	1972
*Dillon Anderson	1973
*Logan Wilson	1974
Edward Clark	1975
Thomas Hart Law	1976
*Truman G. Blocker, Jr.	1977
Frank E. Vandiver	1978
*Price Daniel	1979
Durwood Fleming	1980
Charles A. LeMaistre	1981
Abner V. McCall	1982
*Leon Jaworski	1983
Wayne H. Holtzman	1983
Jenkins Garrett	1984
Joe R. Greenhill	1985
William Pettus Hobby	1986
Elsbeth Rostow	1987
John Clifton Caldwell	1988
J. Chrys Dougherty	1989
Frank McReynolds Wozencraft	1990

\*Deceased

## MEETINGS OF THE PHILOSOPHICAL SOCIETY OF TEXAS

December 5, 1837 — Founded at Houston	1963 — Nacogdoches
January 29, 1839 — Austin	1964 — Austin
January 18, 1936 — Chartered	1965 — Salado
December 5, 1936 — Reorganizational meeting — Dallas	1966 — Salado
January 29, 1937 — Meeting and inaugural banquet — Dallas	1967 — Arlington
December 4, 1937 — Liendo and Houston	1968 — San Antonio
1938 — Dallas	1969 — Salado
1939 — Dallas	1970 — Salado
1940 — San Antonio	1971 — Nacogdoches
1941 — Austin	1972 — Dallas
1942 — Dallas	1973 — Austin (Lakeway Inn)
1943 — Dallas	1974 — Austin
1944 — Dallas	1975 — Fort Worth
1945 — Dallas	1976 — San Antonio
1946 — Dallas	1977 — Galveston
1947 — San Antonio	1978 — Houston
1948 — Houston	1979 — Austin
1949 — Austin	1980 — San Antonio
1950 — Houston	1981 — Dallas
1951 — Lufkin	1982 — Galveston
1952 — College Station	1983 — Fort Worth
1953 — Dallas	1984 — Houston
1954 — Austin	1985 — College Station
1955 — Nacogdoches	1986 — Austin
1956 — Austin	1987 — Kerrville
1957 — Dallas	1988 — Dallas
1958 — Austin	1989 — San Antonio
1959 — San Antonio	1990 — Houston
1960 — Fort Clark	1991 — Galveston
1961 — Salado	
1962 — Salado	



## MEMBERS OF THE SOCIETY

(NAME OF SPOUSE APPEARS IN PARENTHESES)

- ADKISSON, PERRY L. (FRANCES), chancellor, Texas A&M University System, distinguished professor of entomology, Texas A&M University ..... *College Station*
- ALLBRITTON, JOE LEWIS (BARBARA), lawyer; board chairman, Riggs National Corporation ..... *Houston*
- ANDERSON, THOMAS D. (HELEN), lawyer ..... *Houston*
- ANDREWS, MARK EDWIN (LAVONE), president, Ancon Oil and Gas Company; former assistant secretary of the navy ..... *Houston*
- ARMSTRONG, ANNE LEGENDRE (MRS. TOBIN), former U.S. ambassador to Great Britain ..... *Armstrong*
- ASHBY, LYNN COX (DOROTHY), editor, *Houston Post*; member, Houston Philosophical Society and Houston Economic Development Council; author ..... *Houston*
- ASHWORTH, KENNETH H., commissioner of higher education, Texas College and University System ..... *Austin*
- BAKER, JAMES ADDISON, III (SUSAN), U.S. Secretary of State; former U.S. Secretary of the Treasury; White House Chief of Staff ..... *Houston and Washington, D.C.*
- BAKER, REX G., JR., lawyer ..... *Houston*
- BARROW, THOMAS D. (JANICE), vice-chairman, Standard Oil Company (Ohio) ..... *Houston*
- BARTON, DEREK HAROLD RICHARD (CHRISTIANE), professor of chemistry, Texas A&M University; Nobel Prize in chemistry ..... *College Station*
- BELL, HENRY M., JR. (NELL), chairman of the board and C.E.O., First City National Bank of Tyler; director, First City Bancorporation of Texas, Inc., Houston ..... *Tyler*
- BELL, PAUL GERVAIS (SUE), president, Bell Construction Company; president, San Jacinto Museum of History ..... *Houston*
- BENNETT, JOHN MIRZA, JR. (ELEANOR), member, University of Texas Centennial Commission and Texas Historical Records Advisory Board; director, Texas and Southwestern Cattlemen's Association; Major General, USAFR ..... *San Antonio*
- BENTSEN, LLOYD (BERYL ANN: "B.A."), United States senator ..... *Houston and Washington, DC*
- BETO, GEORGE JOHN (MARILYNN), professor of criminology, Sam Houston State University; former director, Texas Department of Corrections; former president, Concordia College ..... *Huntsville*
- BLANTON, JACK S. (LAURA LEE), president, Scurlock Oil Company ..... *Houston*
- BOLTON, FRANK C., JR., lawyer; former head of legal department of Mobil Oil Company ..... *Houston*
- BOYD, HOWARD TANEY (LUCILLE), retired chairman, The El Paso Company; College of Business Administration Council of Texas A&M University; regent emeritus, Georgetown University ..... *Houston*
- BRANDT, EDWARD N., JR. (PATRICIA), physician — medical educator; executive dean, Oklahoma City Campus — Health Sciences Center, University of Oklahoma ..... *Oklahoma City, OK*
- BRINKERHOFF, ANN BARBER, chairman, Liberal Arts Foundation, University of Texas at Austin ..... *Houston*

- BROWN, JOHN R. (VERA), judge, Fifth Circuit Court of Appeals ..... *Houston*
- BRYAN, J. P., JR. (MARY JON), president, Schroeder Torch; former president, Texas State Historical Association ..... *Houston*
- BUSH, GEORGE (BARBARA), president of the United States; former director, Central Intelligence Agency; former ambassador to United Nations; former congressman ..... *Houston and Washington, DC*
- CALDWELL, JOHN CLIFTON (SHIRLEY), rancher; former chairman, Texas Historical Commission; director, Texas Historical Foundation ..... *Albany*
- CALGAARD, RONALD KEITH (GENIE), president of Trinity University .... *San Antonio*
- CARMACK, GEORGE (BONNIE), former editor, *Houston Press*, *Albuquerque Tribune and Travel*, and editorial writer *San Antonio Express—News* ..... *San Antonio*
- CARPENTER, ELIZABETH "LIZ," former Assistant Secretary of Education, Washington correspondent, White House Press Secretary; consultant, LBJ Library; author ..... *Austin*
- CARROLL, MARY JOE DURNING (MRS. H. BAILEY), lawyer; board member, *Texas Law Review*; ed. staff, *Handbook of Texas* (1952); former parliamentarian, Texas Senate; Governor's Committee, 1969 Codification of Texas School Laws ..... *Austin*
- CASEY, ALBERT V., former United States postmaster general; chairman and C.E.O., AMR Corp. and American Airlines, Inc.; director, Colgate-Palmolive Co. .... *Dallas*
- CAVAZOS, LAURO F. (PEGGY ANN), Secretary of Education; former president, Texas Tech University and Texas Tech University Health Sciences Center ..... *Washington, DC*
- CHRISTIAN, GEORGE (JO ANN), writer and political consultant; former press secretary and special assistant to President Lyndon B. Johnson ..... *Austin*
- CISNEROS, HENRY G. (MARY ALICE), former mayor, San Antonio; faculty member, Trinity University ..... *San Antonio*
- CLARK, EDWARD, lawyer; former Secretary of State of Texas; former United States ambassador to Australia ..... *Austin*
- CLARK, RANDOLPH LEE (BERTHA), former president, University of Texas System Cancer Center M.D. Anderson Hospital and Tumor Institute ..... *Houston*
- CLEMENTS, WILLIAM P., JR. (RITA), governor of Texas; former chairman, SEDCO Inc.; former deputy secretary of defense ..... *Dallas*
- CONGER, ROGER N. (LACY ROSE), retired executive; former mayor of Waco; former president, Texas State Historical Association ..... *Waco*
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