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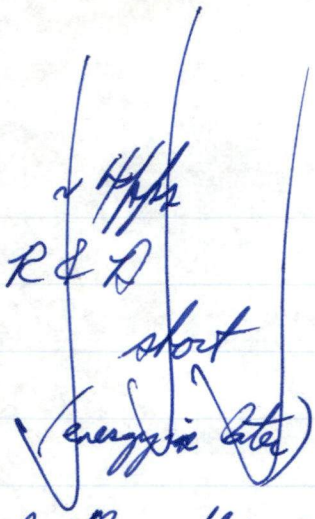
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R & D

short

(energy in late)

health care, environ, energy issues - qual. life overall

For the Am. future, from science is [illegible] that afterwards simply essential.

Am. Tech., best in world

men & women of independent & active minds

that are receptive to ideas in their purest form

that we pursue "the wonders of science, instead of its terrors."

Watkins speaks on 19th

Bob Giffin D.O.E.

586-0493

Science education

FIRST committee

Dr. Bateman is [illegible] Watkins, interested in education

revolutionized mankind's understanding of the univ.

81
1994
1564
427

Today, (in 1564) - Astronomer Galileo Galilei B-day

eppur si muove

(Funding) - the secret of innov. is in the mind of the individ. -- along w/ how much, how well.

founded by Edison
1848 - yr. of the 1st Calif. goldrush

~~entrepreneurial science~~.

1948 - Truman last pres to addr. this assoc. ~~org~~

the world's largest federation of scientific & engineering socs.

today > 133,000 scientists, engineers, educators, policymakers & all interested in sci & tech.

THANK YOU. WE'RE PLEASED TO SEE SECRETARY MOSBACHER, DR. BROMLEY, AND ADMIRAL TRULY, HERE TO HELP US OUT. AND WE ESPECIALLY WANT TO GREET OUR HONORED GUESTS, THIS EXTRAORDINARY GATHERING OF SCIENTIFIC AND TECHNOLOGICAL GENIUS. WELCOME TO THE WHITE HOUSE -- AND WELCOME TO THE PRESENTATION OF THE 1990 NATIONAL MEDALS OF SCIENCE AND THE NATIONAL MEDALS OF TECHNOLOGY.



((THE TIMING OF THESE AWARDS IS FORTUITOUS. A YEAR AGO THIS WEEK, BARBARA AND I AWARDED MEDALS TO SOME OF THE ARTISTIC GIANTS OF OUR TIME -- ALFRED EISENSTAEDT, DIZZY GILLESPIE, AND JOHN UPDIKE, AMONG OTHERS. \\ AND WITH ALL THAT ASSEMBLED TALENT, GUESS WHAT LED THE EVENING NEWS? \\ THE ROSE GARDEN PRESENTATION OF THE NATIONAL TURKEY. \\\ SO YOU'RE IN LUCK -- THIS YEAR THE TURKEY DOESN'T ARRIVE UNTIL THURSDAY!)) \\\

THIS GATHERING MARKS A PROUD MOMENT FOR ME -- JUST AS IT WAS WHEN THIS YEAR'S NOBEL PRIZES WERE ANNOUNCED, AND IT TURNED OUT THAT EIGHT OF THE NINE WINNERS IN SCIENCE AND ECONOMICS WERE BORN IN THE U.S.A. IT IS A TRIBUTE TO AMERICA'S FRONTIER SPIRIT, AND TO OUR NATION'S STEADFAST RESOLVE AND SENSE OF THE FUTURE. FOR WHEN IT COMES TO LEADERSHIP IN SCIENCE AND TECHNOLOGY -- BEST IN AMERICA MEANS BEST IN THE WORLD. \\\



AMERICA'S TRADITION OF EXCELLENCE HAS LONG BEEN NURTURED BY A TRADITION OF FREE INQUIRY -- AIMED AT THE SIMPLE GOAL OF BETTER UNDERSTANDING OURSELVES AND OUR WORLD. IN THE 1945 REPORT THAT LED TO THE FOUNDING OF THE N.S.F., THE NATIONAL SCIENCE FOUNDATION, VANNEVAR BUSH WROTE THAT: "AS LONG AS SCIENTISTS ARE FREE TO PURSUE THE TRUTH WHEREVER IT MAY LEAD, THERE WILL BE A FLOW OF NEW SCIENTIFIC KNOWLEDGE TO THOSE WHO CAN APPLY IT TO PRACTICAL PROBLEMS."

AND SO IT IS TODAY. MORE AND MORE, NEARLY EVERY PRODUCT, FROM ELECTRONICS TO AGRICULTURE, INCORPORATES THE LATEST IN TECHNOLOGY. AND MORE AND MORE, OUR NATION DEPENDS ON BASIC SCIENTIFIC RESEARCH TO SPUR ECONOMIC GROWTH, LONGER AND HEALTHIER LIVES, A MORE SECURE WORLD, AND A SAFER ENVIRONMENT.

TODAY, OUR GOVERNMENT MUST HELP CARRY THAT RESEARCH FORWARD, AND CONTRIBUTE TO THE DEVELOPMENT OF GENERIC TECHNOLOGIES THAT BUILD ON BASIC DISCOVERIES.

---



IF AMERICA IS TO MAINTAIN AND STRENGTHEN OUR COMPETITIVE POSITION, WE MUST CONTINUE NOT ONLY TO CREATE NEW TECHNOLOGIES, BUT LEARN TO MORE EFFECTIVELY TRANSLATE THOSE TECHNOLOGIES INTO COMMERCIAL PRODUCTS. IN THIS WAY, WE CAN HELP LEVERAGE THE R & D OF THE PRIVATE SECTOR -- HELPING WHOLE INDUSTRIES ADVANCE IN AN INCREASINGLY COMPETITIVE GLOBAL MARKET.

THE BUDGET HIGHLIGHTS OUR ADMINISTRATION'S COMMITMENT TO SCIENCE AND TECHNOLOGY.

WE WON DOUBLE-DIGIT INCREASES FOR BOTH NASA AND THE N.S.F., AND EXPANDED FUNDS TO INVESTIGATE GLOBAL CLIMATE CHANGE. WE REMAIN COMMITTED TO DOING EVEN MORE: DOUBLING THE N.S.F. BUDGET OVER FIVE YEARS, AND EXTENDING THE TAX CREDIT FOR R & E -- RESEARCH AND EXPERIMENTATION.



AND WE'RE GOING TO KEEP RAISING AMERICA'S SIGHTS: SPACE STATION FREEDOM WILL GIVE US A PERMANENT PRESENCE IN EARTH ORBIT, AND THE SPACE EXPLORATION INITIATIVE WILL TAKE US TO THE MOON AND MARS AND BEYOND -- BACK TO SPACE, BACK TO THE FUTURE, AND THIS TIME -- BACK TO STAY. \\\

30 YEARS FROM NOW, WHEN THE NOBEL PRIZES ARE ANNOUNCED -- I WANT AMERICA TO BE WELL-REPRESENTED.

AND 30 YEARS FROM NOW, WHEN THE MEDALS OF SCIENCE AND OF TECHNOLOGY ARE BESTOWED -- I WANT TO SEE AMERICA GRACED BY A GROUP AS ACCOMPLISHED AS THAT HERE TODAY.

MANY OF TODAY'S HONOREES SERVE AS PRIME EXAMPLES OF HOW WE CAN EFFECTIVELY TRANSLATE BASIC SCIENCE INTO COMMERCIAL TECHNOLOGY. I THINK OF MILLIE DRESSELHAUS, ARGUABLY THE MOST PROMINENT WOMAN PHYSICIST AND ENGINEER OF HER GENERATION, WHOSE WORK HELPED TO REVOLUTIONIZE SEMI-CONDUCTORS.

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OR ALLAN CORMACK, WHOSE PIONEERING EFFORTS EARNED HIM A NOBEL PRIZE -- AND MADE "CAT-SCANS" A HOUSEHOLD WORD. AND SCHOLARS AS DIVERSE AS BOSTON'S BARUJ BENACERRAF -- OR SEATTLE'S DONNALL THOMAS -- WHOSE CONTRIBUTIONS TO IMMUNOLOGY MAY LEAD TO NEW ANSWERS IN OUR BATTLE AGAINST CANCER AND AIDS. SCIENTISTS LIKE YOU HAVE HELPED AMERICA TO UNDERSTAND THAT AIDS IS A <u>DISEASE</u> -- NOT A <u>DISGRACE</u>.

AND SCIENTISTS LIKE YOU HAVE HELPED AMERICA TO APPRECIATE OUR RESPONSIBILITY TO THOSE WHO ARE LIVING WITH HIV AND AIDS: THEY DESERVE OUR COMPASSION. THEY DESERVE OUR CARE. AND THEY DESERVE MORE THAN A CHANCE -- THEY DESERVE A CURE. \\\

ANOTHER LEGACY OF THESE PRESTIGIOUS MEDALS AND THE WORK THEY HONOR MUST BE THE CULTIVATION OF EXCELLENCE IN SCIENCE AND MATH IN CLASSROOMS ACROSS AMERICA.

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THE NATIONAL SCIENCE SCHOLARS PROGRAM WE PROPOSED SOON AFTER TAKING OFFICE HAS NOW BEEN ENACTED -- AND WILL ENCOURAGE BUDDING SCHOLARS OF TODAY TO BECOME THE SCIENTISTS OF TOMORROW. GUIDING OUR EFFORTS IS AN AMBITIOUS BUT CRITICAL GOAL FOR THIS DECADE: "BY THE YEAR 2000, U.S. STUDENTS WILL BE FIRST IN THE WORLD IN SCIENCE AND MATH."

THIS WEEK IS EDUCATION WEEK, AND ITS THEME IS "EDUCATING EVERYONE TAKES EVERYONE" -- A FITTING MOTTO FOR THE CHALLENGES THAT LIE AHEAD. IF WE ARE TRULY TO REMAIN A WORLD LEADER IN SCIENCE AND TECHNOLOGY, THEN WE MUST ACHIEVE A RENAISSANCE OF QUALITY IN OUR SCHOOLS -- WE MUST TAP THE TALENT, ENERGY, AND COMMITMENT OF ALL OUR FAMILIES, BUSINESSES, AND UNIVERSITIES.

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THE PEOPLE WE HONOR TODAY ARE AMERICAN TRAILBLAZERS, REAL-LIFE PIONEERS WHO PRESSED THE VERY LIMITS OF THEIR FIELDS. YOU HAVE DISTINGUISHED NOT ONLY YOURSELVES -- BUT ALSO YOUR NATION. AND THAT'S WHY AMERICA CONTINUES TO NEED AND WANT -- AND APPRECIATE -- YOUR CREATIVITY, YOUR GENIUS AND YOUR DIVERSITY. THANK YOU. CONGRATULATIONS. AND GOD BLESS THE UNITED STATES OF AMERICA.

# # #

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# THE TIMETABLES OF HISTORY

NEW, UPDATED EDITION

## OF PEOPLE AND EVENTS

BERNARD GRUN

BASED ON WERNER STEIN'S *KULTURFAHRPLAN*

ML:

The Association was founded in 1848 —
Here's a look at what else was going on in that year.

461 founding members in 1848. Today, over 133,000 scientists engineers, science educators, policymakers, & others interested in science & technology. Assn. = world's largest federation of scientific & engineering societies.

A TOUCHSTONE BOOK
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NEW YORK

| | A. HISTORY, POLITICS | B. LITERATURE, THEATER | C. RELIGION, PHILOSOPHY, LEARNING |
|---|---|---|---|
| 1847 | Liberia proclaimed independent republic<br>U.S. forces capture Mexico City<br>Paul von Hindenburg, future President of German Weimar Republic, b. (d. 1934)<br>Sonderbund War in Switzerland; Catholic cantons refuse to dissolve union | Charlotte Brontë: "Jane Eyre"<br>Emily Brontë: "Wuthering Heights"<br>Heinrich Hoffmann (1809—1904), a Frankfurt physician, publishes his "Struwwelpeter"<br>Marryat: "The Children of the New Forest"<br>W. H. Prescott: "History of the Conquest of Peru"<br>George Sand: "Le Péché de M. Antoine"<br>Thackeray: "Vanity Fair" (—1848) | Amer. preacher Henry Ward Beecher (1813—1887) minister at Plymouth Congregational Church, Brooklyn<br>Louis Blanc: "History of the Revolution" (—1862)<br>Karl Marx attacks Proudhon's "Philosophy of Poverty" in "The Poverty of Philosophy"<br>The Mormons found Salt Lake City<br>Leopold von Ranke: "Neun Bücher preussischer Geschichte" (—1848) |
| 1848 | King Christian VIII of Denmark d.; succeeded by Frederick III (—1863)<br>Treaty of Guadalupe Hidalgo ends Mexican-U.S. war in Feb.; ratified in Oct.; U.S. gets Texas, New Mexico, California, Utah, Nevada, Arizona, and parts of Colorado and Wyoming from Mexico in return for large indemnity<br>Revolt in Paris; Louis Philippe abdicates; National Assembly meets; worker uprising in Paris; the "June Days"; Louis Napoleon elected President of Fr. Republic in Dec.<br>Revolution in Vienna; Metternich resigns<br>Revolutions in Venice, Berlin, Milan (cinque Giornate), and Parma<br>Second Sikh War begins<br>Sardinia declares war on Austria and wins Battles of Goito and Pastrengo; Austrians victorious at Vicenza and (under Radetzky) at Custozza; armistice signed at Vigevano; Sardinian troops forced to leave Venice<br>Second rising in Vienna; Emperor Ferdinand I flees to Innsbruck<br>Pan-Slav congress in Prague leads to Czech revolts which are suppressed by Aust. troops under Windischgrätz<br>Lajos Kossuth proclaimed president of Committee for National Defence of Hungary<br>Third revolution in Vienna; the emperor abdicates in favor of his nephew who becomes Emperor Francis Joseph I (—1916)<br>Nasr-ed-Din becomes Shah of Persia (—1896)<br>Switzerland, by its new constitution, becomes a federal union<br>Ibrahim, Viceroy of Egypt, d.; succeeded by Abbas (—1854)<br>Revolt in Rome; Count Rossi, the papal premier, assassinated; Pius IX flees to Gaeta<br>Wisconsin becomes a state of the U.S.<br>Arthur James Balfour, Brit. statesman, b. (d. 1930) | Emile Augier (1820—1889): "L'Aventurière," play<br>Chateaubriand: "Mémoires d'outre-tombe"<br>Annette von Droste-Hülshoff, Ger. poet, d. (b. 1797)<br>Dumas fils: "La Dame aux Camélias," novel (see 1852)<br>Elizabeth Gaskell: "Mary Barton"<br>J. R. Lowell: "The Biglow Papers"<br>Frederick Marryat, Eng. novelist, d. (b. 1792)<br>Henri Murger: "Scènes de la vie de Bohème"<br>Ellen Terry, Eng. actress, b. (d. 1928) | Hans Delbrück, Ger. historian, b. (d. 1929)<br>Jakob Grimm: "History of the German Language"<br>Macaulay: "History of England" (—1861)<br>"Communist Manifesto" issued by Marx and Engels<br>J. S. Mill: "Principles of Political Economy"<br>Spiritualism becomes popular in U.S. |

| D. VISUAL ARTS | E. MUSIC | F. SCIENCE, TECHNOLOGY, GROWTH | G. DAILY LIFE | |
|---|---|---|---|---|
| Adolf von Hildebrand, Ger. sculptor, b. (d. 1921)<br>Max Liebermann, Ger. impressionist painter, b. (d. 1935) | Friedrich von Flotow: "Martha," opera, Vienna<br>Mendelssohn d. (b. 1809)<br>Verdi: "Macbeth," opera, Florence | George Boole (1815—1864): "Mathematical Analysis of Logic"<br>Thomas Alva Edison, Amer. inventor, b. (d. 1931)<br>Evaporated milk made for the first time<br>First Swiss railroad between Zurich and Baden opens<br>Alexander Graham Bell, Scot.-born Amer. inventor, b. (d. 1922)<br>Helmholtz: "On the Conservation of Energy"<br>Justus von Liebig produces meat extract<br>I. T. Semmelweis (1818—1865), Hungarian physician, discovers connection between childbed fever and puerperal infection | Brit. Factory Act restricts the working day for women and children between 13 and 18 to 10 hours<br>First Roman Catholic working men's club, Cologne, Germany<br>Millicent Garrett Fawcett, Brit, suffragist, b. (d, 1929)<br>Founding of Hamburg-America Line<br>Founding of electrical firm of Siemens and Halske | 1847 |
| Paul Gauguin, Fr. painter, b. (d. 1903)<br>Millais: "Ophelia," painting<br>Millet: "The Winnower," painting<br>Fritz von Uhde, painter, b. (d. 1911)<br>Holman Hunt, Millais, and D. G. Rossetti found the Pre-Raphaelite Brotherhood | Donizetti d. (b. 1797)<br>Sir Hubert Parry, Eng. composer, b. (d. 1918) | Jöns Jakob Berzelius, Swed. chemist, d. (b. 1779)<br>Böttger: first safety matches<br>First appendectomy by Hancock | Serfdom abolished in Austria<br>Bismarck founds the "Neue Preussische Zeitung," Marx the "Neue Rheinische Zeitung"<br>First Public Health Act in Britain<br>First settlers arrive in New Zealand (Dunedin)<br>W. G. Grace, Eng. cricketer, b. (d. 1915)<br>New York News Agency founded by Hale and Burnett (from 1856, Associated Press)<br>Sebastian Kneipp (1821—1897) introduces cold-water cures at Worrishofen, Germany<br>Otto Lilienthal, Ger. aviation pioneer, b. (d. 1896)<br>Belle Starr, Amer. outlaw, b, (d. 1889)<br>Gold discoveries in California lead to first gold rush | 1848 |

Lincoln, Abraham, Pres. U.S. 1809-1865

# THE LINCOLN ENCYCLOPEDIA

THE SPOKEN AND WRITTEN WORDS OF

A. Lincoln

ARRANGED FOR READY REFERENCE

COMPILED AND EDITED BY

*ARCHER H. SHAW*

With an Introduction by David C. Mearns
*Assistant Librarian, Library of Congress*

THE MACMILLAN COMPANY : NEW YORK

1950

dency is founded in the nature of the subject. A member of Congress will prefer voting for a bill which contains an appropriation for his district, to voting for one which does not; and when a bill shall be expanded till every district shall be provided for, that it will be too greatly expanded is obvious. But is this any more true in Congress than in a state legislature [where the President suggests the problem be handled]?—*Speech in Congress, June 20, 1848.* II, 31.
2.—The tendency to undue expansion is unquestionably the chief difficulty. How to do something, and still not do too much, is the desideratum.—*Speech in Congress, June 20, 1848.* II, 46.

**International Law**—*See* REVOLUTION, American policy of nonintervention.

*See* CIVIL WAR, Foreign nations' attitude toward, 10.

**Interoceanic Transit Route, difficulties adjusted**—It is a source of much satisfaction that the difficulties which for the moment excited some political apprehensions and caused a closing of the interoceanic transit route have been amicably adjusted, and that there is a good prospect that the route will soon be reopened with an increase of capacity and adaptation. We could not exaggerate either the commercial or political importance of that great improvement.—*Fourth annual message, Dec. 6, 1864.* X, 284.

**Intrigue, danger of, foreseen**—I understand a bill is before Congress, by your instigation, for taking your office from the control of the Department of the Interior, and considerably enlarging the powers and patronage of your office. . . . If the change is made, I do not think I can allow you to retain the office, because that would be encouraging officers to be constantly intriguing, to the detriment of the public interest, in order to profit themselves.—*To B. B. French, March 25, 1864.* X, 56.

**Invasion, dangerous authority to concede**—Allow the President to invade a neighboring nation whenever he shall deem it necessary to repel an invasion, and you allow him to do so whenever he may choose to say he deems it necessary for such purpose, and you allow him to make war at pleasure. . . . If today he should choose to say he thinks it necessary to invade Canada to prevent the British from invading us, how could you stop him? You may say to him, "I see no probability of the British invading us"; but he will say to you, "Be silent; I see it, if you don't."—*To W. H. Herndon, Feb. 15, 1848.* II, 2.

**Invasion, of America "impossible"**—Shall we expect some transatlantic military giant to step the ocean and crush us at a blow? Never! All the armies of Europe, Asia and Africa combined, with all the treasures of the earth—our own excepted—in their military chest, with a Bonaparte for a commander, could not by force take a drink from the Ohio or make a track on the Blue Ridge in a trial of a thousand years.—*Speech, Springfield, Jan. 27, 1837.* I, 36.

**Invasion, policy toward**—I denounce the lawless invasion by armed force of the soil of any state or territory, no matter under what pretext, as the greatest of crimes.—*To Duff Green, Dec. 28, 1860.* VI, 88.
2.—The power confided in me will be used to hold, occupy, and possess the property and places belonging to the government, and to collect the duties and imposts; but beyond what may be necessary for these objects, there will be no invasion, no using of force against or among the people anywhere.—*First inaugural, March 4, 1861.* VI, 175.

*See* VIRGINIA, policy toward.

**Invasion, safe from lawless**—*See* PEOPLE, "influenced by reason."

**"Invasion and Coercion," words used loosely**—The words "coercion" and "invasion" are much used in these days, and often with some temper and hot blood. . . . What, then, is "coercion"? What is "invasion"? Would the marching of an army into South Carolina without consent of her people, and with hostile intent toward them, be "invasion"? I certainly think it would; and it would be "coercion" also if the South Carolinians were forced to submit. But if the United States should merely hold and retake its own forts and other property, and collect the duties on foreign importations, or even withhold the mails from places where they were habitually violated, would any or all of these things be "invasion" or "coercion"? Do our professed lovers of the Union, who spitefully resolve that they will resist invasion and coercion, understand that such things as these on the part of the United States would be coercion or invasion of a state? If so, their idea of means to preserve the object of their great affection would seem to be exceedingly thin and airy. If sick, the little pills of the homeopathist would be much too large for them to swallow.—*Speech, Indiana Legislature, Feb. 12, 1861.* VI, 113.

**"Invasions and Insurrections"**—*See* SOUTH, what will satisfy? 2.

**Invention, first**—*See* ADAM, joins Eve in first invention.

**Invention, indispensable to**—To be fruitful in invention, it is indispensable to have a habit of observa-

tion and reflection.—*Lecture, Springfield, Feb. 22, 1859.* V, 103.

2.—If he [Adam] should do anything in the way of inventions, he had first to invent the art of invention, the instance, if not the habit, of observation and reflection.—*Lecture, Springfield, Feb. 22, 1859.* V, 104.

**Iowa, all honor to**—All thanks and all honor to Iowa! But Iowa is out of all danger, and it is no time for us, when the battle [for Frémont] still rages, to pay holy-day visits to Iowa.—*To Henry O'Conner, Sept. 14, 1856.* II, 299.

**Iowa, volunteers from, thanked**—*See* CIVIL WAR, hundred-day volunteers thanked.

**Ipse Dixit, use of, denied**—I must be allowed to say that Judge Douglas recurs again, as he did upon one or two other occasions, to the enormity of Lincoln . . . upon his ipse dixit charging a conspiracy upon a large number of members of Congress, the Supreme Court, and two Presidents, to nationalize slavery. I want to say that, in the first place, I have made no charge of this sort upon my ipse dixit. I have only arrayed the evidence tending to prove it, and presented it to the understanding of others, saying what I think it proves, but giving you the means of judging whether it proves it or not. . . . I have not placed it upon my ipse dixit at all.—*Debate, Freeport, Aug. 27, 1858.* III, 290.

**Irishmen, characterized**—He [Edward Hannegan] was the son of an Irishman, with a bit of the brogue still lingering on his tongue; and with a large share of that sprightliness and generous feeling which generally characterize Irishmen who have anything of a fair chance in the world.—*Speech, Springfield, Aug. 14, 1852.* Angle, 97.

**Irish Revolution, sympathy for**—*See* GREAT BRITAIN, enemy of freedom.

*See* REVOLUTION, American sympathy for.

**Iron, early importance of**—The discovery of the property of iron, and the making of iron tools, must have been among the earliest of important discoveries and inventions. We can scarcely conceive the possibility of making much of anything else, without the use of iron tools. Indeed an iron hammer must have been very much needed to make the first iron hammer with.—*Lecture, Springfield, no date.* Hertz II, 797.

**"Irrepressible Conflict," difference in who says it**—He [Douglas] . . . has complained of Seward for declaring that there is an "irrepressible conflict" between the principles of free and slave labor. . . . But neither I nor Seward . . . is entitled to the enviable or unenviable distinction of having first expressed that idea. That same idea was expressed by the Richmond *Enquirer* in Virginia, in 1856, quite two years before it was expressed by the first of us. And while Douglas was pluming himself that in his conflict with my humble self, last year, he had "squelched out" that fatal heresy, as he delighted to call it, and had suggested that if he only had had a chance to be in New York and meet Seward he would have "squelched" it there also, it never occurred to him to breathe a word against [Roger A.] Pryor [editor of the *Enquirer*]. . . . Pryor was brought to Washington City and made the editor of the *par excellence* Douglas paper after making use of that expression, which, in us, is so unpatriotic and heretical. From all this my Kentucky friends may all see that this opinion is heretical in his view only when it is expressed by men suspected of a desire that the country shall become free, and not when expressed by those fairly known to entertain the desire that the whole country shall become slave.—*Speech, Cincinnati, Sept. 17, 1859.* V, 214.

2.—Since that time [John] Hickman of Pennsylvania expressed the same sentiment ["irrepressible conflict," and so forth]. He [Douglas] has never denounced Hickman. Why? There is a little chance, notwithstanding that opinion in the mouth of Hickman, that he may yet be a Douglas man. That is the difference. It is not unpatriotic to hold that opinion, if a man is a Douglas man.—*Speech, Cincinnati, Sept. 17, 1859.* V, 214.

3.—Last year Gov. Seward and myself expressed the belief that this government cannot endure half slave and half free. This gave great offense to Douglas, and after the fall election in Illinois, he became quite rampant upon it. . . . He denounced it as a "fatal heresy." With great pride he claimed that he had crushed it in Illinois, and modestly regretted that he could not have been in New York to crush it there too. How the heresy is fatal to anything, or what the thing is to which it is fatal, he never paused to tell us. At all events, it is a fatal heresy in his view when expressed by a northern man. Not so when expressed by men of the South. In 1856 Roger A. Pryor, editor of the Richmond *Enquirer,* expressed the same belief in that paper, quite two years before it was expressed by either Seward or me. But Douglas perceived no "heresy" in him—talked not of going to Virginia to crush it out; nay, more, he now has that same Mr. Pryor at Washington, editing the *States* newspaper, as his special organ.—*Speeches in Kansas, Dec. 1–5, 1859.* V, 271.

4.—There is the "irrepressible conflict." How they rail at Seward for saying that! . . . Almost every good

# THEODORE ROOSEVELT CYCLOPEDIA


EDITED BY

ALBERT BUSHNELL HART

*Professor Emeritus, Harvard University*

AND

HERBERT RONALD FERLEGER

*Roosevelt Memorial Association*

FOREWORD BY

WILLIAM ALLEN WHITE



ROOSEVELT MEMORIAL ASSOCIATION

*ROOSEVELT HOUSE*

NEW YORK CITY

really a question of sects at all; it is merely an illustration of the survival or importation here of the utterly un-American and thoroughly old-world idea of the subordination of the layman to the priest. Not a few Protestant clergymen oppose our public schools on the one hand, and an ever-increasing number of Catholic laymen support them on the other. At my own home on Long Island, for instance, the chief opponent of the public schools is, not the Catholic priest, but the Episcopalian clergyman, and he reinforces his slender stock of tritely foolish arguments by liberal quotations from the work of a Presbyterian theologian. The fight is not one between creeds; it is an issue between intelligent American laymen of every faith on the one hand and ambitious, foolish or misguided supporters of a worn out system of clerical government on the other, these supporters including Episcopalians and Presbyterians as well as Catholics. Our public-school system is here to stay; it cannot be overturned; wherever hurt even, it is only at the much greater cost of the person hurting it. The boy brought up in the parochial school is not only less qualified to be a good American citizen, but he is also at a distinct disadvantage in the race of life, compared to the boy brought up in the public schools. *America,* April 14, 1888, p. 3.

———. We should set our faces like a rock against any attempt to allow State aid to be given to any sectarian system of education; and on the other hand, we should set our faces like a rock against any attempt to exclude any set of men from their full and proper share in the government of the public schools because of their religion. (Speech at Boston, Mass., November 1893.) *Mem. Ed.* XV, 36; *Nat. Ed.* XIII, 278.

———. We are against any division of the school fund, and against any appropriation of public money for sectarian purposes. We are against any recognition whatever by the State in any shape or form of State-aided parochial schools. But we are equally opposed to any discrimination against or for a man because of his creed. We demand that all citizens, Protestant and Catholic, Jew and Gentile, shall have fair treatment in every way; that all alike shall have their rights guaranteed them. The very reasons that make us unqualified in our opposition to State-aided sectarian schools make us equally bent that, in the management of our public schools, the adherents of each creed shall be given exact and equal justice, wholly without regard to their religious affiliations; that trustees, superintendents, teachers, scholars, all alike, shall be treated without any reference whatsoever to the creed they profess. (*Forum,* April 1894.) *Mem. Ed.* XV, 25; *Nat. Ed.* XIII, 21.

SCHOOLS. *See also* COLLEGE; EDUCATION; HOME; PLAYGROUNDS; PUBLIC SCHOOLS; SUNDAY SCHOOL; TEACHERS; UNIVERSITY.

SCHRANK, JOHN. *See* ASSASSINATION, ATTEMPTED.

SCHURZ, CARL. *See* MUGWUMPS.

SCIENCE—STUDY OF. There is a twofold warrant for encouragement by the State of science thus followed purely for the sake of science. In the first place, and I can not too emphatically state this, the knowledge justifies itself. The scientific student is justified if he studies science for serious purpose exactly as is true of the man of arts or the man of letters. Mere addition to the sum of the interesting knowledge of nature is in itself a good thing, exactly as the writing of a beautiful poem or the chiseling of a beautiful statue is in itself a good thing. Only a sordid people, and a blind people, can fail to recognize this fact. No civilization is a great civilization unless upon the foundation of utilitarian achievement is reared the superstructure of a higher life. . . .

In the next place, the greatest utilitarian discoveries have often resulted from scientific investigations which had no distinct utilitarian purpose. Our whole art of navigation arose from the studies of certain Greek mathematicians in Alexandria and Syracuse who had no idea that their studies in geometry and trigonometry would ever have a direct material value. It is impossible to tell at what point independent investigations into the workings of nature may prove to have an immediate and direct connection with the betterment of man's physical condition, as witness the studies of Pasteur.

Most of the men and women, indeed the immense majority of the men and women, who work for pure science can not aspire to the position of leadership, exactly as most business men can not expect to press into the front rank of captains of industry. Yet each of us can do work which is not only creditable and useful but which may at some time become literally indispensable in helping to discover some great law of nature or to draw some great conclusion from the present condition or from the former physical history, the geological or paleontological history of the world. (At Albany, N. Y., December 29, 1916.) "Opening of the State

SCIENCE

Museum." *University of the State of New York Bulletin,* March 1, 1917, pp. 36-38.

supports the notion of gearing toward industry etc.

———. The change in the status of the man of science during the last century has been immeasurable. A hundred years ago he was treated as an interesting virtuoso, a man who was capable of giving amusement, but with whom no practical man dealt with any idea of standing on a footing of equality. Now more and more the wisest men of affairs realize that the great chance for the advancement of the human race in material things lies in the close interrelationship of the man of practical affairs and the man of science, so that the man of practical affairs can give all possible effect to the discoveries of the most unforeseen and unexpected character now made by the man of science. (Before International Congress on Tuberculosis, Washington, D. C., October 12, 1908.) S. A. Knopf, *A History of the National Tuberculosis Association.* (New York, 1922), p. 281.

**SCIENCE—TEACHING OF.** I fully intended to make science my life-work. I did not, for the simple reason that at that time Harvard, and I suppose our other colleges, utterly ignored the possibilities of the faunal naturalist, the outdoor naturalist and observer of nature. They treated biology as purely a science of the laboratory and the microscope, a science whose adherents were to spend their time in the study of minute forms of marine life, or else in section-cutting and the study of the tissues of the higher organisms under the microscope. This attitude was, no doubt, in part due to the fact that in most colleges then there was a not always intelligent copying of what was done in the great German universities. The sound revolt against superficiality of study had been carried to an extreme; thoroughness in minutiae as the only end of study had been erected into a fetich. There was a total failure to understand the great variety of kinds of work that could be done by naturalists, including what could be done by outdoor naturalists. . . . In the entirely proper desire to be thorough and to avoid slipshod methods, the tendency was to treat as not serious, as unscientific, any kind of work that was not carried on with laborious minuteness in the laboratory. My taste was specialized in a totally different direction, and I had no more desire or ability to be a microscopist and section-cutter than to be a mathematician. Accordingly I abandoned all thought of becoming a scientist. (1913.) *Mem. Ed.* XXII, 30-31; *Nat. Ed.* XX, 26-27.

**SCIENCE AND LITERATURE.** Modern scientists, like modern historians and, above all, scientific and historical educators, should ever keep in mind that clearness of speech and writing is essential to clearness of thought and that a simple, clear, and if possible, vivid style is vital to the production of the best work in either science or history. Darwin and Huxley are classics, and they would not have been if they had not written good English. The thought is essential, but ability to give it clear expression is only less essential. Ability to write well, if the writer has nothing to write about, entitles him to mere derision. But the greatest thought is robbed of an immense proportion of its value if expressed in a mean or obscure manner. (1914.) *Mem. Ed.* VI, 335; *Nat. Ed.* V, 286.

———. I believe that as the field of science encroaches on the field of literature there should be a corresponding encroachment of literature upon science; and I hold that one of the great needs, which can only be met by very able men whose culture is broad enough to include literature as well as science, is the need of books for scientific laymen. We need a literature of science which shall be readable. (At Oxford University, June 7, 1910.) *Mem. Ed.* XIV, 68; *Nat. Ed.* XII, 28.

———. I believe that already science has owed more than it suspects to the unconscious literary power of some of its representatives. Scientific writers of note had grasped the fact of evolution long before Darwin and Huxley; and the theories advanced by these men to explain evolution were not much more unsatisfactory, as full explanations, than the theory of natural selection itself. Yet, where their predecessors had created hardly a ripple, Darwin and Huxley succeeded in effecting a complete revolution in the thought of the age, a revolution as great as that caused by the discovery of the truth about the solar system. I believe that the chief explanation of the difference was the very simple one that what Darwin and Huxley wrote was interesting to read. Every cultivated man soon had their volumes in his library, and they still keep their places on our book-shelves. But Lamarck and Cope are only to be found in the libraries of a few special students. If they had possessed a gift of expression akin to Darwin's, the doctrine of evolution would not in the popular mind have been confounded with the doctrine of natural selection and a juster estimate than at present would obtain as to the relative merits of the explanation of evolution championed by the different scientific schools. (Presi-

dential Address, American Historical Association, Boston, December 27, 1912.) *Mem. Ed.* XIV, 9-10; *Nat. Ed.* XII, 8-9.

**SCIENCE AND RELIGION.** The claims of certain so-called scientific men as to "science overthrowing religion" are as baseless as the fears of certain sincerely religious men on the same subject. The establishment of the doctrine of evolution in our time offers no more justification for upsetting religious beliefs than the discovery of the facts concerning the solar system a few centuries ago. Any faith sufficiently robust to stand the—surely very slight—strain of admitting that the world is not flat and does move round the sun need have no apprehensions on the score of evolution, and the materialistic scientists who gleefully hail the discovery of the principle of evolution as establishing their dreary creed might with just as much propriety rest it upon the discovery of the principle of gravitation. Science and religion, and the relations between them, are affected by one only as they are affected by the other. (*Outlook,* December 2, 1911.) *Mem. Ed.* XIV, 424; *Nat. Ed.* XII, 118.

———. In the world of the intellect it is easy to take the position of the hard materialists who rail against religion, and easy also to take the position of those whose zeal for orthodoxy makes them distrust all action by men of independent mind in the search for scientific truth; but it is not so easy to make it understood that we both acknowledge our inestimable debt to the great masters of science, and yet are keenly alive to their errors and decline to surrender our judgment to theirs when they go wrong. It is imperative to realize how very grave their errors are, and how foolish we should be to abandon our adherence to the old ideals of duty toward God and man without better security than the more radical among the new prophets can offer us. (*Outlook,* December 2, 1911.) *Mem. Ed.* XIV, 430; *Nat. Ed.* XII, 123.

———. There are plenty of phenomena unquestionably proceeding from natural law which nevertheless have in them an element totally incomprehensible to, and probably totally incapable of comprehension by, our intelligence. All successful scientific discoveries have been anathematized by certain pietistic theologians, and exultantly screamed over by certain materialists as marking the end of religion. The discovery that the earth was round, the discovery that the world went round the sun, the discovery of enormous geological ages, the growth of appreciation of law in the natural world, the discovery of the law of gravitation, and recently the understanding of the law of evolution (which, incidentally, had been at least strongly suspected by thinkers as far apart as Aristotle and St. Augustine), were all in succession treated as mischievous heresies by certain champions of orthodoxy, and were also, with equal folly, accepted by certain sceptical materialists as overthrowing spiritual laws with which they had no more to do than the discovery of steam-power has to do with altruism. (*Outlook,* January 16, 1918.) *Mem. Ed.* XIV, 35; *Nat. Ed.* XII, 157.

**SCIENCE.** *See also* EDUCATION, LIBERAL; HISTORY; MATERIALISM, SCIENTIFIC; REASON; SUPERSTITION.

**SCIENTIFIC ADVANCE.** In the world of intellect, doubtless, the most marked features in the history of the past century have been the extraordinary advances in scientific knowledge and investigation, and in the position held by the men of science with reference to those engaged in other pursuits. I am not now speaking of applied science; of the science, for instance, which, having revolutionized transportation on the earth and the water, is now on the brink of carrying it into the air; of the science that finds its expression in such extraordinary achievements as the telephone and the telegraph; of the sciences which have so accelerated the velocity of movement in social and industrial conditions—for the changes in the mechanical appliances of ordinary life during the last three generations have been greater than in all the preceding generations since history dawned. I speak of the science which has no more direct bearing upon the affairs of our every-day life than literature or music, painting or sculpture, poetry or history. A hundred years ago the ordinary man of cultivation had to know something of these last subjects; but the probabilities were rather against his having any but the most superficial scientific knowledge. At present all this has changed, thanks to the interest taken in scientific discoveries, the large circulation of scientific books, and the rapidity with which ideas originating among students of the most advanced and abstruse sciences become, at least partially, domiciled in the popular mind. (At Oxford University, June 7, 1910.) *Mem. Ed.* XIV, 66-67; *Nat. Ed.* XII, 26-27.

**SCOTCH-IRISH IN AMERICA.** The backwoodsmen were American by birth and parentage, and of mixed race; but the dominant strain

which can be settled by argument in such shape that it shall satisfy every one. People who greatly dread hazard or greatly disapprove of it, and who are not interested in knowledge as such, will naturally disapprove of taking even a small risk for widening at any point the domain of knowledge save where immediate and tangible remuneration is to follow. Naturally, such people, who are often very good people but who possess limited imaginative power, will never be appealed to by the men who prize life as a great adventure; the men who in one age first crossed the Atlantic, first sailed around the Cape of Good Hope, and first passed the Straits of Magellan and circumnavigated the globe; the men who, in another age, first penetrated to the North and South poles, who first crossed Africa, or who found their way for the first time to the forbidden city of the Dalai Lama. The difference is largely based upon difference of temperament, and argument can never reconcile wide temperamental distinctions. (*Outlook,* March 1, 1913.) *Mem. Ed.* XIV, 584-585; *Nat. Ed.* XII, 440-441.

EXPLORERS. The first geographical explorers of the untrodden wilderness, the first wanderers who penetrate the wastes where they are confronted with starvation, disease, and danger and death in every form, cannot take with them the elaborate equipment necessary in order to do the thorough scientific work demanded by modern scientific requirements. This is true even of exploration done along the course of unknown rivers; it is more true of the exploration . . . done across country, away from the rivers.

The scientific work proper of these early explorers must be of a somewhat preliminary nature; in other words the most difficult and therefore ordinarily the most important pieces of first-hand exploration are precisely those where the scientific work of the accompanying cartographer, geologist, botanist, and zoologist who works to most advantage in the wilderness must take his time, and therefore he must normally follow in the footsteps of, and not accompany, the first explorers. The man who wishes to do the best scientific work in the wilderness must not try to combine incompatible types of work nor to cover too much ground in too short a time. (1914.) *Mem. Ed.* VI, 332-333; *Nat. Ed.* V, 284.

————. Many regions in the United States where life is now absolutely comfortable and easy-going offered most formidable problems to the first explorers a century or two ago. We must not fall into the foolish error of thinking that the first explorers need not suffer terrible hardships, merely because the ordinary travelers, and even the settlers who come after them do not have to endure such danger, privation, and wearing fatigue—although the first among the genuine settlers also have to undergo exceedingly trying experiences. The early explorers and adventurers make fairly well-beaten trails at heavy cost to themselves. Ordinary travellers, with little discomfort and no danger, can then traverse these trails; but it is incumbent on them neither to boast of their own experiences nor to misjudge the efforts of the pioneers because, thanks to these very efforts, their own lines fall in pleasant places. (1914.) *Mem. Ed.* VI, 165; *Nat. Ed.* V, 141.

EXPLORERS. *See also* BOONE, DANIEL; JESUITS; PEARY, ROBERT E.; PIONEERS; SOUTH AMERICA.

EXTRAVAGANCE. No laws which the wit of man can devise will avail to make the community prosperous if the average individual lives in such fashion that his expenditures always exceed his income. *Outlook,* October 5, 1912, p. 249.

EXTRAVAGANCE. *See also* LEISURE; THRIFT; WORK.

EXTREMES. *See* DEMOCRACY—SUCCESS IN A.

EXTREMISTS. It is always a difficult thing to state a position which has two sides with such clearness as to bring it home to the hearers. In the world of politics it is easy to appeal to the unreasoning reactionary, and no less easy to appeal to the unreasoning advocate of change, but difficult to get people to show for the cause of sanity and progress combined the zeal so easily aroused against sanity by one set of extremists and against progress by another set of extremists. So in the world of the intellect it is easy to take the position of the hard materialists who rail against religion, and easy also to take the position of those whose zeal for orthodoxy makes them distrust all action by men of independent mind in the search for scientific truth; but it is not so easy to make it understood that we both acknowledge our inestimable debt to the great masters of science, and yet are keenly alive to their errors and decline to surrender our judgment to theirs when they go wrong. (*Outlook,* December 2, 1911.) *Mem. Ed.* XIV, 430; *Nat. Ed.* XII, 123.

EXTREMISTS. *See also* LUNATIC FRINGE; RADICALS; REACTIONARIES.

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The Christian Science Monitor

January 30, 1991, Wednesday

SECTION: SCIENCE & TECHNOLOGY; Column; Pg. 13

LENGTH: 544 words

Science & federal $ some disagreement on the means

HEADLINE: Funding Squeeze Challenges US Research

BYLINE: Robert C. Cowen

BODY:

AS president of the American Association for the Advancement of Science, Richard Atkinson, a professor at the University of California in San Diego, warned a year ago that the United States needs more PhD research scientists. Now, speaking as AAAS president-elect, University of Chicago Nobel Prize-winning physicist Leon M. Lederman laments that the country doesn't support the university scientists and PhD candidates that it already has.

''American science shows signs of extreme distress,'' he says. He notes that lack of money turns many students away from university careers while some of their professors consider bailing out. He adds that the ''troubled mood'' he finds at American research universities ''is so pervasive that it raises serious questions about the very future of science in the United States.''

There may be a pinch of hyperbole in such a statement from a scientific leader renowned for his colorful language. Yet the questions touch a raw nerve in the United States scientific community, which has been concerned over the funding squeeze for many years.

But there is no agreement as to whether the cure is simply more money or more rational use of the money already available.

Dr. Lederman has wrapped up his concern in a self-initiated report to the board of directors of the AAAS. It's based on an informal survey of scientists at 50 research universities. He acknowledges that the 250 replies are not a sound statistical base from which to draw conclusions.

But he believes they document ''a depth of despair and discouragement (among university scientists) that I have not experienced in my 40 years in science.''

This concern resonates in the hearts of many - but not all - American scientists. Critics note that the Angst Lederman reports isn't universal. They agree that, where it is felt, lack of funding is the cause. Yet, in the race after funds, there are winners as well as losers.

Lederman urges that all worthwhile research proposals be funded. He recommends doubling the roughly $10 billion in federal funding for academic research. However, when he made his case at a meeting held at the National Academy of Sciences in Washington earlier this month, even some of his sympathizers dissented.

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Academy president Frank Press noted that ''no nation can write a blank check for science.'' He added that the scientific community should heed policymakers' repeated request that it help set funding priorities.

There is general agreement that the cost of research has risen faster than overall inflation. There are more scientists to support than two decades ago. Modern equipment is more sophisticated and inherently more costly than equipment used to be.

But, while presidential science adviser Alan Bromley also warns of underinvestment in research, he too urges a need to set priorities.

National Academy of Engineering president Robert White has put the issue bluntly by saying the entire research funding process needs overhaul. He notes that the notion that all worthy research should be funded encourages expectations that cannot be fulfilled.

The issue of how best to support American basic science has simmered for years. Lederman is trying to get his colleagues to face it squarely. More power to him.

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Copyright (c) 1991 Globe Newspaper Company;
The Boston Globe

January 15, 1991, Tuesday, City Edition

SECTION: METRO/REGION; Pg. 21 p

LENGTH: 1358 words

Ex of need for $ overhaul + improve on the old or seek new frontiers?

HEADLINE: US scientists find research funds, projects slipping

BYLINE: By Richard Saltus, Globe Staff

SCIENCE; AID; DECREASE; STATISTIC

BODY:

Like many people today, Harvard physicist Eric Mazur spends much of his time fretting about money.

It is not a wife and kids he has to support, but a "family" of eight graduate students in his laboratory, each requiring funding of about $ 24,000 a year, including overhead costs paid to Harvard. Rather than scraping to finance a new car or house, the 36-year-old professor has to hunt up money for ultrafast lasers and computerized cameras with price tags of $ 150,000 and up.

At a time when young scientists are saying that funding for their field is "abysmal" or "disastrous," Mazur is doing relatively well. Yet he says much valuable time is spent worrying and scrambling for funding, and writing reports and grant applications, instead of doing science. And even though he says he can get by with the $ 300,000 he receives in contracts from the federal government and Harvard, problems arise because these sums are doled out in chunks that cover one, two or three years, regardless of the research program's timetable. When a contract runs out, threatening important work in midstream, he has to hunt frantically for renewal or alternate financing.

"It's like having a knife at your throat," he said in an interview last week.

The situation is worse for many of his colleagues at other research centers, he said. "Some of them are young scientists like me, but they haven't been able to get any contracts at all" to support new projects.

Last week, in an unusual public manifesto, a Nobel laureate who is one of the nation's best known physicists declared that the nation's entire research community is working under a cloud, and that as a result the United States is in danger of slipping from world leadership in science.

Leon M. Lederman, a physicist from the University of Chicago and president-elect of the American Association for the Advancement of Science, said federal support, particularly of nonbiomedical research, has been rising too slowly to keep up with spiraling costs of research and the proliferation of scientists seeking funding. He called for a doubling of the federal research budget, currently $ 10 billion.

In interviews, several Boston-area researchers agreed that funding problems are cutting into their research goals. But politicians and congressional

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observers, while making sympathetic noises, said chances of a major boost for science funding, given the government's present fiscal situation, were practically nil.

The science budget in general and biomedical research in particular have "been treated very well," said David Gushee of the Congressional Research Service, but it is true that the funding gap has worsened as research has become more sophisticated and costly.

Nevertheless, he added, the staggering federal deficit means that "the one thing you can say about this is there isn't going to be a lot more money for science for at least three or four years."

Said David Lubell, a physicist and Democratic Party official in Connecticut, "Unfortunately, the ivory tower of basic scientific research must occasionally open its doors to the world around it, and that world has finite financial resources."

Lubell and others who operate in the political arena said that since more funding is not likely, the only way to alleviate the budget squeeze is to drop or delay some of the costly science "megaprojects" that have come under increasing attack. Tops on the potential hit list are the $ 8 billion atom-smasher called the Superconducting Supercollider, to be built in Texas, and the manned Space Station, which Congress has ordered redesigned because of its $ 37 billion cost and widespread criticism about its scientific value.

"This next year is going to be a major decision point for the SSC," said Gushee of the supercollider project.

Other experts agreed on the dim outlook for a major boost in funding, and several went a step further: Not only must scientists realize they are not alone in their plight, they said, but their pleas will fall on deaf ears unless they bend their research more toward practical problems that will aid US industry's battle for global competitiveness.

"What we must do is support the scientific research so essential to our future," said Sen. Albert Gore a Democrat from Tennessee, who appeared at a Washington news conference with Lederman and other scientists. He added, "We need a clear and comprehensive science policy and the funding to implement that policy."

A Gore staffer, amplifying on those comments, said the senator was referring to research targeted at technological advances, not unfettered theoretical experimentation. "Scientists tend to think in terms of papers published rather than profits made," the aide said. "They are going to have to link research to things people think are important, like jobs and standard of living."

Economist Lester Thurow, dean of the Massachusetts Institute of Technology's Sloane School of Business, agreed with the basic argument that America spends too little on nondefense research.

The United States, Japan and Western European countries all spend about 2.8 percent of their gross national product on research, Thurow said in an interview, but about half of America's research budget goes to military projects, compared to a tiny fraction in the other countries.

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But, like Gore, the economist faulted academic science for not adapting to new priorities.

"In the good old days, the route to economic success was inventing the new product," he said in an interview. "Now success is in process technologies" - better ways of making things. And, added Thurow, "Our universities are not tuned up for research on better processes for making existing products."

To illustrate the point, he said Japan has decided not to try to catch up with the United States in biotechnology, which US scientists virtually invented by discovering how to splice genes from one organism into another.

Many novel and valuable medical products are growing out of biotechnology, and "the Japanese will be the masters of making these products," Thurow said. "There is more money in making products than in selling technologies."

Such arguments do not sit well with many scientists. Most have gone into the field because of its intellectual excitement, and they complain that in the current climate, the language of federal and industrial grants discourages a follow-your-nose approach and emphasizes short-term goals.

Daniel Kleppner, an MIT physicist, made available the results of an unpublished survey carried out by him and others on behalf of the American Physical Society. It revealed far more discontent and concern about funding than had a similar query in 1977 and contained such complaints as, "High risk or innovative proposals from young PhDs are not likely to be funded."

At Harvard, Mazur agreed that he and his colleagues are under pressure to do safe and predictable science, rather than pursue the meandering trails that sometimes lead to landmark discoveries. "The unexpected is often much more interesting," he said.

Mazur uses lasers to study the properties of materials and interactions between materials. One project uses the light-amplifying devices to probe the properties of semiconductors, which could have applications in improved electronics components.

He said he left the Netherlands, where he was born and educated, because he considers the United States, though slipping, to be No. 1 in academic research.

Like Lederman and many others in the research community, he believes it is shortsighted to insist that US scientists turn away from purely theoretical work in favor of applications that will directly help industry.

The physical principle on which the transistor is based, he pointed out, was discovered in the United States, even though Japan took up the idea and ultimately developed electronic chips - the modern form of the transistor - that we are now buying from them.

"If we let science decline so that we're buying not only the products but the ideas themselves from Japan and Korea and Taiwan," he said, "then that is the day I'm going to leave this country."

GRAPHIC: PHOTO CHART, GLOBE STAFF PHOTO/DAVID L. RYAN / Dr. Eric Mazur adjusts laser mirror in his laboratory at Harvard.

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Langer —

Christina says this science speech may very well be on foreign aid. Sounds good to me!

Here's what little I have in my file cabinet on the subject — you may want to peruse it in case this is the theme & substance.

— CZ

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The Toronto Star

February 2, 1991, Saturday, SATURDAY EDITION

SECTION: LIFE; Pg. G2

LENGTH: 573 words

New things in science

HEADLINE: Advanced artificial leg has 'sense of feeling'

BYLINE: By Marilyn Dunlop Toronto Star

KEYWORD: WHAT'S NEW IN MEDICINE

BODY:

Teddy Kennedy Jr., son of U.S. senator Edward Kennedy, has become one of the first people to be given an artificial leg that has a "sense of feeling."

Now 29, Kennedy lost his leg to bone cancer when he was a teenager. "This is the first time I have felt 'life' in my leg in 15 years," he said after receiving the device late last year.

New technology allows the artifical leg to communicate with the remaining stump of his leg, which in turn, relays messages of touch to the brain.

Sensors in the sole of the foot respond to the amount of pressure the foot is putting on the floor and which part of the foot is exerting the pressure.

The signal is transmitted by wires to an electronic device in the leg, where it is interpreted and relayed to the skin of the remaining part of the natural leg. Skin nerve endings pass the message to the brain.

The new limb also improves the person's balance for walking and running, says a press release from the Sabolich Prosthetics and Research Center in Oklahoma City, developer of the device.

Drug hailed as major discovery

A drug used to treat depression, obsessive-compulsive behavior and an eating disorder, bulimia, is showing good results and few side effects, according to Science magazine.

The drug, Prozac, has become the most widely prescribed antidepressant in North America since it came on the market four years ago, the magazine reports.

FYI – Their publication is called 'Science'.

Science, the journal of the American Association for the Advancement of Science, included the drug among scientific developments it considered the most significant 10 of 1990.

Prozac acts on a brain chemical called serotonin, protecting it from being broken down too quickly. Enabling serotonin to act in the brain for a longer time apparently reduces the symptoms of psychological disorders.

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New blood test can diagnose arthritis

A condition that was once called "surprise arthritis," because of its sudden onset, is still not understood completely but doctors are now able to diagnose it more readily, Dr. Gene Hunder of the Mayo Clinic in Rochester says.

Called polymyalgia rheumatica, the condition was difficult to diagnose because it can occur in the shoulders, pelvis, thighs or buttocks and not much swelling is involved, says Hunder in a report in the magazine of The Arthritis Society.

But now, a new blood test can help doctors make the diagnosis. The condition, which rarely affects anyone under 50, seldom causes the deformation of joints that is common in rheumatoid arthritis. And in more than half of patients, the disease disappears in one to two years.

Hunder says the condition usually responds to drug treatments involving Aspirin or a steroid.

Mastectomy is not mandatory, study says

A study at Women's College Hospital has shown that mastectomy is not mandatory if women have a recurrence of breast cancer after already having had a lump removed by lumpectomy.

There is no greater risk of a further recurrence in the chest or chest wall if such women have a second lumpectomy plus radiation than if they have the breast removed.

A report of the study conducted by Dr. David McCready, Jacqueline Wall, his research assistant, and other colleagues reported in this column last month on Jan. 5 erroneously indicated that the survival rate was better for the women undergoing lumpectomy plus radiation. In fact, the study only compared recurrence rates in the breast or chest wall.

GRAPHIC: Photo: Teddy Kennedy Jr.'s leg is checked by prosthetists Thomas Guth and John Sabolich.

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The New York Times

February 4, 1991, Monday, Late Edition - Final

SECTION: Section A; Page 14; Column 2; National Desk

LENGTH: 898 words

New Budget vis a vis Science

HEADLINE: Science Would Receive One of Sharpest Rises in Spending in Bush Plan

BYLINE: By PHILIP J. HILTS, Special to The New York Times

DATELINE: WASHINGTON, Feb. 3

BODY:

Science and technology would receive one of the highest rates of increased spending under the budget that President Bush will send to Congress on Monday, Administration officials say.

That increase, for the 1992 fiscal year, would be $8 billion, to a total of $72 billion, a 13 percent rise over the current year's level, not accounting for inflation. By comparison, the rest of the budget would rise only 2.6 percent over all.

The Administration would give a particular boost to "big science" projects, like the superconducting supercollider, the 50-mile-long atom smasher that is to be built just south of Dallas, and the Human Genome Project, which seeks to find and map all the genes in the human body. Financing for the supercollider would increase 120 percent, to $534 million, and for the genome project 26 percent, to $169 million.

In addition, the National Science Foundation, the chief source of all civilian science grants outside medicine, would get a 16 percent increase in spending authority, to $2.1 billion, and the spending authority of the National Aeronautics and Space Administration would rise 18 percent, to $8.6 billion.

AIDS Spending About Steady

Financing for AIDS research, education and treatment, totaling $2 billion, would not be significantly increased beyond inflation. It would rise $120 million over the current year's level.

As has frequently been the case with the Federal budget in recent years, the greatest amount of the increase for science and technology would be devoted to developing military hardware. Of the $8 billion increase, $5.2 billion would be spent to further develop new weapon systems, including an advanced version of the Cruise missile, a new tactical jet fighter loaded with electronics, a new attack submarine and the Stealth bomber.

This increase in spending on military technology comes as the overall military budget loses 1 percent to inflation.

The science and technology increases "are part of an ongoing campaign of the President to invest more in the future of America rather than just programs

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for the present," said an Administration official, who spoke on the condition of anonymity. "In other words, it is the third budget in a row in which he has placed heavy emphasis on research and development."

Response From Scientists

Dr. Leon Lederman, a Nobel Prize-winning physicist who is president of the American Association for the Advancement of Science, the largest general science organization in the world, said in an interview that the President's budget was a "good" one, "considering what we face and what is happening to others in the budget crisis."

But, he said, the proposal "will not solve the problems that we raised earlier."

Dr. Lederman raised those problems a month ago, when, after questioning 250 researchers at 50 universities, he reported that the responses "paint a picture of an academic research community beset by flagging morale, diminishing expectations and constricting horizons."

His report to the association said: "From one institution to the next, across demographic categories, across disciplines of research, the nation's scientists are sending a warning: Academic research in the United States is in serious trouble."

At the time, Dr. Lederman recommended doubling the Federal budget for science over the next few years, and following that with increases of 8 percent to 10 percent "continuously."

Increase in Costs

Dr. Lederman said that after adjustment for inflation Federal financing of science was only slightly higher in 1990 than in 1968. In the intervening years, the number of scientists with doctorates has more than doubled, the cost of instruments and laboratory buildings has gone up several-fold and the cost of paperwork and overhead as a whole has also risen sharply, he said.

Albert H. Teich, a budget expert with Dr. Lederman's organization, said that the increases proposed by the President were a step in the right direction but that, after subtracting 5 percent for inflation and assuming that Congress would trim some of the proposals, they were modest.

Given the thaw in the cold war and pressures to increase spending on non-military science, he said, the biggest surprise is that military weaponry is once again the big winner while some other science programs suffer.

In the last seven years, Federal spending on science as a whole has been increasing somewhat, while spending on many other sectors of the budget have been held level, and Dr. Lederman said this posed "a great dilemma for us: how to complain when science is being favored."

New Limits Imposed

He said of Mr. Bush's budget: "This is a good step. But it will still be an uphill fight to get the kind of exuberant leadership" by the President that

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science enjoyed 25 years ago.

Mr. Bush's request is the first under the new budget rules laid down last fall, in which caps were imposed on each of three broad categories: discretionary domestic spending, military spending and foreign programs spending.

"The caps were explicitly intended to force a competition among programs on their merits" within each of those categories, an Administration official said. "There is a clear message here: a chief priority is science, research and development, and an objective debate on the merits, we believe, will result in science winning."

GRAPHIC: Photo: Dr. Leon Lederman, president of the American Association for the Advancement of Science, recommended doubling the Federal budget for science. (The New York Times)

SUBJECT: Terms not available

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# THE Jeffersonian Cyclopedia

A COMPREHENSIVE COLLECTION OF THE VIEWS OF

## THOMAS JEFFERSON

Classified and Arranged in Alphabetical Order Under Nine Thousand Titles

RELATING TO GOVERNMENT, POLITICS, LAW, EDUCATION, POLITICAL ECONOMY, FINANCE, SCIENCE, ART, LITERATURE, RELIGIOUS FREEDOM, MORALS, ETC.

EDITED BY
JOHN P. FOLEY

WITH AN INTRODUCTION BY
JULIAN P. BOYD

VOLUME ONE

"I have sworn upon the altar of God eternal hostility against every form of tyranny over the mind of man."—*Thomas Jefferson*

NEW YORK / RUSSELL & RUSSELL

New York. Mr. Pinckney writes me word that the original from which this is copied threshes one hundred and fifty bushels of wheat in eight hours, with six horses and five men. It may be moved either by water or horses. Fortunately the workman who made it (a millwright) is come in the same vessel to America. I have written to persuade him to go on immediately to Richmond, offering him the use of my model to exhibit, and to give him letters to get him into immediate employ in making them.—To JAMES MADISON. iv, 54. FORD ED., vi, 403. (Pa., 1793.)

**4042. INVENTIONS, Useful.**—I am not afraid of new inventions or improvements, nor bigoted to the practices of our forefathers. * * * Where a new invention is supported by well known principles, and promises to be useful, it ought to be tried.—To ROBERT FULTON. v, 516. (M., 1810.) See TORPEDO.

**4043. INVENTIONS, Wooden wheels.**—I was in Philadelphia when the first set of wheels arrived from London, and were spoken of by the gentleman (an Englishman) who brought them as a wonderful discovery. The idea of its being a new discovery was laughed at by the Philadelphians, who, in their Sunday parties across the Delaware, had seen every farmer's cart mounted on such wheels. The writer in the paper supposes the English workman got his idea from Homer. But it is more likely the Jersey farmer got his idea thence, because ours are the only farmers who can read Homer; because, too, the Jersey practice is precisely that stated by Homer: the English practice very different. Homer's words are (comparing a young hero killed by Ajax to a poplar felled by a workman) literally thus: "He fell on the ground, like a poplar, which has grown smooth, in the west part of a great meadow; with its branches shooting from its summit. But the chariot maker, with the sharp axe, has felled it, that he may bend a wheel for a beautiful chariot. It lies drying on the banks of the river." Observe the circumstances which coincide with the Jersey practice. 1. It is a tree growing in a moist place, full of juices and easily bent. 2. It is cut while green. 3. It is bent into the circumference of a wheel. 4. It is left to dry in that form. You should write a line for the Journal to reclaim the honor of our farmers.—To M. DE CREVECOEUR. ii, 97. (P., 1787.)

**4044. —— ——.** I see by the Journal that they are robbing us of another of our inventions to give it to the English. The writer, indeed, only admits them to have revived what he thinks was known to the Greeks, that is, the making the circumference of a wheel of one single piece. The farmers in New Jersey were the first who practiced it commonly. Dr. Franklin, in one of his trips to London, mentioned this practice to the man now in London, who has the patent for making those wheels. The idea struck him. The Doctor promised to go to his shop, and assist him in trying to make the wheel of one piece. The Jersey farmers do it by cutting a young sapling, and bending it, while green and juicy, into a circle; and leaving it so until it becomes perfectly seasoned. But in London there are no saplings. The difficulty was, then, to give to old wood the pliancy of young. The Doctor and the workman labored together some weeks, and succeeded: and the man obtained a patent for it, which has made his fortune. I was in his shop in London; he told me the story himself, and acknowledged, not only the origin of the idea, but how much the assistance of Dr. Franklin had contributed to perform the operation on dry wood. He spoke of him with love and gratitude.—To M. DE CREVECOEUR. ii, 97. (P., 1787.)

**4045. INVENTORS, Rights of.**—It has been pretended by some (and in England especially) that inventors have a natural and exclusive right to their inventions, and not merely for their own lives, but inheritable to their heirs. But while it is a moot question whether the origin of any kind of property is derived from nature at all, it would be singular to admit a natural and even an hereditary right to inventors. It is agreed by those who have seriously considered the subject, that no individual has, of natural right, a separate property in an acre of land, for instance. By an universal law, indeed, whatever, whether fixed or movable, belongs to all men equally and in common, is the property for the moment of him who occupies it; but when he relinquishes the occupation, the property goes with it. Stable ownership is the gift of social law, and is given late in the progress of society. It would be curious, then, if an idea, the fugitive fermentation of an individual brain, could, of natural right, be claimed in exclusive and stable property. If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of every one, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening mine. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature. When she made them like fire, expansible over all space, without lessening their density in any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property. Society may give an exclusive right to the profits arising from them, as an encouragement to men to pursue ideas which may produce utility, but this may or may not be done according to the will and convenience of the society, without claim or complaint from anybody. Accordingly, it is a fact, as far as I am informed, that England was, until we copied her the only country on earth which ever, by a general law, gave a legal right to the exclusive use of an idea. In some countries it is sometimes done, in a great case, and by a special and personal act, but generally speaking, other nations have thought that these monopolies produce more embarrassment than advantage to society; and it may be observed that the nations which refuse monopolies of invention, are as fruitful as England in new and useful devices.—To ISAAC MCPHERSON. vi, 180. (M., 1813.)

**4046. IRELAND, America and.**—You shall find me zealous in whatever may concern the interests of the two countries. [United States and Ireland.]—To W. W. SEWARD. i, 479. (P., 1785.)

**4047. —— ——.** The freedom of commerce between Ireland and America is un-

PUBLIC PAPERS OF THE PRESIDENTS

OF THE UNITED STATES

# John F. Kennedy

*Containing the Public Messages, Speeches, and Statements of the President*

JANUARY 1 TO NOVEMBER 22, 1963

1963

UNITED STATES GOVERNMENT PRINTING OFFICE

WASHINGTON : 1964

his people and our great interest in the relations, the inter-American system which governs our conduct toward each other.

We are glad also to have the members of your government, Mr. President, and I would ask all to join me in drinking to the well-being of the people of Bolivia and to the very good health of the President.

NOTE: The President proposed the toast at a luncheon at 1 p.m. in the State Dining Room at the White House. In his response President Paz expressed appreciation for President Kennedy's tribute to his efforts to better the life of his people.

The Bolivian revolution which began in 1952, he continued, accords with the broad policy of the United States in Latin America. Its first stage was to clear away obsolete and oppressive institutions. The second phase, now underway, he described as one of hard work, perhaps less colorful and spectacular, to raise the level of economic life of the Bolivian people. In this endeavor, President Paz observed, his nation must contend with certain unfavorable geographical factors. He likened the spirit of the Bolivian people to that of the American pioneers who fought and conquered the frontier, and voiced the appreciation of the Government and people of Bolivia for U.S. assistance.

Referring again, in closing, to his country's revolution, President Paz traced its genesis to the 18th century, when word went among the people that "there is a revolution taking place in the North, in the United States, and we should follow their example."

## 430 Address at the Anniversary Convocation of the National Academy of Sciences. *October* 22, 1963

*Dr. Seitz; President Paz; Dr. Bronk; my scientific adviser, Dr. Wiesner; gentlemen:*

I am happy to accept the invitation to address the National Academy of Sciences, and I am very happy to come here with our distinguished visitor from Bolivia, the President of Bolivia, who, although a distinguished scholar and educator in his own right and an exile, has led his country through one of the most profound revolutions in the last decade that this hemisphere has witnessed. Therefore, I am proud that he is with me on this very important occasion to my own country.

It is impressive to reflect that 100 years ago, in the midst of a savage fraternal war, the United States Congress established a body devoted to the advancement of scientific research. The recognition then of the value of "abstract science" ran against the grain of our traditional preoccupation with technology and engineering.

You will remember De Tocqueville's famous chapter on why the Americans are more addicted to practical than to theoretical science. De Tocqueville concluded that, the more democratic a society, "the more will discoveries immediately applicable to productive industry confer gain, fame, and even power on their authors."

But if I were to name a single thing which points up the difference this century has made in the American attitude toward science, it would certainly be the wholehearted understanding today of the importance of pure science. We realize now that progress in technology depends on progress in theory; that the most abstract investigations can lead to the most concrete results; and that the vitality of a scientific community springs from its passion to answer science's most fundamental questions. I therefore greet this body with particular pleasure, for the range and depth of scientific achievement represented in this room constitutes the seedbed of our Nation's future.

The last hundred years have seen a second great change—the change in the relationship between science and public policy. To this new relationship, your own academy has made a decisive contribution. For a century the National Academy of Sciences has exemplified the partnership between scientists who accept the responsibilities that accompany freedom, and a Government which encourages the increase of knowledge for the

argument for gearing research to industry

welfare of mankind. As a result, in large part, of the recommendations of this Academy, the Federal Government enlarged its scientific activities through such agencies as the Geological Survey, the Weather Bureau, the Bureau of Standards, the Forest Service, and many others, but it took the First World War to bring science into central contact with governmental policy, and it took the Second World War to make scientific counsel an indispensable function of Government. The relationship between science and public policy is bound to be complex.

As the country has had reason to note in recent weeks during the debate on the nuclear test ban treaty, scientists do not always unite themselves in their recommendations to the makers of policy. This is only partly because of scientific disagreements. It is even more because the big issues so often go beyond the possibilities of exact scientific determination.

I know few significant questions of public policy which can safely be confided to computers. In the end, the hard decisions inescapably involve imponderables of intuition, prudence, and judgment.

In the last hundred years, science has thus emerged from a peripheral concern of Government to an active partner. The instrumentalities devised in recent times have given this partnership continuity and force. The question in all our minds today is how science can best continue its service to the Nation, to the people, to the world, in the years to come.

I would suggest that science is already moving to enlarge its influence in three general ways: in the interdisciplinary area, in the international area, and in the intercultural area. For science is the most powerful means we have for the unification of knowledge, and a main obligation of its future must be to deal with problems which cut across boundaries, whether boundaries between the sciences, boundaries between nations, or boundaries between man's scientific and his humane concerns.

As science, of necessity, becomes more involved with itself, so also, of necessity, it becomes more international. I am impressed to know that of the 670 members of this Academy, 163 were born in other lands. The great scientific challenges transcend national frontiers and national prejudices. In a sense, this has always been true, for the language of science has always been universal, and perhaps scientists have been the most international of all professions in their outlook. But the contemporary revolution in transport and communications has dramatically contributed to the internationalization of science. And one consequence has been the increase in organized international cooperation.

Every time you scientists make a major invention, we politicians have to invent a new institution to cope with it, and almost invariably these days, and happily, it must be an international institution. I am not just thinking of the fact that when you gentlemen figure out how to build a global satellite communications system, we have to figure out a global organization to manage it. I am thinking as well that scientific advance provided the rationale for the World Health Organization and the Food and Agriculture Organization; that splitting the atom leads not only to a nuclear arms race, but to the establishment of the International Atomic Energy Agency; that the need for scientific exploration of Antarctica leads to an international treaty providing free access to the area without regard to territorial claims; that the scientific possibility of a World Weather Watch requires the attention of the World Meteorological Organization; that the exploration of oceans leads to the establishment of an Intergovernmental Oceanographic Commission.

Recent scientific advances have not only made international cooperation desirable, but they have made it essential. The ocean, the atmosphere, outer space, belong not to one nation or one ideology, but to all mankind, and as science carries out its tasks in the years ahead, it must enlist all its own disciplines, all nations prepared for

the scientific quest, and all men capable of sympathizing with the scientific impulse.

Scientists alone can establish the objectives of their research, but society, in extending support to science, must take account of its own needs. As a layman, I can suggest only with diffidence what some of the major tasks might be on your scientific agenda, but I venture to mention certain areas which, from the viewpoint of the maker of policy, might deserve your special concern.

First, I would suggest the question of the conservation and development of our natural resources. In a recent speech to the General Assembly of the United Nations, I proposed a worldwide program to protect land and water, forests and wildlife, to combat exhaustion and erosion, to stop the contamination of water and air by industrial as well as nuclear pollution, and to provide for the steady renewal and expansion of the natural bases of life.

good illustration

Malthus argued a century and a half ago that man, by using up all his available resources, would forever press on the limits of subsistence, thus condemning humanity to an indefinite future of misery and poverty. We can now begin to hope and, I believe, know that Malthus was expressing not a law of nature, but merely the limitation then of scientific and social wisdom. The truth or falsity of his prediction will depend now, with the tools we have, on our own actions, now and in the years to come.

The earth can be an abundant mother to all of the people that will be born in the coming years if we learn to use her with skill and wisdom, to heal her wounds, replenish her vitality, and utilize her potentialities. And the necessity is now urgent and worldwide, for few nations embarked on the adventure of development have the resources to sustain an ever-growing population and a rising standard of living. The United Nations has designated this the Decade of Development. We all stand committed to make this agreeable hope a reality. This seems to me the greatest challenge to science in our times, to use the world's resources, to expand life and hope for the world's inhabitants.

While these are essentially applied problems, they require guidance and support from basic science. I solicit your help, and I particularly solicit your help in meeting a problem of universal concern—the supply of food to the multiplying mouths of a multiplying world. Abundance depends now on the application of sound biological analysis to the problems of agriculture. If all the knowledge that we now have were systematically applied to all the countries of the world, the world could greatly improve its performance in the low-yield areas, but this would not be enough, and the long-term answer to inadequate food production, which brings misery with it, must lie in new research and new experimentation, and the successful use of new knowledge will require close cooperation with other nations.

Already a beginning has been made. I think of the work in other countries, of the Rockefeller and Ford Foundations, and the creation by the OAS of the Inter-American Institute of Agricultural Sciences in Costa Rica. I look forward eventually to the establishment of a series of international agricultural research institutes on a regional basis throughout the developing world. I can imagine nothing more unwise than to hoard our knowledge and not disseminate it and develop the means of disseminating it throughout the globe.

Second, I would call your attention to a related problem; that is, the understanding and use of the resources of the sea. I recently sent to Congress a plan for a national attack on the oceans of the world, calling for the expenditure of more than $2 billion over the next 10 years. This plan is the culmination of 3 years' effort by the Inter-Agency Committee on Oceanography, and it results from recommendations made by the National Academy.

Our goal is to investigate the world ocean, its boundaries, its properties, its processes. To a surprising extent, the sea has remained

a mystery—10,000 fleets still sweep over it in vain. We know less of the oceans at our feet, where we came from, than we do of the sky above our heads. It is time to change this, to use to the full our powerful new instruments of oceanic exploration, to drive back the frontiers of the unknown in the waters which encircle our globe.

I can imagine no field among all those which are so exciting today than this great effort which our country and others will carry on in the years to come. We need this knowledge for its own sake. We want to know what is under the sea, and we need it to consider its bearings on our security, and on the world's social and economic needs. It has been estimated, for example, that the yield of food from the seas could be increased five or ten times through better knowledge of marine biology, and some day we will seed and weed and harvest the ocean. Here, again, the job can best be done by the nations of the world working together in international institutions.

As all men breathe the same air, so a storm along Cape Cod may well begin off the shores of Japan. The world ocean is also indivisible, and events in one part of the great sea have astonishing effects in remote places. International scientific cooperation is indispensable if human knowledge of the ocean is to keep pace with human needs.

Third, there is the atmosphere itself, the atmosphere in which we live and breathe and which makes life on this planet possible. Scientists have studied the atmosphere for many decades, but its problems continue to defy us.

The reasons for our limited progress are obvious. Weather cannot be easily reproduced and observed in the laboratory. It must, therefore, be studied in all of its violence wherever it has its way. Here, as in oceanography, new scientific tools have become available. With modern computers, rockets, and satellites, the time is ripe to harness a variety of disciplines for a concerted attack. And even more than oceanography, the atmospheric sciences require worldwide observation and, hence, international cooperation.

Some of our most successful international efforts have involved the study of the atmosphere. We all know that the World Meteorological Organization has been effective in this field. It is now developing a worldwide weather system to which nations the world over can make their contributions. Such cooperative undertakings can challenge the world's best efforts for decades to come.

Fourth, I would mention a problem which I know has greatly concerned many of you. That is our responsibility to control the effects of our own scientific experiments. For as science investigates the natural environment, it also modifies it, and that modification may have incalculable consequences for evil as well as for good.

In the past, the problem of conservation has been mainly the problem of human waste of natural resources, of their destruction. But science has the power for the first time in history now to undertake experiments with premeditation which can irreversibly alter our biological and physical environment on a global scale. The problem is difficult, because it is hard to know in advance whether the cumulative effects of a particular experiment will help or harm mankind. In the case of nuclear testing, the world is satisfied that radioactive contamination involves unnecessary risks, and we are all heartened that more than 100 nations have joined to outlaw testing in environments where the effects most directly threaten mankind.

In other fields we may be less sure. We must, for example, balance the gains of weather modification against the hazards of protracted drought or storm.

The Government has the clear responsibility to weigh the importance of large-scale experiments to the advance of knowledge or to national security against the possibility of adverse and destructive effects. The scientific community must assist the Government in arriving at rational judgments and interpreting these issues to the public. To deal

with this problem, we have worked out formal procedures within the Government to assure expert review before potentially risky experiments are undertaken. And we will make every effort to publish the data needed to permit open examination and discussion of proposed experiments by the scientific community before they are authorized.

If science is to press ahead in the four fields that I have mentioned, if it is to continue to grow in effectiveness and productivity, our society must provide scientific inquiry the necessary means of sustenance. We must, in short, support it. Military and space needs, for example, offer little justification for much work in what Joseph Henry called abstract science. Though such fundamental inquiry is essential to the future technological vitality of industry and Government alike, it is usually more difficult to comprehend than applied activity, and, as a consequence, often seems harder to justify to the Congress, to the executive branch, and to the people.

But if basic research is to be properly regarded, it must be better understood. I ask you to reflect on this problem and on the means by which, in the years to come, our society can assure continuing backing to fundamental research in the life sciences, the physical sciences, the social sciences, our natural resources, on agriculture, on protection against pollution and erosion. Together, the scientific community, the Government, industry, and education must work out the way to nourish American science in all its power and vitality. Even this year we have already seen in the first actions of the House of Representatives some failure of support for important areas of research which must depend on the National Government. I am hopeful that the Senate of the United States will restore these funds. What it needs, of course, is a wider understanding by the country as a whole of the value of this work which has been so sustained by so many of you.

I would not close, however, on a gloomy note, for ours is a century of scientific conquest and scientific triumph. If scientific discovery has not been an unalloyed blessing, if it has conferred on mankind the power not only to create, but also to annihilate, it has at the same time provided humanity with a supreme challenge and a supreme testing. If the challenge and the testing are too much for humanity, then we are all doomed. But I believe that the future can be bright, and I believe it can be certain. Man is still the master of his own fate, and I believe that the power of science and the responsibility of science have offered mankind a new opportunity not only for intellectual growth, but for moral discipline; not only for the acquisition of knowledge, but for the strengthening of our nerve and our will.

We are bound to grope for a time as we grapple with problems without precedent in human history. But wisdom is the child of experience. In the years since man unlocked the power stored within the atom, the world has made progress, halting but effective, towards bringing that power under human control. The challenge, in short, may be our salvation. As we begin to master the destructive potentialities of modern science we move toward a new era in which science can fulfill its creative promise.

I express my appreciation to all of you for what you have done in your respective disciplines in the field of science, and the contribution which those disciplines have made to the welfare of our country, and in the great sense, to the welfare of all mankind.

I can imagine no period in the long history of the world where it would be more exciting and rewarding than in the field today of scientific exploration. I recognize with each door that we unlock we see perhaps 10 doors that we never dreamed existed and, therefore, we have to keep working forward. But with all of the tools now at our command, with all the areas of knowledge which are waiting to be opened up, I think that never in the short history of this Academy or in the far longer history of science has the time been brighter, the need been

greater for the cooperation between those of us who work in Government and those of you who may work in far distant laboratories on subjects almost wholly unrelated to the problems we now face in 1963. I hope that that cooperation will remain intimate and that it will remain beneficial to both science and to the people as a whole.

Science has made all of our lives so much easier and happier in the last 30 years. I hope that the people of the United States will continue to sustain all of you in your work and make it possible for us to encourage other gifted young men and women to move into these high fields which require so much from them and which have so much to give to all of our people. So the need is very great. Even though some of your experiments may not bring fruition right away, I hope that they will be carried out immediately.

It reminds us of what the great French Marshal Lyautey once said to his gardener: "Plant a tree tomorrow." And the gardener said, "It won't bear fruit for a hundred years." "In that case," Lyautey said to the gardener, "plant it this afternoon." That is how I feel about your work.

NOTE: The President spoke at 4 p.m. at Constitution Hall in Washington. His opening words referred to Dr. Frederick Seitz, President of the National Academy of Sciences, President Victor Paz Estenssoro of Bolivia, Dr. Detlev W. Bronk, Chairman of the National Science Board of the National Science Foundation, and Dr. Jerome B. Wiesner, Special Assistant to the President and Director of the Office of Science and Technology.

## 431 Toasts of the President and President Paz at a Luncheon at the Bolivian Embassy. *October* 23, 1963

*Mr. President:*

I know I speak on behalf of all of our fellow Americans here today in expressing our appreciation to you for what you have said about us and what you have said about some of our fellow Americans and our country. This is, in fact, I think the largest delegation of Congressmen and Senators that I have seen at any state function such as this, and I think it is indicative of our regard for you and our admiration for what you have been attempting to do for a decade for your country, and our interest in close relations with Bolivia and our continuing interest in our relations with all of our sister Republics in this hemisphere.

The United States, faced with two tremendous potential military challenges in the years immediately after the war, concentrated a good deal of its resources and efforts in the defense of Europe and Asia. I think that while that defense is, of course, not assured, nevertheless, I do think that the American people have come to realize, perhaps belatedly, that here in this hemisphere a great struggle is being waged in which we must play a major role. That is a struggle for a better life by really almost the most vital people in the world.

The highest birth rate in the world is in Central America, in Costa Rica. In the journeys I have taken, I am sure this impression is shared by all who have traveled through Central and Latin America. I know of no people who are more desirous of living in freedom, more desirous of educating their children. The chances are there and I think it is the responsibility of the governments involved to make the most of those chances. Time may not always be our friend. I think that this decade must mark a major effort by the United States, in association with the other countries of this hemisphere, in attacking the problems of poverty, misery and disease, and lack of opportunity.

I think if all of the countries which have signed the Punta del Este Charter meet their responsibilities, we have a chance to win the most significant fight for democracy by demonstrating that under a system of free-

# BACKGROUND MATERIAL

# IRAQ/KUWAIT

## AUGUST 10, 1990

Energy Information Administration
U.S. Department of Energy
Washington, D C 20585

-- PLEASE RETAIN --

Background

OIL SITUATION PRIOR TO AUGUST 1, 1990

**Prior to the embargo Iraqi exports and excess export capacity were:**

| Iraqi Export Routes | BAU Exports | Excess Export Capacity |
|---|---|---|
| Iraq/Turkey | 1.65 | 0.0 |
| IPSA System | 0.80 | 0.8 |
| Strait of Hormuz | 0.30 | 0.5 |
| Trucks | 0.10 | 0.1-0.2 |
| Total | 2.85 | 1.4-1.5 |

**See map of Iraqi export routes**

**Iraq**

- During the first 5 months of 1990, U.S. petroleum imports from Iraq had averaged 0.61 MMBD, less than 2 percent of these imports were petroleum products. Iraq supplied 8 percent of U.S. net imports and 3.6 percent of U.S. consumption. Iraq was the sixth largest supply source for U.S. petroleum.

**Kuwait**

- At the same time, the United States imported 0.12 MMBD from Kuwait, which represents slightly over 1 percent of U.S. net imports and less than 1 percent of U.S. consumption.

**Saudi Arabia-(Fact Sheet on Saudi Arabia available on Aug. 9, 1990)**

- Since 1988, Saudi Arabia has been the largest supply source of U.S. petroleum imports. During the first five months of 1990, almost 17 percent of U.S. net imports and almost 7.5 percent of U.S. consumption came from Saudi Arabia. About 90 percent of these imports are crude and about 10 percent are products. In 1989, the United States imported 1.22 MMBD of Saudi Arabia's petroleum representing 17.0 percent of U.S. net imports.

**Persian Gulf**

- In 1989 the U.S. imported over 25 percent of its net imports and over 10 percent of its consumption from the Persian Gulf region. During the first 5 months of 1990 Persian Gulf imports have represented almost 27 percent of U.S. net imports and 12 percent of U.S. consumption.

**Situation in Japan - First Quarter 1990**

- Japan relies heavily on the Persian Gulf countries for its petroleum consumption which is almost entirely met by imports.

| Net Imports | MMBD | Percent Net Imports | Percent Consumption |
|---|---|---|---|
| Iraq | 0.26 | 4.7 | 4.5 |
| Kuwait | 0.5 | 9.1 | 8.7 |
| Saudi Arabia | 1.0 | 18.5 | 17.7 |
| Persian Gulf | 3.54 | 64.6 | 61.6 |
| Total | 5.48 | | |

- Based on first quarter estimates, it appears that Japan's embargo of Iraq and Kuwait results in a loss of almost 14 percent of its net imports.

**Situation in OECD Europe - First Quarter 1990**

- On average in 1989 the Persian Gulf supplied almost 47 percent of OECD Europe's net imports and almost 30 percent of consumption. During the first quarter, the Persian Gulf met over half of OECD Europe's net imports as follows:

| Net Imports | MMBD | Percent Net Imports | Percent Consumption |
|---|---|---|---|
| Iraq | 0.91 | 11 | 7 |
| Kuwait | 0.5 | 6 | 3.9 |
| Saudi Arabia | 1.24 | 15 | 9.6 |
| Persian Gulf | 4.28 | 51.9 | 33.2 |
| Total | 8.24 | | |

- Based on these first quarter imports, Europe's embargo of Iraq and Kuwait has resulted in a loss of 17 percent of European net imports.

POSSIBLE OIL SUPPLY DISRUPTIONS INVOLVING IRAQ AND KUWAIT

Kuwaiti current production losses total 1.8 MMBD (including the Neutral Zone). Coupled with this Kuwaiti loss, with current exports through both Iraqi pipelines somehow disrupted and if the Iraqi flow of oil out of the Strait of Hormuz were also lost, the disruption could total 4.45 MMBD. **This assumes that no offsetting excess production capacity is brought on-line.**

However, there are several means available to offset a disruption of this size such as:

**Excess Production Capacity** - near 4 MMBD available outside of Iraq and Kuwait and 1.0-1.5 MMBD available outside the Persian Gulf. **(See attached revised Table 1)**

- **If the 3 OPEC countries mentioned above are capable of surging production capacity by the amounts suggested then slightly over 1 MMBD of excess production capacity still exists in other countries.**

**U.S. SPR drawdown** of as much as 3.5 MMBD for 3 months and decreasing rates thereafter. Initial SPR oil deliveries could reach the market within 16 days of a Presidential decision, with maximum rate within 30 days.

**Coordinated stock drawdowns** by our Allies (see below).

**Fuel switching out of oil** within the United States amounting to 0.5 MMBD.(During the summer most utilities have already switched from oil to natural gas, so switching potential would be much less.)

**U.S. commercial stocks** were at their highest level in 9 years, at 392 MMB at the end of July. **During the week ending August 3, 1990, U.S. crude stocks were drawndown by 8 MMB, remaining some 50 MMB above year-earlier levels. U.S. crude stocks were at 384 MMB on August 3, 1990.**

- International Energy Agency[1] - Petroleum stocks under direct operational control of most other consumer nation governments in the IEA are much lower than ours.

  - Only Japan and West Germany have significant government controlled stocks. **As of July 1, 1990 Japan's government controlled stocks were about 206 MMB and West Germany's were about 189 MMB.**

  - Total usable (above MOI) petroleum stocks (including strategic stocks) held by the Organization for Economic Cooperation and Development Countries (OECD) in the beginning of the third quarter 1990 are estimated to represent 85 to 90 days of current estimated imports.

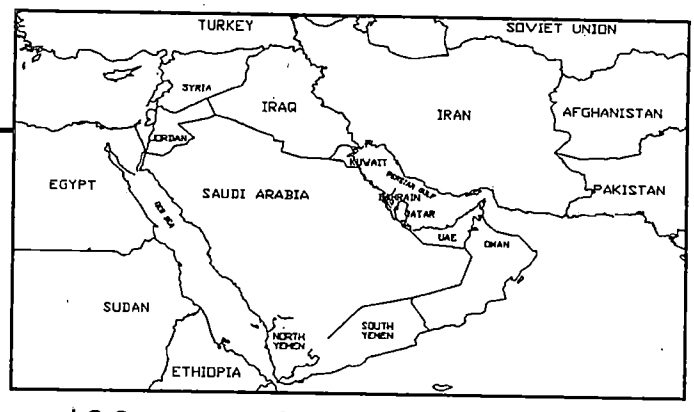
- World Crude Oil Reserves and Oil Production - **(See Table)** About two-thirds of the world's crude oil reserves are located in the Middle East. Saudi Arabia has over 25 percent of world's reserves and Iraq has an estimated 10 percent.

  During the first 5 months of 1990, the U.S.S.R., United States, and Saudi Arabia were the top 3 producers of crude oil. For more detail on world reserves and production see the attached table.

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[1] International Energy Agency members are the United States, Canada, Austria, Japan, Belgium, Denmark, West Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, Australia, and New Zealand.

# Iraq/Kuwait Fact Sheet




## Iraq

In 1989, Iraq produced 2.84 MMBD of crude and liquids. The OECD imported 1.55 MMBD from Iraq; Western Europe 0.87 MMBD, United States 0.45 MMBD, and Japan 0.22 MMBD.

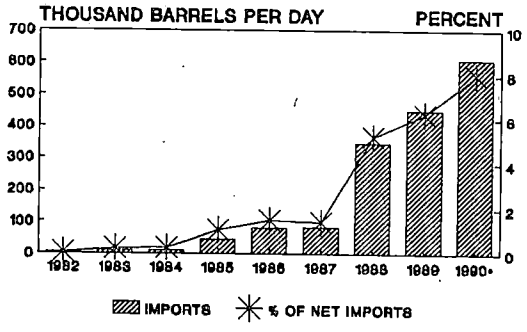
U.S. 1989 imports from Iraq increased by 30 percent over 1988 receipts and represented 6 percent of U.S. net imports and 2.6 percent of U.S. consumption. (See Chart 1)

Iraqi imports averaged 0.61 MMBD for the first 5 months of 1990, less than 2 percent of these imports were petroleum products. Iraq supplied 8 percent of U.S. net imports and 3.6 percent of U.S. consumption. Industry import forecasts indicate an increase in Iraqi imports through August.

Currently, Iraq is the sixth largest supplier of U.S. oil.

Iraq exports most of it's oil through pipelines which bypass the vulnerable Strait of Hormuz. Currently, Iraqi pipeline throughput capacity totals 2.5 MMBD and by late 1990 may increase to 3.3 MMBD.

CHART 1
U.S. IMPORTS FROM IRAQ




* FIRST FIVE MONTHS

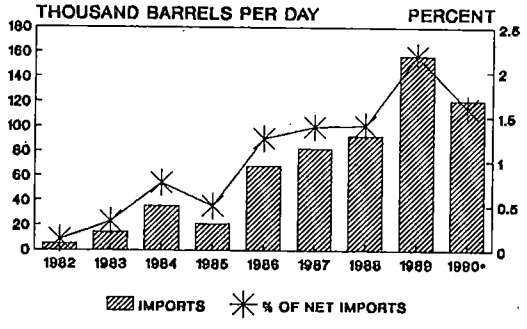
## Kuwait

In 1989, Kuwait produced 1.9 MMBD of crude and liquids (including one half of the neutral zone) of which the OECD imported 1.1 MMBD. Western Europe and Japan both imported 0.46 MMBD and the United States imported 0.16 MMBD.

U.S. imports from Kuwait increased 70 percent between 1988 and 1989. Kuwait supplied the United States with an average of 0.12 MMBD of oil during the first 5 months of 1990 which totals slightly over 1 percent of U.S. net imports. Industry import forecasts indicate an increase in Kuwaiti imports through August. (See Chart 2)

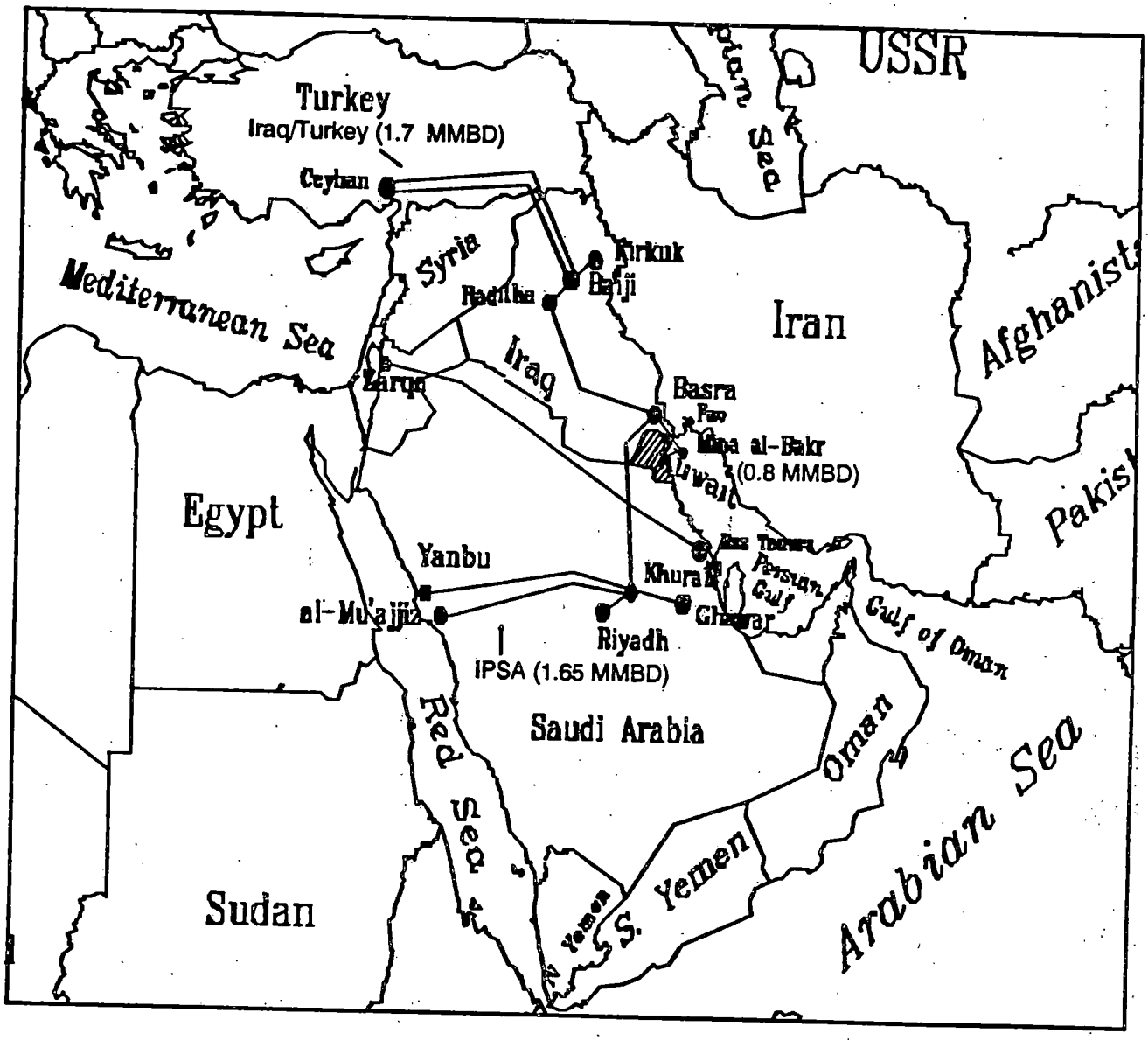
Kuwait exports solely through the Strait of Hormuz. During the Iran/Iraq War Kuwaiti oil tankers sailed under U.S. flags to discourage Iranian attacks.

CHART 2
U.S. IMPORTS FROM KUWAIT




* FIRST FIVE MONTHS

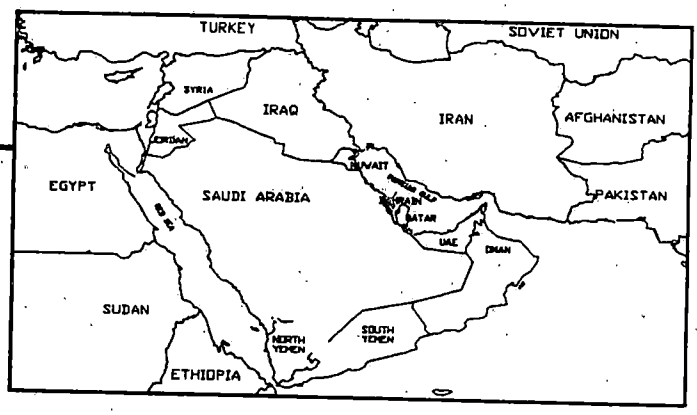
# Iraqi Crude Oil Pipeline Network




Energy Information Administration

August 1990

# Saudi Arabia Fact Sheet

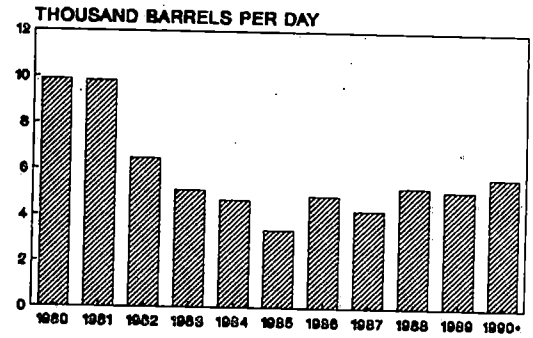



Saudi Arabia is the third largest producer of crude oil, behind the Soviet Union and the United States.

Saudi Arabia has the world's largest amount of crude oil reserves, about one quarter, which total over 250 billion barrels.

Saudi Arabian crude production (including ngl's) has been decreasing since its peak in 1980 of 10.27 million barrels per day (MMBD). During 1990, the Saudis have been boosting production which is estimated near 6.0 MMBD. (See Chart 1)

CHART 1
SAUDI ARABIAN PRODUCTION

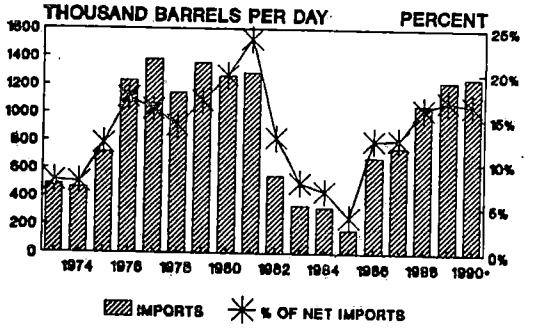



*First 6 Months

Saudi Arabian maximum sustainable production capacity (not including the nuetral zone) is estimated at 7.8 MMBD.

The majority of Saudi Arabian exports flow through the Strait of Hormuz. About 10 percent of Saudi Arabian exports exit the region through the East/West (Petroline) pipeline to Yanbu on the Red Sea (significantly greater amounts could exit via this pipeline).

CHART 2
U.S. IMPORTS FROM SAUDI ARABIA




* FIRST FIVE MONTHS

Saudi Arabia has been the United States' largest supplier of oil imports since 1988. The United States received an average 1.22 MMBD of imports during 1989 and has received an average of 1.26 MMBD during the first 5 months of 1990. (See Chart 2)

Japan and OECD Europe are also large importers of Saudi Arabian oil. During the first quarter of 1990 Japan received 1.0 MMBD or 18 percent of their net imports from Saudi Arabia, OECD Europe received over 1.2 MMBD or 15 percent of their net imports.

During the first quarter of 1990, Saudi Arabian exports totaled over 5 MMBD, of which nearly 70 percent went to the United States, Japan, and OECD Europe.

Saudi Arabia has been restructuring their oil sector and expanding their downstream investments. In 1989, Saudi Arabia created Star Enterprise, a joint venture with Texaco. More recently Saudi Arabia's refining and marketing ventures have been directed towards Europe and Japan.

TABLE 1
ESTIMATED
OIL PRODUCTION CAPACITY AND EXCESS CAPACITY
(Million Barrels per Day)

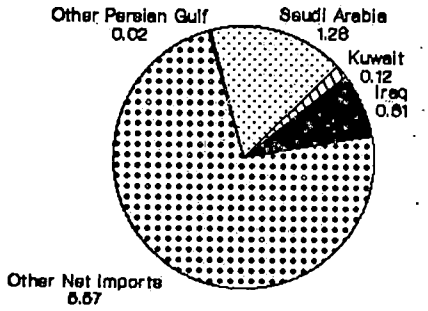
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| Country | Maximum Sustainable Capacity* (incl. NGL) | July Estimated Production (incl. NGL) | Excess Maximum Sust. Capacity | Post Disruption Excess Maximum Sust. Capacity |
|---|---|---|---|---|
| OPEC Production: | | | | |
| Saudi Arabia | 7.8 | 6.0 | 1.8 | 1.8 |
| Iran | 3.1 | 2.9 | 0.2 | 0.2 |
| Iraq | 3.3 | 3.0 | 0.3 | 0.0 |
| Kuwait | 2.6 | 1.7 | 0.9 | 0.0 |
| UAE | 2.3 | 2.1 | 0.2 | 0.2 |
| Qatar | 0.5 | 0.4 | 0.1 | 0.1 |
| Neutral Zone: | | | | |
| Saudi Arabia | 0.3 | 0.2 | 0.1 | 0.1 |
| Kuwait | 0.3 | 0.2 | 0.1 | 0.0 |
| Total Persian Gulf | 20.2 | 16.4 | 3.8 | 2.3 |
| Algeria | 1.2 | 1.1 | 0.1 | 0.1 |
| Ecuador | 0.3 | 0.3 | 0.0 | 0.0 |
| Gabon | 0.3 | 0.3 | 0.0 | 0.0 |
| Indonesia | 1.5 | 1.4 | 0.1 | 0.1 |
| Libya | 1.6 | 1.3 | 0.3 | 0.3 |
| Venezuela | 2.5 | 2.3 | 0.2 | 0.2 |
| Nigeria | 1.9 | 1.7 | 0.2 | 0.2 |
| Total Non-Persian Gulf | 9.3 | 8.4 | 0.9 | 0.9 |
| Total OPEC | 29.5 | 24.8 | 4.7 | 3.2 |
| Canada | 2.0 | 1.9 - 2.0 | 0.0 - 0.1 | 0.0 - 0.1 |
| Mexico | 3.0 | 2.9 - 3.0 | 0.0 - 0.1 | 0.0 - 0.1 |
| United States** | 9.4 | 9.3 - 9.4 | 0.0 - 0.1 | 0.0 - 0.1 |
| North Sea | 3.9 | 3.8 - 3.8 | 0.1 - 0.1 | 0.1 - 0.1 |
| Other | 8.6 | 8.4 - 8.5 | 0.1 - 0.2 | 0.1 - 0.2 |
| Total Non-OPEC | 26.9 | 26.4 -26.6 | 0.3 - 0.5 | 0.3 - 0.5 |
| Total Market Economies | 56.4 | 51.1 -51.4 | 5.0 - 5.2 | 3.5 - 3.7 |

* Maximum sustainable capacity is the production capacity which can be held for longer than 90 days.

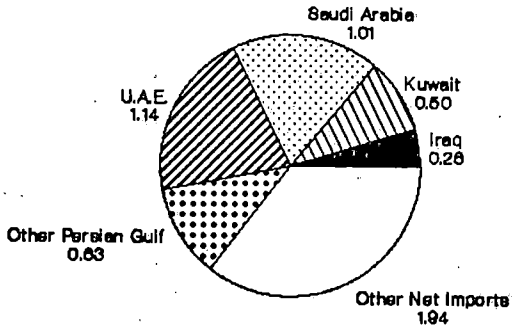
** The U.S. can achieve excess maximum sustainable production capacity of up to 0.2 MMBD after 5 months.

## U.S. Net Oil Imports by Source (MMBD)
## (Avg. for 1st 5 Months of 1990)



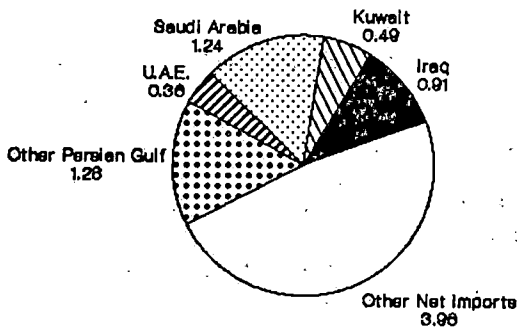

(Total Consumption = 16.92 MMBD)
(Total Net Imports = 7.60 MMBD)

## Japan's Net Oil Imports by Source, 1Q 1990 (MMBD)



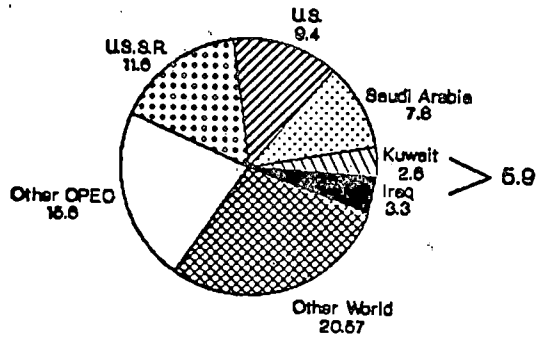

(Total Demand = 5.74 MMBD)
(Total Net Imports = 5.48 MMBD)

## E.C. Net Oil Imports by Source, 1Q 1990 (MMBD)

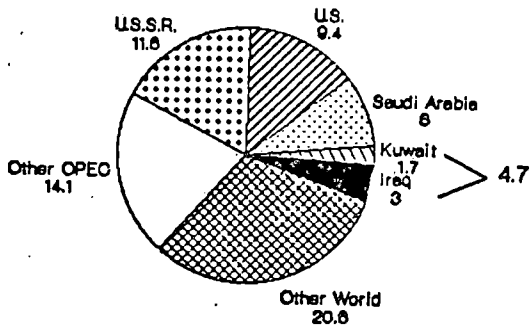



(Total Demand = 12.89 MMBD)
(Total Net Imports = 8.24 MMBD)

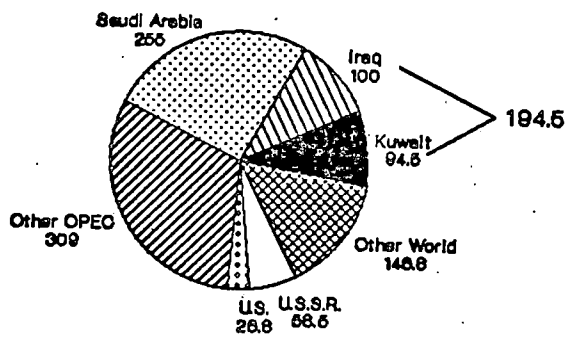
## Estimated Oil Production Capacity In MMBD (July, 1990)



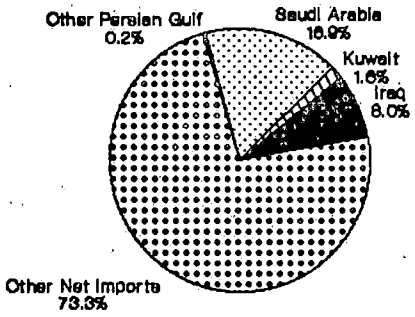

## Estimated Oil Production In MMBD (July, 1990)




## World Crude Oil Reserves (1/1/89) (Billion Barrels)

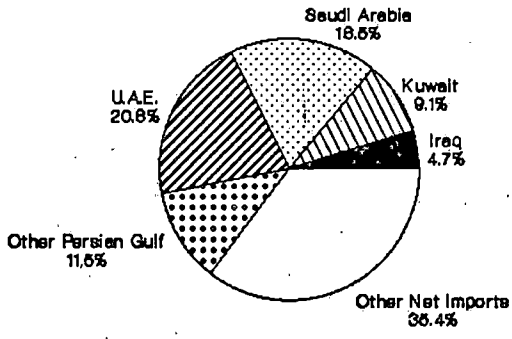


## U.S. Net Oil Imports by Source (Pct.)
## (Avg. for 1st 5 Months of 1990)



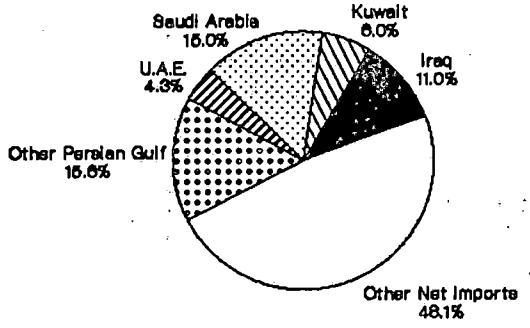

(Total Consumption = 16.92 MMBD)
(Total Net Imports = 7.60 MMBD)

## Japan's Net Oil Imports by Source,
## 1Q 1990 (Percent)




(Total Demand = 5.74 MMBD)
(Total Net Imports = 5.48 MMBD)

## E.C. Net Oil Imports by Source, 1Q 1990
## (Percent)




(Total Demand = 12.89 MMBD)
(Total Net Imports = 8.24 MMBD)

August 8, 1990

## WORLD CRUDE OIL RESERVES AND OIL PRODUCTION

World crude oil reserves were estimated to be about one trillion barrels (1000 billion barrels) as of January 1, 1990. Two-thirds of these reserves are in the Middle East. The countries with largest reserve totals were:

| | Crude Oil (billion barrels) | Percent of World |
|---|---|---|
| Saudi Arabia* | 257.6 | 25.7 |
| Iraq | 100.0 | 10.0 |
| United Arab Emirates | 98.1 | 9.8 |
| Kuwait* | 97.1 | 9.7 |
| Iran | 92.9 | 9.3 |
| U.S.S.R. | 58.4 | 5.8 |
| Venezuela | 58.5 | 5.8 |
| Mexico | 56.4 | 5.6 |
| United States | 26.8 | 2.7 |
| World | 1002.5 | |

The leading world crude oil (including condensates) producers during the first 5 months of 1990 were:

| | Production (millions barrels per day) | Percent of World |
|---|---|---|
| U.S.S.R. | 11.1 | 18.2 |
| United States | 7.4 | 12.1 |
| Saudi Arabia* | 5.7 | 9.3 |
| Iraq | 2.9 | 4.7 |
| China | 2.8 | 4.6 |
| Mexico | 2.5 | 4.1 |
| World | 61.1 | |

*Including half of the Neutral Zone

Source: Reserves from: Oil and Gas Journal December, 1989, as published in Department of Energy, Energy Information Administration, Internationl Oil and Gas Exploration and Development Activities, Appendix C Table C1, July 26, 1990, DOE/EIA-0523
Production from: Department of Energy, Energy Information Administration, International Petroleum Statistics Report, July, 1990, Table 1.1

# U.S. NET IMPORTS AND PERSIAN GULF RELIANCE

08/09/90

| YEAR | U.S. PETROLEUM DEMAND FIFTY STATE BASIS: DEMAND | NET IMPORTS | PERSIAN GULF | PERCENT OF CONSUMPTION: NET IMPORTS | P.G. IMPORTS | PERCENT OF NET IMPORTS: PERSIAN GULF |
|---|---|---|---|---|---|---|
| 1973 | 17.308 | 6.025 | 0.838 | 34.81% | 4.84% | 13.91% |
| 1974 | 16.653 | 5.892 | 1.027 | 35.38% | 6.17% | 17.43% |
| 1975 | 16.322 | 5.846 | 1.149 | 35.82% | 7.04% | 19.65% |
| 1976 | 17.461 | 7.090 | 1.837 | 40.60% | 10.52% | 25.91% |
| 1977 | 18.431 | 8.565 | 2.438 | 46.47% | 13.23% | 28.46% |
| 1978 | 18.847 | 8.002 | 2.215 | 42.46% | 11.75% | 27.68% |
| 1979 | 18.513 | 7.984 | 2.066 | 43.13% | 11.16% | 25.88% |
| 1980 | 17.056 | 6.365 | 1.518 | 37.32% | 8.90% | 23.85% |
| 1981 | 16.058 | 5.401 | 1.218 | 33.63% | 7.59% | 22.55% |
| 1982 | 15.296 | 4.298 | 0.693 | 28.10% | 4.53% | 16.12% |
| 1983 | 15.231 | 4.312 | 0.440 | 28.31% | 2.89% | 10.20% |
| 1984 | 15.726 | 4.715 | 0.505 | 29.98% | 3.21% | 10.71% |
| 1985 | 15.726 | 4.286 | 0.308 | 27.25% | 1.96% | 7.19% |
| 1986 | 16.281 | 5.439 | 0.909 | 33.41% | 5.58% | 16.71% |
| 1987: | | | | | | |
| FIRST Q | 16.586 | 5.246 | 0.852 | 31.63% | 5.13% | 16.24% |
| SECOND Q | 16.460 | 5.516 | 0.812 | 33.51% | 4.94% | 14.73% |
| THIRD Q | 16.710 | 6.693 | 1.393 | 40.06% | 8.33% | 20.81% |
| FOURTH Q | 16.910 | 6.176 | 1.249 | 36.53% | 7.39% | 20.22% |
| 1987 AVG. | 16.665 | 5.914 | 1.076 | 35.49% | 6.46% | 18.20% |
| 1988: | | | | | | |
| FIRST Q | 17.592 | 6.266 | 1.366 | 35.62% | 7.76% | 21.79% |
| SECOND Q | 16.606 | 6.517 | 1.348 | 39.24% | 8.12% | 20.69% |
| THIRD Q | 17.083 | 6.625 | 1.739 | 38.78% | 10.18% | 26.25% |
| FOURTH Q | 17.855 | 6.938 | 1.701 | 38.86% | 9.53% | 24.52% |
| 1988 AVG. | 17.284 | 6.587 | 1.539 | 38.11% | 8.90% | 23.36% |
| 1989: | | | | | | |
| JANUARY | 17.269 | 7.494 | 1.884 | 43.40% | 10.91% | 25.14% |
| FEBRUARY | 17.920 | 7.157 | 1.816 | 39.94% | 10.13% | 25.37% |
| MARCH | 17.989 | 6.596 | 1.533 | 36.67% | 8.52% | 23.24% |
| APRIL | 16.624 | 7.268 | 1.795 | 43.72% | 10.80% | 24.70% |
| MAY | 16.546 | 6.986 | 1.705 | 42.22% | 10.30% | 24.41% |
| JUNE | 17.497 | 7.002 | 1.959 | 40.02% | 11.20% | 27.98% |
| JULY | 16.453 | 7.589 | 2.045 | 46.13% | 12.43% | 26.95% |
| AUGUST | 17.360 | 7.593 | 2.237 | 43.74% | 12.89% | 29.46% |
| SEPTEMBER | 16.795 | 7.347 | 1.939 | 43.75% | 11.55% | 26.39% |
| OCTOBER | 17.304 | 7.511 | 1.872 | 43.41% | 10.82% | 24.92% |
| NOVEMBER | 17.311 | 7.366 | 1.934 | 42.55% | 11.17% | 26.26% |
| DECEMBER | 18.858 | 6.512 | 1.617 | 34.53% | 8.57% | 24.83% |
| FIRST Q | 17.726 | 7.082 | 1.744 | 39.95% | 9.84% | 24.63% |
| SECOND Q | 16.889 | 7.085 | 1.820 | 41.95% | 10.77% | 25.68% |
| THIRD Q | 16.869 | 7.510 | 2.074 | 44.52% | 12.29% | 27.61% |
| FOURTH Q | 17.824 | 7.130 | 1.808 | 40.00% | 10.14% | 25.35% |
| 1989 AVG. | 17.327 | 7.202 | 1.861 | 41.56% | 10.74% | 25.85% |
| 1990: | | | | | | |
| JANUARY | 16.968 | 8.437 | 2.174 | 49.72% | 12.81% | 25.77% |
| FEBRUARY | 17.024 | 7.483 | 2.224 | 43.96% | 13.06% | 29.72% |
| MARCH | 17.083 | 7.045 | 1.814 | 41.24% | 10.62% | 25.75% |
| APRIL | 16.666 | 6.997 | 1.839 | 41.98% | 11.03% | 26.28% |
| MAY | 16.843 | 8.048 | 2.090 | 47.78% | 12.41% | 25.97% |
| FIRST Q | 17.025 | 7.655 | 2.071 | 44.96% | 12.16% | 27.05% |
| YR to DATE * | 16.917 | 7.602 | 2.028 | 44.94% | 11.99% | 26.68% |

*FIRST FIVE MONTHS

THE WHITE HOUSE

WASHINGTON

January 24, 1991

## MEMORANDUM TO PUBLIC AFFAIRS DIRECTORS

FROM: KRISTEN GEAR
ASSOCIATE DIRECTOR OF PUBLIC AFFAIRS

SUBJECT: UPDATE ON OPERATION DESERT STORM

---

As President Bush said last night in his address to the U.S. Reserve Officers Association " . . . it is important to date this conflict not from January 16th, but from its true beginning: the assault of August 2nd, Iraq's unprovoked aggression against the tiny nation of Kuwait. **We did not begin a war seven days ago. Rather, we began to end a war** -- to right a wrong the world simply could not ignore."

Enclosed for your use and distribution are the latest Administration statements in support of Operation Desert Storm:

1. January 23 - a speech by **President Bush** to the U.S. Reserve Officers Association.

2. January 23 - remarks by **President Bush** at the departure of President Orchirbat of Mongolia.

3. January 23 - a briefing by **Secretary of Defense Dick Cheney, and Chairman of the Joint Chiefs Colin Powell,** on Operation Desert Storm.

4. January 23 - remarks by **Transportation Secretary Samuel Skinner** at the National Press Club.

5. January 23 - two speeches by **Energy Secretary Admiral Watkins** to the National Association of Wholesale Distributors, and the National Petroleum Council.

6. January 22 - a statement by **Press Secretary Marlin Fitzwater.**

Please do not hesitate to me at 202/456-2483 if you have any further questions.

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

January 23, 1991

REMARKS BY THE PRESIDENT
AT UNITED STATES RESERVE OFFICERS ASSOCIATION ANNUAL DINNER

Washington Hilton
Washington, D.C.

7:42 P.M. EST

THE PRESIDENT: Thank you, General Bob Hope. And I'm pleased to see so many members of Congress here tonight. I don't want to get in trouble, but I want to single out Senator Strom Thurmond -- (applause) -- Senator Ted Stevens -- (applause) -- and, of course, a great friend of the Reserve, my old friend, Sonny Montgomery over here -- the General. (Applause.) And all the rest -- all the rest of the members who are with us tonight.

My apologies to all for speaking before the broccoli and leaving -- (laughter) -- but given the circumstances, I'm sure you'll understand. And I am proud to share this evening with the leadership of the Reserve Officers Association, and I am deeply honored to be named Minuteman of the Year. But I know tonight our thoughts go out to men and women earning the honor of a grateful nation at this very moment: the citizen-soldiers -- 100,000 strong serving now with the coalition forces in the Gulf. And I salute them, each and every one. (Applause.)

Those American Reservists are part of an allied force standing against the forces of aggression -- standing up for what is right. They serve alongside hundreds of thousands of soldiers, sailors, airmen, Marines and Coast Guardsmen of 27 other nations -- (applause) -- all united against the aggression of Saddam Hussein.

As we meet right here tonight, we are exactly one week into Operation Desert Storm. But it is important to date this conflict not from January 16th, but from its true beginning: the assault of August 2nd, Iraq's unprovoked aggression against the tiny nation of Kuwait. We did not begin a war seven days ago. Rather, we began to end a war -- to right a wrong that the world simply could not ignore. (Applause.)

From the day Saddam's forces first crossed into Kuwait, it was clear that this aggression required a swift response from our nation and the world community. What was, and is, at stake is not simply our energy or economic security, and the stability of a vital region, but the prospects for peace in the post-Cold War era -- the promise of a new world order based upon the rule of law.

America was not alone in confronting Saddam. No less than 12 resolutions of the United Nations Security Council condemned the invasion -- demanding Iraq's withdrawal without condition and without delay. The United Nations put in place sanctions to prevent Iraq from reaping any reward from its outlaw act. Countries from six continents sent forces to the Gulf to demonstrate the will of the world community that Saddam's aggression would not stand.

Appeasement -- peace at any price -- was never an answer. Turning a blind eye to Saddam's aggression would not have avoided war; it would only have delayed the world's day of reckoning, postponing what would ultimately have been a far more dangerous, a far more costly conflict.

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Unfortunately, in spite of more than five months of sustained diplomatic efforts by the Arab League, the European Community, the United States and the United Nations, Saddam Hussein met every overture of peace with open contempt. In the end, despite the world's prayers for peace, Saddam brought war upon himself.

Tonight, after one week of allied operations, I am pleased to report that Operation Desert Storm is right on schedule. (Applause.) We have dealt -- and I salute General McPeak and the airmen flying under the United Command out there, from the Navy and the Marines, as well as, of course, the Air Force; I salute him -- we dealt a severe setback to Saddam's nuclear ambitions. Our pinpoint attacks have put Saddam out of the nuclear bomb-building business for a long time to come. (Applause.) Allied aircraft enjoy air superiority -- and we are using that superiority to systematically deprive Saddam of his ability to wage war effectively.

We are knocking out many of their key airfields. We're hitting their early warning radars with great success. We are severely degrading their air defenses. The main danger to allied aircraft now comes from some 20,000 antiaircraft guns in the Baghdad area alone. And let me say, I am proud of the way our aviators are carrying out their tasks. In head-to-head combat, our jet fighters have destroyed 19 Iraqi jets. And they have hit, at most, one American jet in aerial combat.

Step by step, we are making progress towards the objectives that have guided the world's response since August 2nd: the liberation of Kuwait, and the restoration of stability and security in the Gulf. And there can be no doubt: Operation Desert Storm is working. There can be no pause now that Saddam has forced the world into war. We will stay the course -- and we will succeed -- all the way. (Applause.)

As I said on the third day of this campaign, war is never cheap or easy. There will be problems. There will be setbacks. There will be more sacrifices. But let me say I have every reason to be very pleased with our progress to date.

Saddam has sickened the world with his use of Scud missiles -- those inaccurate bombs that indiscriminately strike cities and innocent civilians in both Israel and Saudi Arabia. These weapons are nothing more than tools of terror -- and they do nothing but strengthen our resolve to act against a dictator unmoved by human decency. (Applause.)

Prime Minister John Major of the United Kingdom said it well yesterday. Saddam, he said, "may yet become a target of his own people. It is perfectly clear that this man is amoral. He takes hostages, he attacks population centers, he threatens prisoners. He's a man without pity, and whatever his fate may be," said Prime Minister Major, "I, for one. will not weep for him." (Applause.)

No one should weep for this tyrant when he is brought to justice. No one -- anywhere in the world.

I watched, along with all of you, that repulsive parade of American airmen on Iraqi television -- one more proof of the savagery of Saddam. But I knew as they read their prepared statements criticizing this country that those were false words forced on them by their captors. One -- I saw one of General McPeak's kids, one American pilot yesterday was asked why he was sure the pilots were coerced, their statements false. And he said, "I know that because these guys are Americans." (Applause.) He could well have said the same thing about the other pilots being held -- from Britain, Italy, and Kuwait -- all men of courage and valor, too.

Tonight, I repeat my pledge to you, and to all Americans: This will not be another Vietnam. Never again will our Armed Forces be sent out to do a job with one hand tied behind their back. (Applause.) They will continue to have the support they need to get the job done, get it done quickly, and with as little loss of life as

possible. And that support is not just military, but moral -- measured in the support our servicemen and women receive from every one of us here at home. When the brave men and women of Desert Storm return home, they will return to the love and respect of a grateful nation. (Applause.)

And with that in mind, I'd like to say to every family of every man or woman serving overseas, we're thinking of you and you are in our prayers. (Applause.)

And that is where I will close -- with the aim of protecting American lives and seeing the heroes of Desert Storm return home safe and sound. All life is precious -- whether it's the life of an American pilot or an Iraqi child. And yet, if life is precious, so, too, are the living principles of liberty and peace; principles that all Americans cherish above all others; principles that you and your comrades on duty tonight have pledged to defend.

Thank you for this warm welcome and for your strong support. And may God bless the United States of America. Thank you very, very much. (Applause.)

END 7:55 P.M. EST

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release January 23, 1991

REMARKS BY THE PRESIDENT
AND PRESIDENT OCHIRBAT OF MONGOLIA
UPON DEPARTURE

The East Room

1:16 P.M. EST

THE PRESIDENT: Mr. President, it's been my great honor to welcome you to the White House for this historic visit to our country, the first ever by the head of state of Mongolia. Mr. President: Mongolia and the United States are countries separated by thousands of miles and a world of differences -- in culture, history and outlook. And yet, in this past year, our two nations have moved closer together, drawn toward one another by universal principles and ideals.

In the past year, Mongolia has opened its controlled economy to free market reform, opened its closed political system and opened its doors to the world. Opposition parties are now legal. Mongolia held its first multiparty elections in July, a free and fair vote that produced the first popularly elected legislature in Mongolia's history. This transition toward broader political freedom has a parallel in increased freedom of belief as well, with the reopening of several monasteries. Mr. President, your party's positive approach toward reform has meant peaceful change.

In our discussions today, I made clear the strong support the United States is ready to offer as Mongolia moves forward toward greater freedom. President Ochirbat said he appreciated our support for Mongolia's efforts at democracy and restructuring, and he hopes to lay a firm foundation for positive development of bilateral relations, based on mutual benefit, noninterference in each other's internal affairs.

Already, the United States has begun a program of technical assistance to Mongolia. Just this month, a team from AID traveled to Ulan Bator to brief 20 mid-level managers on free market reform and found 200 officials ready to exchange ideas, including many members of the Mongolian legislature. And this summer, for the first time ever, Peace Corps volunteers will begin working in Mongolia.

Later this afternoon, our two countries will sign agreements opening the way to expanded trade and closer contact in the areas of science and technology. And today, I have issued the waiver to open the door granting Mongolia Most Favored Nation status, a step that I hope will spur increased trade between our two countries.

In addition to these matters of mutual interest, I reviewed with President Ochirbat world affairs of surpassing concern, including Operation Desert Storm. Mongolia was among the very first to condemn Iraq's brutal invasion of Kuwait and to call for Iraq's complete and unconditional withdrawal.

Mr. President, after our talks, I know that you believe as I do that no nation must be permitted to assault and brutalize its neighbor.

The action of Iraq's dictator, the actions of one misguided man, cannot obscure mankind's bright destiny of democracy and freedom. The future lies with the process of revolution and renewal now taking place in your nation. A democratic revolution

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that is destined to bring peace, freedom and prosperity to the people of Mongolia, as it has to this country and so many others around the world.

So once again, sir, it has been my distinct pleasure to welcome you to Washington and to this White House. And God bless you and may God bless the people of Mongolia.

PRESIDENT OCHIRBAT: Mr. President, at the outset, let me express our sincere thanks to Your Excellency, Mr. President, for the invitation to pay an official working visit to the United States of America and a warm welcome accorded to us, availing myself of this opportunity to address you, the representatives of mass media, in this room of the White House -- a house which has witnessed many outstanding historical events. I bring the friendly greeting of the Mongolian people to the American people.

This is the first visit ever paid by the head of state of Mongolia to the United States of America. It is an evidence of a dynamic development of Mongol-American bilateral relations -- particularly, if you will recall, that formal relations were established between the two countries only four years ago.

President Bush and I had a frank exchange of views on bilateral relations and international issues of mutual interest. And I am extremely pleased to say that this meeting opened up broad vistas for furthering ties between the two countries. We highly appreciate the full support voiced during our meeting by President Bush on behalf of the U.S. administration for democratic processes that are gaining momentum in Mongolia.

President Bush and I agreed to see to it that the Mongol-American relations be developed vigorously on the basis of the universally-recognized principles of state sovereignty, independence, noninterference in each other's internal affairs, equality and mutual benefit.

We have also agreed to that there is broad possibility for cooperation in encouraging U.S. investment and carrying out technological renovation is Mongolia, expanding bilateral trade, facilitating Mongolia's switch to a market economy, and training qualified personnel. I believe that the trade agreement and the agreement on scientific and technological cooperation between the two countries, which are to be signed today, will be of much importance in making the best of these potentialities.

And, of course, of the exchange of views on international issues, both sides unanimously emphasize the importance of pulling together the efforts of all states in order to strengthen the positive changes that are taking place in the world.

As for the Persian Gulf crisis, we deeply regret the outbreak of an armed conflict there, which is jeopardizing international stability. Should the Iraqi leadership meet the demands of the international community and withdraw its troops from Kuwait, this situation would not have occurred.

The Mongolian People's Republic strongly hopes that the military operations by allied forces aimed at restoring Kuwait's independence and sovereignty would not escalate, and peace and tranquility will prevail soon in the Persian Gulf region.

Just as democracy, freedom and human rights are the lofty ideals that should be upheld by all, this is what the Mongolian government is strongly committed to in its domestic and foreign policies.

Thank you very much, Mr. President, for the warm welcome accorded to us, the delegates of the Mongolian people. I wish you and the American people happiness and well-being.

END 1:30 P.M. EST

Secretary of Defense Dick Cheney
General Colin Powell, Chairman, JCS
Wednesday, January 23, 1991 - 2:00 p.m.

Mr. Pete Williams, ASD(Public Affairs): Good afternoon, ladies and gentlemen. Secretary Cheney and General Powell are here to answer your questions. The Secretary will have a short statement, then General Powell will walk you through -- we'll have some charts here. After the briefings are over the charts will remain here so that you can photograph them. We will try, this afternoon, to provide you smaller handouts of those. So let me, at this point, turn it over to the Secretary.

Secretary Cheney: Thank you very much, Pete.

Operation Desert Storm has now been underway for approximately one week, as of this evening. We believe that it's gone very well. We wanted to take this opportunity to try to put things in perspective, and then try to respond to some of your questions.

Let me begin by expressing the pride that we all feel in the men and women of our armed forces who are carrying out these operations. It is an extremely complex and often dangerous undertaking, and they have our admiration and our gratitude. I also want to say to the families of those held prisoner or missing in action, that they are in the prayers of all Americans in these very difficult days.

I want to repeat what we told all of you last week at the beginning of this conflict. I urged caution in describing the events in the Persian Gulf, especially in claiming victory too soon. The next day, the President expressed his concern about what he called the initial euphoria and some of the early reactions and stories about the operation.

I also said that this operation was likely to run for a long period of time. Yesterday, with Operation Desert Storm in its sixth day, I noticed a newspaper headline which said, "War Drags On." Finally, this morning, I noticed that the Style section in the Washington Post had three separate stories about the press covering the war in the Gulf. As an old Washington hand, I know that having the press reporting on the press reporting on a story is usually a sign that they've run out of things to say about this war. So Colin and I decided to spend a little time with you this afternoon to see if we could give you some new information.

Some important qualifiers to keep in mind as we go through the briefing this afternoon -- and many of these may be obvious, but I think need to be restated. The Iraqis and Saddam Hussein have a very large military force. Depending upon what criteria you use, certainly one of the largest in the world -- some have said the fourth largest in the world. In the last decade he's spent over $50 billion on armaments. The force possesses thousands of tanks, hundreds of aircraft, over a million men in uniform, missiles, etcetera.

In the Kuwaiti theater of operations -- in Kuwait and southern Iraq -- there are over 120 brigades and some 30-plus divisions dug in in that area. I don't think anyone here expected that we would get rid of all that capability within the first week of the operation. Over 10,000 separate sorties have been flown on combat and support missions in just the past seven days.

Our goal remains the same -- to liberate Kuwait by forcing Saddam Hussein out. To do that, we have to weaken his military force, and to go after his offensive military capability. In pursuit of that objective, we began by concentrating on a carefully planned set of military targets that we will continue to hit over the course of the next several days and weeks. We've started with command and control, with his communications facilities, his air defense units and radars, his airfields, his SCUD missile launchers. We've gone after the factories where Iraq has produced chemical and biological weapons, and until recently, continued working on nuclear weapons. We've also gone after the mainstay of Saddam's command forces, the Republican Guard units located near the Iraqi/Kuwaiti border. All of these targets we chose in advance.

The pilots of the allied air forces have operated in accordance with clear instructions to launch weapons only when they are certain they've selected the right targets under correct conditions. Iraq, on the other hand, has chosen to launch a highly inaccurate weapon -- the SCUD missile -- at major population centers, with no certainty about where the SCUDs will land. In contrast, we have carefully chosen our targets and we've bombed them with precision.

Based on the reports we're getting from our pilots and the evidence of gun camera recordings, many of which you've seen, the bombing missions are going well. The missions are based on the target list drawn up before the operation started. At the same time, we've been eager to know about the kind of damage which we've been able to cause. That's why we do bomb damage assessment. These assessments are now coming in and will be used to make judgments about the success of our efforts to date, and to guide the planning of future operations.

I want to caution you, again, that a military operation of this intensity and complexity cannot be scored every evening like a college track meet or a basketball tournament. I know how hard it is for you to cover this kind of an operation when you cannot see what's going on inside Iraq or occupied Kuwait. Some of you have been critical of us for not putting information out more quickly -- I understand your point, but we want to be certain that we don't rush down here with premature words of success. We are deliberately waiting until we have some confidence in the results of specific categories of targets. That may well not fit the 24-hour cycle that you're held to, but we want to have confidence in what we are saying before we say it.

Two final points: There may well be surprises ahead for us. No one should assume that Saddam Hussein does not have significant remaining military capability. We have to anticipate that he will try to use that against us and our allies. We have to assume that he may seek to launch air strikes and more SCUDs, or hit oil fields, or generate terrorist attacks. He is a man who will use any means at his disposal to break up the coalition and to avoid defeat -- but he cannot change the basic course of the conflict. He will be defeated.

Our first obligation here in the Pentagon is to carry out the President's orders, and to win the war. We must also do everything possible to do it in a manner that holds American and allied casualties to an absolute minimum. We recognize that we also have an obligation to provide as much information as possible about the progress of our efforts to the press. We will do that. But you,

the members of the press, have to understand that first and foremost we must safeguard the security of future operations, and to protect the lives of those who will be asked to carry them out.

With that, I'd like to turn the briefing over to my colleague, Colin Powell, the Chairman of the Joint Chiefs, with a general overview of the status of the operation to date.

General Powell: Thank you, Mr. Secretary. Let me also express my pride, and I expect it's the pride of all Americans, at the professionalism with which the men and women of the armed forces have carried out this operation so far; and of course, I share the Secretary's concern about our missing in action, and our prayers are with the families of those who have lost loved ones, and especially with the families of those who do have missing in action who may well be prisoners of war.

This is the end of the first week of operations. What I'd like to do is for a few moments take stock with you, and attempt to dampen out the oscillations between euphoria and distress that sometimes catches us up every hour on the hour. I'd like to do that by first reminding you of the military operational objective that we set out to accomplish, and that is simply to eject the Iraqi Army from Kuwait. All of our activities must ultimately support this fundamental military objective. Of course when we achieve that objective, we then will be in a position to restore the legitimate Government of Kuwait and provide for the security of the region.

We also remind you once again, as we've said here previously, this is an air/land/sea campaign -- not just an air campaign which at some point will end, and then something else starts. It is a single, coherent, integrated air/land/sea campaign.

The campaign plan has executed, so far, pretty much as we have expected, with a few exceptions. The weather turned more severe after two and a half days of operation than we had expected. We knew we were going to have two and a half days, and then we thought we'd lose a day or two to weather conditions, but those weather conditions were more severe than we expected when they finally hit, when the front came in, and lasted a little bit longer than we expected. As a result, a number of our planned missions had to be aborted, the BDA process has been behind schedule because of cloud cover and other weather problems, and we have had to cancel some target coverage. All this means is that we have to make that up, over time, but we are still, essentially, on our original game plan.

The other point I might make is that we devoted more effort than we initially thought we might have to to go after the SCUD targets that you have reported on so much in the last several days. Mobile SCUDs were the problem that we had anticipated they would be, and now that we are into it, and I'll say more about SCUDs later, we are finding that it's taking more of an effort on our part to go after those SCUDs than we had anticipated. But notwithstanding these sorts of problems, we're pleased with week one, and we are satisfied that the contribution that the strategic air campaign is making to our overall objective is a good contribution, and is about what we expected.

What I'd like to do is discuss certain parts of the air phase of the campaign and the results we've achieved in an effort to answer your questions with respect to how are we doing -- how effective has the operation been so far. Let me first start talking about the air-to-air part of the campaign, how it's been going with respect to U.S. air forces engaged in aerial combat with Iraqi air forces.

Iraqi air-to-air interception, to date, has been, for the most part, totally ineffective. In air-to-air engagements, the results are 19 Iraqi interceptors destroyed in aerial combat; and we believe the most we might have lost is one. We were carrying it as zero until earlier today when we did some more analysis, talked with some pilots, and one of our planes may have been hit in air-to-air engagement. So at best, 19-0; at worst, at the moment, 19-1. Their losses, in the interceptor category, have all been F-1's and MIG-29's, their first line interceptor aircraft. Other losses that they have sustained raise their total combat aircraft losses to something in the neighborhood of 41.

But the real measure of effectiveness, the real way to look at this and make an assessment of how we're doing, is not by the number of aircraft downed or how many sorties we've flown or how many bunkers we've hit and how many bombs we've dropped -- the real measure of effectiveness is what has the Iraqi Air Force been able to do to interfere with Operation Desert Storm? The fact of the matter is that after a one week period of time, no Iraqi airplane has conducted a single ground attack against any coalition target; and with the one exception of perhaps the one airplane that may have gone down, the Iraqi Air Force has not been able to interfere with our air operation.

When you consider that the Iraqi Air Force had a massive amount of money and resources invested into it over the years, and has some 800 fighter bombers and interceptors, I think it's fair to say that this has not been, so far, a very good return on the investment that Saddam Hussein has put into the air force. Nevertheless, it is a large air force. It has a latent capability. It has the ability to conduct defensive operations and offensive operations if they can ever get their act together. But as you will see in the course of the briefing, their sortie rate is down, and their ability to operate has pretty much been constrained.

By way of illustration, this map -- for those of you who wish to count the little dots, there are 66 little dots, and they reflect main operating bases in red, dispersal airfields in blue, and then the general SCUD launch areas from the west out to Israel and from the east down south into Riyadh, are shown by the black hatched marks.

This is a very extensive airfield system -- hardened bunkers, you've seen pictures of them; undergound command and control installations; hardened fuel facilities; hardened ammo facilities. But the fact of the matter is, that after one week of operation, we are not being challenged by this air force; and in fact, within the last 24 hours we have only seen activity at the air bases that you see being pointed out to you with a little yellow dot in the middle of the red. Those are the only ones that have shown any active work in the last 24 hours.

If I can turn to this chart, just to give you another illustration... This summarizes what I said earlier, 411 interceptors, 398 fighter bombers, 809 total; killed 19 in aerial combat, another 22 confirmed killed on the ground, for a total of 41 in this category. They have a lot of other kinds of aircraft that could run this total up to roughly 1400 if you add in transports and helicopters and things of that nature, but for the combat category, the thing that we worry about, this is the number.

I'm not really concerned about this number for the moment. They are, for the most part, on the ground, in hardened shelters, trying to hide and survive. In due course, they may wish to come out and challenge us, or they just may try to ride it out for as long as possible. These numbers will rise over time as we continue the campaign to go after shelters, go after bunkers and essentially rip up the air force in its entirety.

Let me turn now to another part of the air battle, and that has to do with ground-to-surface air defense systems -- the SAMs and anti-aircraft guns. This chart reflects, at a high level of aggregation because I don't want to give away too much information, but the main air defense SAM belts in red circles, and then the circles going all around the country reflect their early warning capability at the beginning of the operation. An extremely large, sophisticated air defense system, principally with Soviet equipment, Soviet missile equipment, some French, some U.S. that was captured, as well as a very comprehensive system of trying to integrate all of those missile systems and gun systems. Hardened command and control centers around the country.

The fact of the matter is, that we were able to attack this air defense envelope with great success over the last week by first taking out the early warning capability, blinding them, and then going after the operating centers, the various sector operating centers that they used to wire this all together. For the most part, we have not been seriously affected by this very large air defense system. We have had a total of 10 aircraft lost, as you know. As we go through the analysis of how we lost those aircraft, at the moment it appears we lost two by SAM fire, surface-to-air missile fire, and three more by ground fire [AAA], and the other five we're still taking a look at. But when you take a look at our total losses of only ten U.S. aircraft, and I'll show you a chart there that, well this says SAM 1, AAA 3, I had it the other way around, but it's something close to that, and I apologize for the difference in numbers. When you take a look at the total of 16 aircraft losses for the coalition in its entirety, and you consider the number of combat sorties that have been flow, and the numbers of single aircraft that are involved in this operation -- somewhere between 1,000-2,000 aircraft -- this is a very low loss rate for an operation of this type.

Putting all that together, we can conclude that allied air forces have achieved air superiority over not only the Kuwaiti theater of operations, but throughout the entire theater, to include Iraq. We can debate whether it's air superiority as defined by American doctrine, or air supremacy as some of my British colleagues have alluded, or local air superiority as some of my friends in Riyadh say -- I used to teach the subject, I own the JCS publication that has the definition in it -- which I helped write when I was a captain -- and I can assure you, that this qualifies for the definition of air superiority. When you can operate in an unhindered way, as we have been operating, over an area like this against an air force that size, and with an air defense system that sophisticated, we have achieved air superiority.

That is not to say that a young pilot who is taking off will say Powell says we have air superiority, I've got nothing to worry about. Not at all. We're dealing with an enemy that is resourceful, an enemy that knows how to work around problems, an enemy that is ingenious. You can be sure that while we're here today, they're in Baghdad trying to figure out work-arounds, trying to determine where their weaknesses are, and see if they have capability to fix those weaknesses. Every pilot that goes against this environment, still has to be concerned that he is going against an environment that has the potential of taking down his airplane. So we are not getting complacent, we are not writing this off, but in terms of how it looks at General Schwarzkopf's level and at my level, we have air superiority. With that air superiority, we can now begin to use our air forces to simply maintain this superiority and start to concentrate down closer to the Kuwaiti theater of operations, remembering once again, our military objective is the Iraqi Army in Kuwait. We have free run of the area, as much as possible. There will still be losses, and I don't want to understate that, but in general, air superiority.

Any pilot will tell you, though, that the real danger is guns. As we get closer into the Kuwaiti theater of operations and our op tempo picks up, we will focus a great deal of our attention on knocking down the anti-aircraft gun threat to our pilots so they can get even lower and make their strikes more effective as we go after discreet units on the ground in due course.

Before turning to the Iraqi Army, let me be totally joint and say a word about the Iraqi Navy -- a navy of almost no capability, of a limited number of patrol boats. We have destroyed several of those patrol boats. We have taken out a Silkworm site they were manning. We have also sunk, or severely damaged -- it isn't sunk, in fact it is floating -- severely damaged a ship they have been using to lay mines. Also within the last week, we have destroyed a number of the mines -- I think the count is 24 of the mines that have been floating free in the Persian Gulf. So I think we've dealt with the mine threat for the moment, and in due course, if the Iraqi Navy in some way decides to come out any more and challenge us with these minor and insignificant patrol boats, it is, indeed, a manageable threat.

Let me turn now, to the Iraqi Army in the Kuwait theater of operations. As the Secretary pointed out, this is a large, combined arms army. It has tanks, it has personnel carriers, it has air defense guns, it has very redundant, resilient communications between the different operating echelons of the army. It has stockages of food, ammunition, and parts with the army in theater, and they have a very elaborate supply system coming down from the interior of the country to sustain that army.

Our strategy to go after this army is very, very simple. First, we're going to cut it off, and then we're going to kill it. To cut it off -- that began last week when we started to go after the nerve center, the brains of the operation, the command and control of the operation, and the lines of communication that come out of Baghdad and other places in the country, flowing down the Tigris and Euphrates Valleys, down these lines of communication, to try to support somewhere in the neighborhood of a half a million men down here in the Kuwaiti theater of operations. All we have been doing to gain control over here, to begin severing this and try to deaden the nerve endings up here, all goes back to our original military objective -- to get rid of the army that is in Kuwait.

Now that that has started, we will intensify this cutting-off process, go after the lines of communications as they enter the vicinity of Basrah, and as they come out of Basrah going down to the army. Going after the command control means, the means by which they exercise command and control over that force in the theater. Going after mobility, trucks that move supplies forward. Anything that allows that army to function, we will now go after. As we get into the process of cutting it off, we will also step up the process of killing it, by going after stockpiles, ammunition, food, stripping away their gun air defense, using air attacks, and if it becomes necessary, we are assembling a fairly sizeable ground force that could finish off the job, should that be necessary. I also want to emphasize that we have quite a capability at sea with naval gunfire, with naval aviation, as well as quite a formidable amphibious capability with our Marine forces -- and as some of you know, our two Marine expeditionary brigades are conducting practice operations today. I'm not telegraphing anything, I just want everybody to know that we have a tool box that's full of lots of tools, and I brought them all to the party. General Schwarzkopf has them all at the party.

So how are we doing with respect to that major operational objective -- the Iraqi Army in Kuwait? We are really starting in earnest. I have to make a point to you, that assessing the damage on a deployed army in the field is quite a different proposition from assessing the damage on a

building that you've just hit. You've seen some great film footage of a laser-guided bomb going down the vent shaft of a building, boom, it blows up, it burns down, there you have it. It doesn't work that way when you have a deployed armored brigade in the field. They're spread out, they're dug in, they're hiding -- they're not standing out there like a building. They're avoiding air attack. They are going to put out dummies to try to deceive you as to their exact locations. They're going to put in primary positions and alternate positions and supplementary positions. They're going to dig in their lines of communication. They're going to put in overhead cover. Those tanks are designed not to be easily destroyed.

So going after that kind of unit is a much more difficult proposition, but they are vulnerable, there's no question about it. We are now turning our attention and selecting munitions, and selecting target packages to go after that army which, in effect, is sitting out there not doing anything. It has not moved since the operation began. There has been no major, in fact there have been no minor shifts of units around. It is, for the most part, sitting there, dug in, waiting to be attacked, and attacked it will be. But it is also sitting there without air support, without anything to keep the attack from being prosecuted against them, and with each passing day, with a reduced ability to bring in logistics down the lines of communication. There is no question that this large force will become weaker every day -- that's absolutely mathematical. We're going to do everything we can to make sure that army cannot be reinforced with new troops, and over time, they will have increasing difficulty to resupply it.

Yet that army has good soldiers. The units are of varying quality. The Republican Guard, as we've said many times, is quite good. Other parts of the force are not quite so good. We have anecdotal evidence of some low morale, and anecdotal evidence of some defections, but it is not a trend yet. We have started to get some bomb damage assessment on the Republican Guard units that we've been striking. In some cases, the analysts who look at these photos -- and I look at them as well -- tell me, you see that unit out there? It's taken about 40 percent damage. I can't tell that, you've got to be an expert. But there is damage taking place. Other units that we have hit, we've looked at the photographs and said we didn't get a good hit on that, they're just too dispersed, we've got to go back and do it again, very light damage against that unit. So you are not going to get, and we will be unable to give you, the kind of rapidly moving and adjusting score card on how we're doing against that army for some time.

You really don't know how you're doing against an army until that army tries to perform its function. If it's just sitting there taking the punishment, we know we're hurting it. We really don't know how badly we've hurt it until it starts to move, until it comes up on the radio so we can hear it talking to other units, until we can see defections come out of it, or if it's necessary to go in and fight it. So we are seeing some anecdotal evidence, but the BDA is still out on that, and we really have only begun to do the job on it.

I'd like to close by saying a few words about some of the strategic campaign targets we had up here. First, let me just make one point on this slide that I forgot earlier. As a measure of effectiveness of how we're doing in the air campaign, I just pull these two things out -- I've laundered them so you can't really tell what I'm talking about because I don't want the Iraqis to know what I'm talking about, but trust me. (Laughter)

This reflects an order of magnitude of electronic emissions out of the Iraqi radar system. It shows that early in December and through December they were operating about over here with SAM,

AAA radars, and early warning radars. On the 17th of January, as you would expect, it peaked up to here. Over the last week, it has come down to here. This represents well over a 95 percent reduction. Now it's a combination of damage we have done, as well as, I suspect, clever operational security techniques on their part, to keep us from knowing exactly what's going on or how badly they have been damaged. I am also sure they are trying to work around and reconstitute capability so they can get back up. So I don't want to overstate it -- just to give you a measure of effectiveness and let you know this is how we try to measure what's going on out there.

This also is, by another measure of effectiveness -- and I'm sorry for this being so small, we just finished it -- shows you their daily sortie rate. This was before the action began. On the 30th of December they were running about 235 sorties a day during that period. If weather was bad early in December, a little lower. But just as a benchmark, 235 sorties. The day of the war, they ran 115 sorties; and for the last couple of days they've been running 31-40 sorties. Once again, the kind of measure of effectiveness that is more useful to us than is how many sorties we flew or how many bombs we dropped, etcetera.

A couple of things about specific campaign targets that really go to the issue of how to make sure that when this is all over, the kind of threat that has existed in the region is quite different than the threat that existed before it began. First, with respect to nuclear weapons. We have targeted that nuclear facility they have very carefully. I have looked at the bomb damage assessment myself with trained analysts, and I think I can confirm for you that the two operating reactors they had are both gone, they're down, they're finished. The one that the Israelis took care of some years ago, remains down.

With respect to chemical facilities -- the focus of our effort for the first week has been on their production capability and their ability to fill munitions. There are hundreds of bunkers out there, and it would have been a waste of our effort to keep chasing every single bunker which may or may not have chemical weapons stored in them, because they have dispersed a lot of that chemical weapon capability they have out to operating units. So we concentrated on production facilities and the facilities that they use to put the material into actual weapons to be delivered. We have had quite a bit of success, and without getting into specifics, I think I can say that we have done considerable damage to their ability to continue producing chemical weapons.

But they still have a chemical weapons capability -- their artillery can fire chemical weapons, their multiple launch rocket system, their free rocket over ground systems, and their air force does have that capability, so it's still a threat to allied forces in the region.

With respect to their biological warfare facilities, we have gone after those and have created quite a problem for them, I think. We have seriously damaged those facilities. There was a story earlier today about the infant formula factory. It is not an infant formula factory, no more than the Rabta chemical plant in Libya made aspirin. It was a biological weapons facility, of that we are sure -- and we have taken it out. We will continue to seek out any other facilities that we believe are involved in the production of biological weapons.

With respect to their national command authority and their command and control systems, they are very good at this. They have redundant systems, resilient systems, they have work-arounds, they have alternatives, and they are still able to command their forces. They have not lost command and control of their forces or of the country; but they are doing it without benefit of their Ministry

of Defense, their Defense Intelligence Center, their main communications nodes, and they're doing it, for the most part, on generator power, because we have taken care of the central power system within the city. He still does retain the ability to command and control.

We are also now turning our attention increasingly to military production facilities -- how he makes bombs, how he makes weapons, how he makes repair parts. This is a target category that we will go after at our leisure over time. We're in no hurry. We don't want to waste sorties on things that are further down the priority list if we can get to them further down the priority list.

The most significant problem we have right now are the SCUDs -- there's no doubt about it. When you think of what Saddam Hussein has done for the past week, he has not thrown a single military punch back at us. What he has done is used this weapon of terror, the SCUDs, as was mentioned earlier by the Secretary, to go after populations, to go after cities. Why? As a weapon of terror to try to expand the conflict, to try to draw in the Israelis -- and I must say, I'm extremely pleased with the restraint that the Israeli Government has shown so far, but it is a vexing problem. They are mobile systems. Some of them are very sophisticated Soviet mobile systems -- others are nothing more than a flat bed truck with a rail on it that they've locally fabricated. We only have estimates of how many of these weapons they have, but we have made it a high priority to locate these weapons and to go after them, and a significant part of our capability is directed toward that SCUD facility – those SCUD facilities and mobile SCUDs.

I know there's been a great deal of interest in bomb damage assessment. I wish I could show you the photographs that we have access to, but because of sources and methods, and because we are in an ongoing operation, and because we do not want an enemy to have knowledge of what our real capabilities are, we cannot show you those photographs. What I have done, instead, is I have made some line drawings, had some line drawings made. They're rather crude. They're kind of cartoonish, but I just want to give you a sense of what our analysts look at. I will assure you, that what I'm about to show you comes directly from the actual imagery, but we have, obviously, done it in a way that it does not give away any of our capability.

This was a large production facility, part of his military infrastructure. It was struck by precision weapons in the first couple of days of the operation. This is a very accurate reflection of what the thing looks like -- total destruction.

The point I want to make is, our analysts can see this to this level of detail and give us high assurance that this place has been destroyed.

Q: Were there weapons produced there at all?
A: It was an unconventional production facility.

Here is an example of a bunker complex, and it's a case where we went after selected buildings. These two were revetted, they had barriers around them. We went after these with precision weapons. I think this one was done over a period of a couple of days. You go strike it, you get an assessment back of the amount of damage you have inflicted on the facility, you go back and strike it again. This has received enough damage that I would suspect that the targeteers over in CENTAF are not going to waste a sortie at this time going back and taking care of this last remaining building. These were the key ones. These three fed into what was happening at these two facilities, so we have

essentially destroyed this, even though there might still be a building standing. I'm just using it as illustrative of the process which our bomb damage assessment people go through.

This next one is a case where initially we went in, destroyed -- here's the bunker complex, destroyed this bunker. This one was hit once, and we had to go back and do it again to get the level of damage we needed. This one was also struck. As the analyst looks at it, part of it is still intact -- the top. This part, the lower part has been blown through, but since the analyst can't see what happened under the part that still has a roof over it, he will not declare this destroyed. They tend to err on the conservative side. This one is completely undamaged, because there was no need to waste a sortie or risk a pilot going against that one. We knew what we were looking for in this complex, so we are satisfied with this target -- even if somebody were to come along and say aha, you only got 75 percent or 80 percent, because this one is still there. We didn't need to hit that one. It has no relevance to the rest of the facility.

This is an example which I'd like to put up, for my British colleagues. One of the things we did early on to deal with the airfields, and to keep the air force on the ground, was to essentially interdict the airfields so they couldn't be used. We could do that very quickly by trying to crater the runways. In this particular case, this shows a British weapon system, which I think was briefed earlier out of Riyadh, I believe, by a British officer, but it's a JP-233, which goes across the runway and is very effective at cutting concrete. It will cut up the concrete and break it up so that the airfield cannot be used for some period of hours, and I don't want to get into how long that might be -- it depends on the airfield, depends on the kind of concrete, depends on the kind of cut that's made. You would use this weapon system and other weapon systems that we have, to try and cut this airfield in a number of places to keep it from being used for awhile. Then we can come back to it at our leisure and take care of what is on that airfield.

In this case, the pilot elected to cut these taxiways here so that the aircraft in these hardened aircraft shelters could not get out to the active runway to take off.

Let me conclude there by saying, as the Secretary said, I'm satisfied with the campaign. We have been trying to tell everybody in the beginning that we would do it in time, and do it as smartly as we can. We're in no hurry. We are not looking to have large numbers of casualties, but it is an integrated campaign -- each part of the campaign bearing some relationship to the ultimate objective of ejecting the Iraqi Army from Kuwait. Thank you.

Q: Mr. Secretary, given what you've told us today, can you tell us if you think that the SCUD search has had any effect on the campaign? And if you do believe what success rates you've had here, then does that mean you're able to go on a little bit more quickly to some of the phases earlier than you might have thought when this all started?

Cheney: The SCUD search has been important because it has not only the problem of his being able to launch against Saudi Arabia or Israel, but obviously, there are major policy questions, major political questions involved in the issue of how you deal with the SCUD problem, because of course, as the Chairman mentioned, we've been pleased; as the President said, that the Israelis have restrained themselves up until now and not retaliated and gotten involved in the conflict, but that's a delicate proposition. Our ability to deal with the SCUD threat makes it easier for us to deal with the broader policy questions that are involved. It's a question of diverting resources and deciding how much you're going to put against the SCUD problems itself.

Q: Has that created a problem at all, for the rest of...

Cheney: I wouldn't say it's created a problem in that sense. I think it would be fair to say that the systems that are focused on dealing with the SCUD threat are not available to deal with other threats, but we always knew we were going to have to deal with the SCUD threat, we always knew that was a potential problem. We've assumed he may have chemical warheads to go on the SCUDs, so until we've got a high degree of assurance that we've dealt with that problem, we will continue to devote resources to it.

Q: You said the campaign is going very well. The first thing you cited was the air superiority. Do you really feel that you were really challenged by the Iraqi Army, number one? You said they really have been in the bunkers. Number two, you talked about command and control each day, but there are many reports saying that Saddam Hussein is four stories below, underneath the Presidential Palace, and ferrying between the Defense Ministry. Number three, you talked about taking out the nuclear sites, but many people thought early on that this would not be a long-term threat. So do you feel that possibly you could be overly predicting a rosy type of outcome in light of this?

Cheney: I tried in my remarks towards the close to focus on the fact that we have to anticipate there will be additional surprises. You can by no means count him out yet, given the size force he has, that he could try to find some way to surge his air force all at once, or go after targets that he's not gone after yet. As the Chairman mentioned, we haven't really seen any aggressive military response by him to date. He's basically gone to ground and hunkered down. The only safe assumption for us to make, especially when we're talking to the press, is be cautious here. We're trying to be cautious, and no one wants to declare that he no longer constitutes a threat. That would be a very serious mistake.

Q: Do you think this could be a strategy, as many military analysts believe, to inflict maximum casualties?

Cheney: It could well be a strategy, and based in part upon the fact that he has not yet been able to find a way to deal with our capabilities.

Q: You mentioned, General Powell mentioned two times, Soviet air defenses, Soviet SCUD missiles. How much military cooperation are you getting from the Soviet Union in dealing with this?

Cheney: I had general discussions when I was in Moscow, in October, in a meeting with senior Soviet officials and Marshal Yazov, about the situation in the Gulf. I think it would be fair to say that it was their view that Saddam Hussein did not possess any significant capability that we were unaware of. They described the systems that they had provided to him as systems that were generally available -- like T-72 tanks -- to their allies; specifically we talked about the SCUD. He made it clear then that there was no guidance system for the SCUD, it's just a ballistic missile that goes wherever it goes. It's not a highly accurate or very sophisticated system.

I think probably the greatest two contributions the Soviets have made to this venture -- one has been their cooperation and support of the policy in the United Nations, which have been very significant; and the other is that they have shut off the flow of arms exports to Iraq. The situation we're faced with today would be far more difficult if Saddam Hussein were able to get resupplied in terms of the key pieces of military equipment that we've been working to destroy.

Q: Sir, how effective have the Iraqis been at repairing the damage to their airfields and other targets? And how effective have they been at fooling you with decoys in their SCUD missile department?

Powell: They use decoys, they're quite good at it. I'll let the chart I used earlier as to which airfields are active, speak for itself. They, obviously, are hard at work repairing some of the damage -- we've seen it. We've also seen them paint damage on airfields to spoof us into thinking that it is still damaged, and therefore we don't have to worry about it. There are also reports that they are trying to put out dummy SCUD systems. This isn't a surprise to us, because they have a long history, and did it throughout the Iran-Iraq War, of using dummies in order to confuse their enemy. They probably are also making some efforts to take totally destroyed facilities and cover them over quickly, to make them appear as if they're not totally destroyed, to lure us into coming back. But I think our analysts and our targeteers are quite sophisticated -- they're the best in the world -- and they will be sensitive to the possibility of dummy installations and false repairs.

Q: On the air power question: You've indicated 19 killed in air combat maneuvers or, if you would, dog fights; another 22 on the ground -- or at least that was the inference I got.

Powell: It's a number that changes every few hours as we get BDA assessment. We got three more just as we walked in, some Badgers that had been destroyed on the ground.

Q: We're talking about roughly 50 aircraft gone, if we assume that. It still leaves roughly 750 left.

Powell: Correct.

Q: Do you have any indication the Iraqis are doing a move-and-hide strategy, perhaps in some of these dispersal fields that there was damage done, but they still have support facilities there to operate air power? Is that concerning you -- especially since if they rebuild, they could put up a mass wave of 200, 300, 400 aircraft all of a sudden.

Powell: I attribute that capability to them. In addition to the facilities you saw on that map they are probably using highways and other things like that. So we assume they have that capability. They did not use it in the first seven days of the war; they did not challenge us with defensive air; they have not tried to attack us with offensive air -- but that does not mean that we are not on the lookout for it, or we're not alert to it, or we are unmindful of the threat it represents. It does represent a threat, but it's a threat we understand. We believe we are quite able to deal with, and rather than spend air power now trying to run the body count up on airplanes that are not bothering us at the moment, I'd rather use that air power in more efficient ways against things that are of more immediate relevance to our battle plan.

Q: There have been reports that at least one other country in the area is providing a sanctuary for Iraqi aircraft or other equipment. Do you have any evidence at all to support or...

Powell: I've seen those reports, and I can't confirm them.

Q: I'd like to ask you to expand a little bit on what you infer the Iraqi military strategy to be. You said their actions could be part of a strategy. Does the Iraqi military response to date, that is the absence of a response, surprise you? Were you surprised by that? Do you think it's an attempt to engage us in a costly land war? And a related question, General Powell implied that we hope not to have to use ground forces -- at the same time, he said the Republican Guards will lie low. and that the only way we may determine if they survive attack is if they're forced to move. Does that mean we'll have to bring in our ground forces in order to determine whether we've knocked them out?

Powell: I don't know yet. The strategy right now, it seems to me, is they are hunkering down. It's obvious. They, I suspect, and not being an Iraqi general, I don't have complete insight

into what they may be thinking, but I would suspect that right now they are hunkering down, and they probably are questioning whether we can keep this up for an extended period of time, and whether or not the political will and public support will be there to keep this up for an extended period of time, and I'm sure they're making an assessment day-by-day in what their losses are, and making their own judgment as to how long they can sustain this kind of punishment.

I would be the happiest guy in the world if one day one bomb goes in on a Republican Guard unit and they say that's it, we break. We can't take any more, we're heading home, and they leave -- but I can't plan on that. So what I'm putting in place, what General Schwarzkopf is putting in place, I should say, and the campaign plan that General Schwarzkopf has worked out, is to anticipate that at the end of the day, when they are so weakened that we believe the time is right and air power alone won't do it, we're prepared to take this to a successful conclusion using other means of combat power besides air power. That's been a consistent...

Q: ...anticipated in planning the air campaign by the Iraqi military, a lay-low strategy?

Powell: I'd rather not say what I anticipated, because it might give Mr. Hussein some insight on what I'm anticipating now.

Q: Mr. Secretary, you said a minute ago that Saddam Hussein cannot change the basic course of this conflict -- he will be defeated. Is there any reason to believe that he and his circle of advisers believes that? And what are you doing to make him believe that? And if you're not doing anything, why not?

Cheney: I think if it was difficult before the conflict started to try to assess Saddam Hussein's mental attitude and his thinking about all these kinds of issues, it's probably even more difficult now. There's no press left in Baghdad, very little diplomatic communication through other countries. We know less today about what's going on inside Saddam Hussein's mind than we did then. So it would be risky business for us, I think, to make judgments about that.

It may well be that he does not have as much information as we do about the impact we've had on his forces; that having, in many cases, damaged his command and control system and had the impact that Colin shows with respect to his air capability, etc., that he simply doesn't know how badly he's been hit. I think ultimately, he'll get the message -- I would hope that he will. And we are determined, in terms of the statement I made, to achieve our military objective, which is to do what the President has directed us to do, which is to get Saddam Hussein out of Kuwait.

Q: Is part of the plan that he should not know? Would you like to visit a minimum level of destruction, for instance, upon the Republican Guard, before he knows it?

Cheney: It's difficult to refine it that carefully. Once you start military action, you can go after those specific targets we've laid out there, but we believe the Republican Guard is at the heart of his military capability and his political power. But that's the unit that he used to take Kuwait, those are the units that he used in his war with Iran for offensive purposes -- they are the heart of the regime. We're not really trying to fine tune it. We'll hit the Republican Guard just as hard as we have to until we've achieved our objectives.

Q: We know that he has, in the past several days, demonstrated a capability to put salvos of SCUDs over major cities from Tel Aviv across the area of the Persian Gulf. If he marries them now with chemical weapons, poison gas or other, are we prepared, and would we, respond in kind?

Cheney: We have to be concerned about the possibility that he may have chemical capability that he could marry up with his ballistic missiles. He's never previously used ballistic missiles with chemical warheads on them, but we have to assume he could. That's one of the reasons for the elaborate alarm systems we've worked out -- both in Saudi Arabia and that the Israelis have worked out; the protective gear our troops are equipped with, etc.

In terms of how we might respond were he to use chemical weapons, I would simply reiterate what we've said previously, which is that the United States has a broad spectrum of capabilities available; that the President would make the decision about how we might respond to an unconventional attack by Saddam Hussein against U.S. or allied forces; and I wouldn't want to speculate further.

Q: Can I ask you a couple of questions, first of all, about the report of a coups attempt. Have you heard anything about this at all -- within Iraq?

Cheney: Nothing that would give me any reason to believe it has credence.

Q: General Powell, I have another question about the Exocets. We talked about the Silkworms being taken out, but you didn't say anything about the Exocets, and many people think that's one of the most effective weapon systems he has. It was very effective in the Falklands conflict. Have you done anything to take out the Exocets?

Powell: The Navy is working on it. They're of limited range and don't represent a very serious threat at the moment.

Q: You were saying before that the coalition would take as long as it had to, and yet you've outlined some goals that look like they might last long. You said you want to rip up the air force, yet they still have some 750 planes; and you said you wanted to shut up the army with cutting off its communications, which is still very resilient, a very large army; the chemical weapon threat is still a threat to the allies; and the SCUD is still a weapon of terror for the allies. Does that not sound like it's going to last some time?

Cheney: We've avoided consistently putting any artificial deadline out there by which this whole operation had to be completed. We do not know how long it will last. The kind of things you mentioned are specific objectives. We will operate until we've achieved those objectives, and I simply wouldn't want to put a time frame on it. I can't do that. I don't know how long it will take. Although I'm inclined to think given the size of the force we've deployed, and the success we've enjoyed to date, that it won't take that long.

Q: Is the allied force's patience going to outlast the patience of Saddam Hussein who is hunkering down? Which patience is going to outlast?

Cheney: There's no doubt in my mind but what the United States and our allies in this venture have the staying power to see to it that the job gets done -- that he will quit long before we will.

Q: You're mentioning now that your main focus is the Republican Guards. Does that mean at this juncture in the air campaign you're pretty much sparing the troops right at the front line?

Powell: No, they are under attack as well. We're selectively probing against all of the forces in the Kuwaiti theater of operations, but because the Republican Guard is the Republican Guard, they get more attention than the rest.

Q: On the SCUD threat, what percentage of the SCUD launchers would you say -- mobile and fixed -- have been destroyed; and how well are the allies on their way toward destroying the full SCUD capability so that the Saudis and the Israelis won't have to worry about that?

Cheney: I don't think you can put a hard percentage on the amount of his capability that's been destroyed. We know he had a large number of missiles before this started. The missiles are important, but the launchers are even more important. We know we've been able to attack successfully many of the fixed sites. We continue to work on those fixed sites. We know he's got mobile capability, but we have some confidence we've destroyed some of that mobile capability. But it's a nebulous kind of thing. They're relatively small pieces of equipment; they can hide in the desert; they can come out at night and launch; it doesn't require any great degree of sophistication for them to be able to operate. It's one of those problems that may be with us for some period of time, and it's a matter of reducing the odds as much as possible, of going aggressively after his launch capability, but also defending the targets, which is why we've deployed Patriot both in Saudi Arabia and in Israel.

Q: Who fired the Patriot that apparently hit or didn't hit the SCUD that did the damage in Tel Aviv yesterday?

Powell: IDF. (Israeli Defense Force)

Q: Why did they do it instead of the U.S. crews?

Powell: Either one could have done it, whoever was in position. The U.S. crew was working with a power problem, a generator problem they had at the time, and IDF got acquisition and fired.

Q: Did that Patriot hit the SCUD?

Powell: I really would prefer to defer to the IDF to comment on their actions. I'm just passing on a report I heard.

Q: Just going back to an earlier line of questioning, what is your view of the argument that in fact the Saddam Hussein strategy is simply to stretch this war out as long as possible, forcing the allied troops into a long, bloody ground war -- he's enjoying some success in that. How do you view that; and is there anything you can really do if he continues to husband his resources as he's been doing?

Cheney: I'm not a military strategist to the extent that my colleague, General Powell, might be; but looking at it from the perspective of U.S. forces versus Iraqi forces, he really hasn't got much choice at this point. He is pursuing a strategy, perhaps of necessity. If he comes up with his air forces in significant numbers, I think we'll see the kind of ratio that Colin talked about in terms of 19-0 or 19-1 on his entire air force, and he would lose it and gain very little for it. He doesn't have any significant naval capability. He's really left with a very large army -- that's always been the heart of his military strength, and his success in the Iran/Iraq War was to dig in and hunker down and defend against the human wave assaults by Iranian teenagers. That's not the kind of situation he's faced with today.

I think the reason he will not be successful with the wait-it-out strategy, is that as long as he is sitting there waiting, we are steadily and progressively destroying his unconventional warfare capability, finding and destroying his SCUDs, taking out his air force piece-by-piece, and now, as the Chairman pointed out, aggressively working over his ground forces in Kuwait. I think time is clearly on our side. And given our dominance in the air and our capability to do significant damage to his ground forces that each day, each week that goes by he gets weaker and we get stronger.

Q: You stated your goal, though, is to get his troops out of Kuwait -- and in fact, while this pummeling continues, his troops remain still reasonably intact, which suggests that it's inevitable that he will draw the allies into a ground war.

Cheney: We may eventually, and I'll defer to General Powell and General Schwarzkopf, they'll have to come back and advise me and the President on when various pieces of the campaign kick in, but if we do have to go to using our ground forces to push him out of Kuwait, it will be after we've done enormous damage to his ground forces, after they've been significantly weakened. I think our people have the same capability on the ground to display the kind of mastery over Iraqi forces that they've displayed in the air to date.

Q: The aircraft that you're showing us as destroyed on the ground, are those confirmed wreckages; or are you including in that any estimate of...

Powell: The ones I'm showing you are confirmed. We had a couple more confirmed as we were walking down here. As the BDA gets better, and as the attack progresses, that number will grow. We're not doing estimates. We're trying to be as forthcoming as we can. I'm not down here to give you a happy talk -- I'm trying to give you my best assessment as I know it now. I don't know how long the war will take. It's a war. I don't think we've done badly for seven days, and I think we're by no means bogged down, and we'll try to give you as much information as we can -- and we'll give you that which we can confirm. What we can't do is try to keep up with the hourly news cycle. That's causing us a great deal of...

Q: The map that you showed us, is that the radar coverage that they had on the first day of the war, or as of three hours ago?

Powell: It was not precise -- obviously, I made it generic for security purposes -- but it generally shows the scheme of coverage that they had on the first day.

Q: How about collateral damage?

Powell: I think we have been awfully good in avoiding collateral damage. An enormous amount of work went into the targeting for this operation. I can't say that there was no collateral damage, but some of the claims that have been out there that we have struck religious and cultural sites, I have seen no hard evidence to suggest we did that.

Thank you.

END

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REMARKS PREPARED FOR DELIVERY BY
SECRETARY OF TRANSPORTATION SAMUEL K. SKINNER
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WASHINGTON, D.C.

The last time I had the opportunity to be here was about a year ago just after the release of the President's National Transportation Policy. I commented then on the incredible pace of change taking place throughout the world. Even then, none of us would have imagined that a year later the United States would be engulfed in a major war in the Middle East.

The outcome of Desert Storm, and the fortunes of our men and women involved in the conflict -- including our prisoners of war -- are our foremost concerns. The Department of Transportation has contributed to the effort from the beginning. The United States Coast Guard is, of course, directly involved in the campaign. We have also worked closely with the United States Transportation Command, assisting in the task of transporting our armed forces and materiel overseas.

Indispensable to Transcom's mission has been the ocean-going Ready Reserve Force and the Civil Reserve Air Fleet, both of which are administered by the Department of Transportation. Operation Desert Shield marked the first time ever that these important components of our national defense were called into active duty. To date, the RRF has activated 69 vessels, delivering almost thirty percent of the total supplies carried by sea for Desert Storm. The airlift component has involved 79 civilian aircraft making twenty three hundred flights, and transporting 256,000 people.

The enormous size and unprecedented international effort that is Desert Storm may prove to be the springboard of a new world order. It certainly underscores the revolutionary changes occurring in the world today. Our thoughts continue to be focused on the men and women serving in the Persian Gulf, and we will do everything possible to support their valiant efforts. At the same time, other events in the world require our attention. One of these matters is the revolution that began more than twelve years ago in the airline industry.

- more -

01. 23. 91 01:23 PM *DOT/PUBLIC AFFAIRS 1 P02

Airline deregulation was launched in 1978, and ushered in a decade of competition and consumer savings unsurpassed in the history of the industry. With deregulation having accomplished so much throughout the 1980s, *we must stay the course in the coming decade as the industry continues to restructure. The Bush Administration is firmly committed to deregulation, and is prepared to take aggressive steps to ensure that the level of airline competition remains high in the 1990s.*

Every credible analysis of airline competition in the 1980s has declared deregulation a success. Last year, the Department of Transportation released the results of the most comprehensive assessment of deregulation to date. And our ongoing analyses following that 13-volume study confirm that deregulation has provided major benefits for American travelers.

First, airline travel is much less expensive. As this chart demonstrates, real airline fares have declined by an average of 28 percent since 1981. Second, because air travel is now accessible to millions of low- and middle-income Americans, the number of people who travel on scheduled airlines in the United States has increased 65 percent since deregulation. It is important to note that last month almost 92 percent of the new travelers flew on discount fares. Third, passengers enjoy a wider choice among airlines, and more frequent service. Three times as many passengers now travel in truly competitive markets -- those served by three or more airlines -- than did in 1978.

Finally, deregulation left untouched the safety responsibilities of the Federal Aviation Administration. As the National Transportation Safety Board confirmed last Friday, accident and fatality rates have declined steadily since the 1960s. And 1990 was the safest ever.

In light of these conclusions -- not to mention the results of studies by others, such as the Brookings Institution -- it is remarkable that some still argue that deregulation was a bad idea and ought to be reversed. *It is time to declare the deregulation debate over and get on with the challenges of the 1990s.*

Of course, at the present moment, the U.S. airline industry is struggling through a difficult time. Eastern flew its last flight last week. Two airlines are currently operating under the protection of bankruptcy courts. Airlines are not covering operating costs. And all this has led to the largest flurry of proposed transactions among airlines in history.

Future generations may well look back on the 1990s as the decade of restructuring in the U.S. airline industry. But this consolidation, already underway in the 1980s, should not be considered an indictment of airline deregulation. It is, rather, an inevitable result of the market forces unleashed by the Airline Deregulation Act of 1978. The reason so much seems to be happening at the present time is that several factors have recently combined to accelerate the restructuring of the U.S. airline industry.

Number one, as a result of the slowdown of the U.S. economy, the demand for domestic air travel has increased very little in the past year. This sluggish growth has come at a time when airlines have added new planes and new services. That is simply not a prescription for making money.



01:23 91 01:23 PM *DOT/PUBLIC AFFAIRS I P03

Number two, the cost of jet fuel rose dramatically following Iraq's invasion of Kuwait in August. Jet fuel is the second largest component of the industry's operating costs. Each one cent increase in the cost of a gallon of jet fuel imposes an extra $164 million on the industry.

Number three, deregulation -- based as it is on the principles of a free market -- allowed airlines greater latitude. Some airline executives and their companies never quite adjusted to the rigors of the marketplace, and suffered accordingly. Others took on massive and excessive debt, and have found it difficult to service that debt in a slow economy. In some respects, airline management and the investment community are themselves responsible for the industry's current situation.

Number four, most airlines have not been able to bring their labor costs under control. For example, the *average* salary for one carrier's pilots and copilots is $114,000. The *average* salary for its maintenance workers is approximately $51,000. Pilots and copilots industry-wide make $90,000 on average. That's five times what the average American worker earns. For all airline employees -- including reservation agents, ticket clerks, janitors, and baggage handlers -- the average employee earns approximately *twice* the national average.

These wages are not the product of a strictly free market. When pilots at one major airline average $114,000 a year, while pilots with similar experience and ability at another airline average $58,000 a year, one might question whether something is seriously out of balance in the airline labor market.

Today's market is still distorted by vestiges of the era of regulation which allowed airlines to pass on uneconomically high costs, such as those required by the Railway Labor Act of the 1930s. Outdated legislation contains, among other things, never-ending procedures to resolve disputes, and allows for secondary boycotts. The market is further distorted by the simple fact that a strike is especially devastating to an airline, whose customers can, and will, quickly switch to a competitor's flights.

I believe *these distortions have created an unhealthy environment for the consumer.* In contrast to other industries, airline managers and their employees appear to be oblivious to the long range consequences for the industry caused by an imbalance in power between labor and management. *In the end, of course, the consumer loses.* Either consumers must pay for high industry salaries through higher fares, or airlines will continue to hemorrhage financially.

*One thing is certain: consolidation is no grounds for panic.* There may well be fewer major airlines in the 1990s than there were at the end of the 1980s. But even *if* this happens, *we have every reason to believe that robust competition will continue.* Under a deregulated system of hub-and-spoke networks and low barriers to entry, existing carriers can serve virtually any market in the nation. As a consequence, competition should continue to thrive.

It is likely that, as the industry consolidates further, some of the lowest fares in the market may disappear. All of us, as consumers, appreciate the low fares produced by the almost desperate marketing strategies that we've seen in the current downturn. But we also know that unrealistically low prices are a bad bargain in the long run. Unless airlines are able to cover their costs, they eventually



01. 23. 91 01:23 PM *DOT/PUBLIC AFFAIRS I P04

have to go out of business. And *right now, there is not an airline in the country that is covering its operating costs.* As this chart shows, the U.S. airline industry is estimated to have lost $2 billion in 1990.

When airline fares go up in the near future, consumers should understand that the increase will not be a product of deregulation. They must understand that -- had it not been for deregulation -- fares would be much higher than they are at present. But fares must be compensatory in the long run, or the consumer will continue to suffer from the growing pains of an industry that is continuing to shake off the distortions imposed by decades of regulation -- decades of arbitrary and undisciplined economics.

The actual extent to which prices change will depend to a great degree on the willingness of labor and management to work together to protect the industry against an excessive and destructive wage and benefit pattern. But it is clear that prices *will* change.

As the industry continues to restructure, *every consumer has my pledge that the Department of Transportation will take aggressive steps to sustain and enhance airline competition* in this country. That is one of my highest priorities as Secretary of Transportation.

Let me now give you an overview of our policy goals for the airline industry, both domestically and in the international arena.

Number one, much has been said in recent months about foreign investment in U.S. airlines. The rules governing foreign ownership or control of domestic airlines are derived from a statute that dates back to the 1930s.

Given the role that our airline industry has played in Operations Desert Shield and Desert Storm, there should be no mystery about one of the major reasons for those requirements. In times of national emergency, the United States must have immediate access to far more airlift capacity than our military maintains, and the citizenship requirement in our law ensures the availability of this essential transport capability.

Those requirements also represent a necessary response to the highly regulated nature of international aviation, in which landing rights are parceled out through narrowly drawn bilateral agreements. If we are to maintain the leverage we need to open more foreign markets to U.S. carriers, we have to maintain oversight of the extent to which foreign carriers enjoy access to *our* market through investments.

That said, it is essential in a time when international aviation is changing so much, that we guard against going beyond the restrictions necessary to achieve these important objectives. We have therefore reexamined our application of the "control" test to ensure that it's fully consistent with today's realities.

It is likely that *we will see, over time, a genuine globalization of airline companies*, much as we have seen in so many other industries. That means more than merely landing in as many countries as possible. It means establishing a genuine, fully competitive presence in all of the world's most important aviation markets.



01. 23. 91 01:23 PM *DOT/PUBLIC AFFAIRS I P05

The first steps toward that development can be seen today in the important linkages that airlines from different countries are forging with each other in a quest for more effective marketing tools. One means of establishing such linkages is the medium of investment.

It is essential that our international aviation policy acknowledge this trend and respond to it effectively. *U.S. carriers must stay ahead of the pack in the move toward globalization.*

We have concluded that one of the important steps we can take in this connection is to create an environment more receptive to foreign investment in the U.S. airline industry. To that end, we have decided to refine our interpretation of the foreign ownership statute. We will no longer consider total foreign *equity investment*, by itself, to be an indicator of foreign *control* if it is less than 50 percent of total equity. And we will not consider debt financing obtained from foreign sources as a potential means of control, provided the loan agreement confers no extraordinary rights on the foreign lender.

Regarding foreign directors and officers, there is no need to formulate more stringent limits as we have done in the past. Instead, we will allow foreign membership on airline boards to reflect their voting stock ownership -- as long as it satisfies the statutory ceiling, and as long as representatives of foreign airlines do not take part in decisions affecting competition. Our recent order relating to the transaction between Continental and Scandinavian Air was consistent with this approach.

In announcing these changes, I want to emphasize that I am not now calling for any change in the statute, since I am not persuaded yet that such changes are warranted, and because statutory amendments require careful consideration and debate within the Congress. Thus, existing ceilings on foreign ownership of voting stock and citizenship requirements for officers and directors will have to be complied with.

In line with this approach, *I am pleased to announce that the Department of Transportation is issuing an order today which will allow KLM to maintain a significant investment in Northwest Airlines.* It is appropriate that this decision involves an investment by a carrier whose government has entered into a very liberal aviation relationship with the United States. Our decision clarifies, and in significant ways relaxes, the restrictions on foreign investment that are the product of past interpretations.

Taken together, these changes will allow U.S. airlines to attract additional foreign capital. They will not compromise national security, and they will not diminish our ability to foster a more open and competitive international aviation marketplace.

Number two, an important Administration policy goal is to place even greater emphasis on the importance of safeguarding the competitiveness of the U.S. industry.

Because so many foreign governments continue to limit the number of U.S. carriers that may fly to their cities, the Department of Transportation -- even in 1991 -- is required to select particular U.S. carriers to serve particular foreign routes. We



01:23 91 01:23 PM *DOT/PUBLIC AFFAIRS 1 P06

will seek ways of streamlining the Department's traditional carrier selection process -- the procedures for choosing U.S. carriers to serve newly established international routes. At present, it is a time-consuming, expensive, and inefficient process. I want to examine a range of potential improvements, from simplifying the evidentiary phases of the case to more fundamental changes. *Everything we do will be aimed at increasing the level of airline competition in this country and abroad.*

At the same time, there is now a lively "secondary market" for international routes. In this market, carriers that obtained their rights from DOT seek to sell them to other carriers. I believe that *the market can be an effective means of allocating international route authority*, as long as the transactions are consistent with competition and the economic health of the U.S. airline industry. Recent experience in route transfer cases are impressive: every transaction approved by DOT has produced a net dividend for the public. Two prominent examples are Pan Am's sale of its Pacific routes to United in 1985, and Eastern's sale of its Latin American routes to American last year.

For these reasons, we are also exploring ways of streamlining and making more efficient our review of these transactions. The critical benchmark, again, will be competition. But where there are no impediments to competition, or where a transaction promises to enhance competition, our disposition is likely to be favorable.

Number three, the Department of Transportation issues exemptions from our antitrust laws permitting airlines, both U.S. and foreign, to enter into agreements that fix the price of air travel to and from the United States. It is time to address some serious questions about our exercise of that authority -- particularly in light of our attempts to liberalize not only our own market but also the world aviation market.

For example, is it appropriate for a nation championing competition to continue to permit these agreements to affect the cost of travel to and from our territory? What consequences would flow from a refusal to extend continued antitrust immunity to these agreements? How would our trading partners react? These are delicate questions, of course, but I see no way to avoid raising them. They will have to be taken up in a proceeding already pending before the Department.

Number four, we are committed to removing barriers to entry into the airline business. If we can ease barriers to entry -- such as inadequate airport capacity -- the loss of one or more airlines will not necessarily mean less competition. That gets to the heart of how important last year's aviation reauthorization was. It was the most significant aviation legislation since deregulation in 1978. It will enhance aviation capacity by allowing localities to raise money for expanding their airport facilities or build new ones. We will soon propose rules to put this legislation into effect. They will deal with anti-competitive, long term gate leases with individual airlines that have acted as barriers to entry.

Two other efforts to lower barriers to entry deserve mention. Many argue that the system of slots in effect at four of our major airports makes new entry at those airports extremely difficult for small carriers. To deal with this problem, the Department of Transportation will soon propose a rule that will address the ability of new entrants to gain access to these airports.



01 23 91 01:23 PM *DOT/PUBLIC AFFAIRS 1 P07

We will also propose a rule exploring ways to eliminate certain anti-competitive practices involving computer reservation systems. The rule would allow use of additional software and hardware, as well as greater ability for travel agents to use several computer reservations systems.

Number five, many have asked whether it might be appropriate to allow foreign airlines to compete in the U.S. market and to allow U.S. airlines to compete in foreign markets. This could be one important way, it is argued, to increase airline competition in the United States even in the face of a consolidating U.S. airline industry.

Late last year, I announced jointly with Canadian Transport Minister Doug Lewis that our two governments would soon begin negotiating toward the establishment of a truly open U.S.-Canadian aviation market. In the course of those negotiations, we said the question of internal market access -- called "cabotage" -- would be addressed. I believe that those negotiations -- due to begin in a couple of months -- will serve as an important crucible for the testing of the cabotage proposition.

Number six, I said a year ago that we would take steps to extend the benefits of domestic deregulation to international travel. New bilateral agreements with Japan and the United Kingdom, our liberalization discussions with the Canadian government, today's foreign investment order, and our Cities Program are key examples of the progress we've made. Under the Cities Program, *I can announce that today we have approved KLM's request to provide the only nonstop service to the continent of Europe from Minneapolis.* That's good news for Minneapolis and for the ever-expanding world of international aviation.

The Department's efforts will be important -- and controversial -- but alone, they will not be enough. Airline management must continue to look beyond our borders, whether by flying internationally themselves or by entering into agreements with foreign carriers. Management will have to renew its entrepreneurial spirit, just as it did in the 1980s when it met the challenges of deregulation -- and created opportunity, rather than simply waiting for it to happen.

In some respects, airline executives have failed to look beyond the next quarter. And some have not hesitated to ask the U.S. government -- which means the American taxpayer -- to bail them out. It should come as no surprise that I have not looked with favor on these requests. Airlines are permitted to earn and keep their profits. They should not expect the taxpayer to bear their losses.

As for airline labor, it must look at the realities of the industry, and determine whether greater wage demands are in its own best interests. It is essential that the industry come to grips with the high cost of paying its employees. Failure to do so will ensure that no one wins: not *employees*, whose jobs will be placed at risk; not *airlines*, who may be forced out of business; and certainly not *consumers*, who will ultimately foot the bill through higher fares.

As the sad experience of Eastern Airlines demonstrates, there are no winners when labor and management do not work together. At Eastern, something went awry in the labor/management relationship. And the result is the demise of a great American carrier.



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But let me say unequivocally that we in the Department of Transportation look forward to the decade ahead with optimism. *Our task will be to use the tools at our disposal to spur along the stunning success of deregulation here in the United States, and to extend its benefits throughout the world.* I look forward to working with the Congress to achieve this goal.

Perhaps *no policy initiative in the nation's history better unleashed America's entrepreneurial spirit than deregulation.* Our nation was built by the vigor and ingenuity of pioneers -- not by the obtrusive and overbearing hand of government. The key to our success has been the premium we have placed on industriousness and innovation. That's where we're pinning our hopes, and expectations, for the U.S. airline industry.

Of course, the rough and tumble of the marketplace does not produce lasting results overnight. It takes patience. But no one has better mastered that marketplace than Americans. We face challenges, to be sure. The world *is* undergoing revolutionary change. But *I have complete confidence the U.S. airline industry will weather its own revolution to maintain its world-leadership position into the 21st century.*

Thank you very much.

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01. 23. 91 01:23 PM *DOT/PUBLIC AFFAIRS I P09

U.S. Department of Transportation

# News:

Office of the Assistant Secretary for Public Affairs
Washington, D.C. 20590

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DOT 09-91
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## SKINNER SAYS DOT WILL ALLOW GREATER FOREIGN INVESTMENT IN U.S. AIRLINES

Secretary of Transportation Samuel K. Skinner today announced that the Department of Transportation would significantly relax current restrictions on foreign investment in U.S. airlines.

"We have concluded that one of the important steps we can take . . . is to create an environment more receptive to foreign investment in the U.S. airline industry," Skinner said in a address at the National Press Club in Washington.

Under the new policy, Skinner said, investment of up to 49 percent of total equity obtained from foreign sources would not generally, by itself, be considered an indicator of foreign control. Nor would the department consider debt as a foreign control issue unless the loan agreement provides special rights to the debt holder that imply control. He added that DOT would allow foreign membership on the corporate boards of U.S. airlines to reflect their voting stock ownership, as long as it satisfies the statutory ceiling, and as long as representatives of foreign airlines do not take part in decisions affecting competition.

Current law and precedent limits foreign ownership of voting stock in U.S. airlines to 25 percent, places a ceiling on the number of directors and officers who can be foreign citizens (one-third), and requires that U.S. carriers be controlled by U.S. citizens. Skinner said that the administrative changes he was announcing were consistent with current law and precedent.

Skinner announced that, in conjunction with this new policy, DOT would allow KLM Royal Dutch Airlines to maintain a significant investment in Northwest Airlines.

With respect to airline deregulation, Skinner said, "It is remarkable that some still argue that deregulation was a bad idea and ought to be reversed. It is time to declare the deregulation debate over and get on with the challenges of the 1990s.

"Every credible analysis of airline competiton in the 1980s has declared deregulation a success," Skinner said. "Last year, the Department of Transportation released the results of the most comprehensive assessment of deregulation to date. And our ongoing analyses following that 13-volume study confirm that deregulation has provided major benefits for American travelers."

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01:23 PM *DOT/PUBLIC AFFAIRS 1 P10
01. 23. 91

He said DOT's study showed that air travel is less expensive today than in 1978, making it accessible to more Americans and providing passengers with a wider choice of airlines and more frequent service. He added that, in part because of the continuing safety oversight of the Federal Aviation Administration, airline accident and fatality rates have steadily declined.

Skinner said the department has taken steps to extend the benefits of domestic deregulation to international travel, including new bilateral agreements with Japan and the United Kingdom, liberalization discussions with Canada, and a program to allow foreign airlines to expand service to more U.S. cities. He called these initiatives "good news . . . for the ever-expanding world of international aviation."

Skinner noted the financial difficulties of a number of U.S. carriers, with Eastern ending its service last week and two carriers operating under the protection of bankruptcy courts. Among the reasons for these difficulties, he said, are: the slowing growth of the U.S. economy, leading to a decline in the growth of demand for air travel; the rising cost of jet fuel which followed Iraq's invasion of Kuwait; the failure of some carriers to adjust to a deregulated marketplace; and the failure of labor and management to bring labor costs under control.

"In contrast to other industries, airline managers and their employees appear to be oblivious to the long-range consequences for the industry caused by an imbalance in power between labor and management," Skinner said. "In the end, of course, the consumer loses."

The secretary said the U.S. airline industry is in a period of restructuring and consolidation. "There may well be fewer major airlines in the 1990s than there were at the end of the 1980s," he said. "But even if this happens, we have every reason to believe that robust competition will continue. Under a deregulated system of hub-and-spoke networks and low barriers to entry, existing carriers can serve virtually any market in the nation. As a consequence, competition should continue to thrive."

He said the restructuring could end some of the intense competition in certain markets, leading to higher fares in these markets. "All of us, as consumers, appreciate the low fares produced by the almost desperate marketing strategies that we've seen in the current downturn," Skinner said. "But we also know that unrealistically low prices are a bad bargain in the long run. Unless airlines are able to cover their costs, they eventually have to go out of business. And right now, there is not an airline in the country that is covering its operating costs."

Skinner also noted DOT's contribution to Operation Desert Storm, including the roles of the U.S. Coast Guard, the department's Ready Reserve Force of cargo ships, and the Civil Reserve Air Fleet, that operates a program under which carriers provide airlift to the military.

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C: 23. 91 01:23 PM *DOT/PUBLIC AFFAIRS I P11

**The Secretary of Energy**
Washington, DC 20585

REMARKS BY

JAMES D. WATKINS
ADMIRAL, U.S. NAVY (RETIRED)
SECRETARY OF ENERGY

BEFORE THE

NATIONAL ASSOCIATION OF WHOLESALER-DISTRIBUTORS
ANNUAL MEETING/WASHINGTON CONFERENCE

THE GRAND HYATT HOTEL
WASHINGTON, D.C.

JANUARY 23, 1991

OPERATION DESERT STORM IS BARELY A WEEK OLD; AND WHILE THERE ARE SURELY GOING TO BE SOME DIFFICULT TIMES AHEAD, INITIAL RESULTS HAVE BEEN GRATIFYING. MILITARILY, THE OPERATION IS OBVIOUSLY PROCEEDING ACCORDING TO CAREFUL PLAN. THE BRAVE MEN AND WOMEN OF DESERT STORM -- A FORCE DRAWN FROM 28 DIFFERENT NATIONS -- ARE FIGHTING WITH SKILL AND DETERMINATION TO LIBERATE KUWAIT. THEY ARE ALSO FIGHTING WITH STATE-OF-THE-ART EQUIPMENT AND TECHNOLOGY, TO ADVANCE OUR CAUSE AND MINIMIZE CASUALTIES. THEY HAVE OUR FULLEST SUPPORT, AND OUR CONTINUING PRAYERS FOR A SUCCESSFUL MISSION AND A SAFE RETURN TO FRIENDS AND FAMILIES.

AS A NATION, WE CAN TAKE GREAT COMFORT IN THE PRESIDENT'S EXPERIENCED LEADERSHIP. AS SECRETARY OF ENERGY, I HAVE WATCHED AT FIRST-HAND HIS IMPRESSIVE EFFORTS IN BUILDING THE MULTINATIONAL COALITION NOW ARRAYED AGAINST SADDAM HUSSEIN. THE PRESIDENT HAS SHOWN BOTH TOUGHNESS AND COMPASSION. UNWILLING TO COMPROMISE ON PRINCIPLE OR GIVE ANY GROUND TO THE AGGRESSOR, HE NEVERTHELESS WENT THE EXTRA MILE AND PURSUED ALL POSSIBLE DIPLOMATIC AVENUES IN THE SEARCH FOR A PEACEFUL AND JUST SOLUTION. FINALLY, WHEN WAR CAME, THE COALITION WAS TRULY UNITED AND SUPERBLY PREPARED.

WE CAN ALSO BE ENCOURAGED THAT, AT THE OUTBREAK OF HOSTILITIES, OIL PRICES DID NOT SOAR, AS SO MANY HAD FORECAST. IN FACT, QUITE THE OPPOSITE OCCURRED. THIS IS NO ACCIDENT. RATHER, IT IS THE RESULT OF INITIAL MILITARY SUCCESSES AND A GREAT DEAL OF PLANNING AND INTERNATIONAL COOPERATION, <u>BEFORE</u> OUTBREAK OF HOSTILITIES.

I WAS IN THE MIDDLE EAST LAST MONTH, AND SPOKE FRANKLY WITH BOTH SAUDI AND UAE LEADERS AS WELL AS GENERAL SCHWARZKOPF. MY PURPOSE WAS TWOFOLD: FIRST, TO VALIDATE FIRSTHAND THAT, EVEN IN THE EVENT OF HOSTILITIES, THE OIL FIELDS WERE GOING TO CONTINUE TO OPERATE; AND, SECOND, TO ENSURE THAT THE DEPARTMENT OF ENERGY HAD EFFECTIVE CHANNELS OF COMMUNICATION WITH SAUDI AND U.S. OFFICIALS. WE WERE SUCCESSFUL ON BOTH COUNTS.

SAUDI AND UAE OIL FIELDS AND FACILITIES <u>ARE</u> WELL PROTECTED AGAINST MILITARY THREAT AND WILL CONTINUE TO PRODUCE FOR A NUMBER OF REASONS:

-- FIRST, THE SAUDIS HAVE EXPERT OPERATING AND SECURITY PERSONNEL IN PLACE.

-- SECOND, THE MULTINATIONAL FORCE IS WELL POSITIONED TO HELP DEFEND THEM.

-- THIRD, PRECAUTIONS HAVE BEEN TAKEN THERE AGAINST THE THREAT OF TERRORISM.

HERE AT HOME, WE'VE ALSO ACTED RESPONSIBLY SINCE AUGUST 2. AT THE PRESIDENT'S URGING WE'VE MANAGED TO INCREASE DOMESTIC OIL PRODUCTION BEYOND PRIOR PLANS BY OVER 150,000 BARRELS A

DAY. MOREOVER, BY THE END OF THE YEAR WE'LL HAVE ANOTHER 150,000 BARRELS A DAY ON LINE. AND WE'VE REDUCED OUR CONSUMPTION ABOUT 5 PERCENT FROM THE SAME PERIOD LAST YEAR. DOMESTIC PETROLEUM STOCKS ARE IN THE NORMAL RANGE. REFINERIES ARE RUNNING AT NORMAL LEVELS, WITH GOOD CAPACITY MARGIN. OVERALL, THE U.S. OUTLOOK IS POSITIVE.

WORLDWIDE, CONSUMPTION IS ALSO DOWN -- ABOUT 2.5 PERCENT ACCORDING TO PRELIMINARY ESTIMATES -- WHILE SUPPLIES ARE SLIGHTLY ABOVE PRE-INVASION LEVELS.

STILL, TO HEDGE AGAINST EVEN THE POSSIBILITY OF A SUPPLY SHORTAGE, THE INTERNATIONAL ENERGY AGENCY (IEA) ACTED LAST WEEK TO MAKE AN ADDITIONAL TWO MILLION BARRELS OF OIL A DAY AVAILABLE TO THE MARKET. IN THE SAME WAY THAT THE COUNTRIES OF THE WORLD PREPARED FOR HOSTILITIES COOPERATIVELY, THROUGH THE UNITED NATIONS, WE ALSO PREPARED FOR WORLD OIL MARKET BALANCE COOPERATIVELY, THROUGH THE IEA.

AS PART OF THIS COORDINATED EFFORT, THE U.S. WILL DRAW MORE THAN 33 MILLION BARRELS OF OIL FROM THE STRATEGIC PETROLEUM RESERVE -- 1.1 MILLIONS BARRELS PER DAY OVER A 30-DAY PERIOD. REGARDING CURRENT SPR DRAWDOWN PLANS, PRESIDENT BUSH ALSO DIRECTED THE SECRETARY OF THE TREASURY TO WAIVE PROVISIONS OF THE JONES ACT, SO THAT TANKERS WILL BE AVAILABLE TO MOVE OIL TO PORTS ALL ALONG OUR COASTS AS NEEDED.

WHAT I'M TELLING YOU IS THAT WE DO NOT EXPECT ANY PROBLEMS WITH WORLD OIL SUPPLIES, DESPITE THE WAR. WORLD OIL SUPPLIES ARE FULLY ADEQUATE TODAY. WORLD DEMAND IS DROPPING. STRATEGIC RESERVES ARE MOVING INTO THE MARKET. AND THERE STILL HAS BEEN NO SIGNIFICANT DAMAGE TO PRODUCTION CAPACITY IN THE PERSIAN GULF. OF COURSE THE THREAT REMAINS, BUT IT SEEMS TO BE WELL MANAGED AT THIS POINT, AS PREDICTED.

THESE FACTORS -- COUPLED WITH THE OVERALL SUCCESS OF MILITARY EFFORTS TO DATE -- HAVE ACTUALLY LOWERED OIL PRICES. I WOULD HOPE AND EXPECT THEY CAN BE HELD IN THE LOW-TO-MID TWENTY DOLLAR RANGE OVER THE DURATION OF THE WAR. BUT IF THIS IS TO HAPPEN, CONSUMERS MUST DO THEIR PART, TOO.

CONSUMER CONFIDENCE IS VITAL; AND WHILE WE DON'T HAVE AN OIL SUPPLY PROBLEM NOW, IRRATIONAL CONSUMER BEHAVIOR COULD CREATE ONE. FOR EXAMPLE, IN 1990 MOTOR GASOLINE IN THE U.S. WAS SUPPLIED AT AN AVERAGE RATE OF 302 MILLION GALLONS A DAY. NOW WE HAVE ROUGHLY 185 MILLION PASSENGER VEHICLES AND SMALL TRUCKS REGISTERED IN THE U.S. SO, IF EVERY DRIVER PANICKED AND DECIDED TO TOP OFF BY JUST TWO GALLONS ON THE SAME DAY, DEMAND WOULD SOAR TO 370 MILLION GALLONS. OF COURSE ON THAT DAY THERE WOULD BE A "SHORTAGE" -- NOT A REAL MARKET SHORTAGE, BUT A BEHAVIOR-INDUCED SHORTAGE....STILL A REAL WORRY.

THE SAME SITUATION APPLIES TO THE PRICING OF CRUDE OIL AND PRODUCTS. IF WE WITNESS TRADER PANIC AT ANY GIVEN MOMENT -- PARTICULARLY IF WE ARE FACED WITH SOME UNSUBSTANTIATED REPORT, FOR EXAMPLE, ABOUT A RUMORED ATTACK ON, OR FIRE IN, A SAUDI OIL FIELD -- WE COULD SEE A QUICK SPIKE IN PRICES -- NOT BECAUSE OF A REAL SUPPLY SHORTAGE, BUT BECAUSE OF INSTANT AND RUMOR-INSPIRED TRADER BEHAVIOR.

WE'VE KNOWN FROM THE BEGINNING THAT THE KEY TO BUILDING CONFIDENCE AND AVOIDING PANIC WOULD BE CREDIBLE INFORMATION FLOW -- PRECISE, REAL-TIME INFORMATION THAT VALIDATES FACT AND QUELLS RUMOR. THIS IS WHY AT DOE WE'VE BEEN WORKING FOR THE PAST SEVERAL MONTHS TO IMPROVE OUR ABILITY TO COMMUNICATE WITH THE SAUDIS AND U.S. OFFICIALS IN THE REGION ON OIL MATTERS, AND THEN TO GET ACCURATE INFORMATION OUT QUICKLY TO ALL 50 GOVERNORS, TO FEDERAL AND STATE ENERGY OFFICIALS, TO THE MEDIA, AND TO THE AMERICAN PEOPLE. WE HAVE INSTALLED STATE-OF-THE-ART EQUIPMENT, AND PUT AN EFFECTIVE NETWORK IN PLACE.

DOE IS NOW IN A POSITION TO CONFIRM INFORMATION DIRECTLY WITH OFFICIALS ON THE SCENE, AND THEN GET THE CORRECT INFORMATION OUT QUICKLY. WE ARE MANNING AN EMERGENCY OPERATIONS CENTER 24 HOURS A DAY. WE HAVE OUR OWN PERSON IN DHAHRAN, TO MONITOR EVENTS IN THE MOST EXPOSED SAUDI OIL FIELDS. WE FAX OIL DATA DAILY TO MEMBERS OF CONGRESS, TO EVERY GOVERNOR IN THE NATION, AND TO STATE ENERGY OFFICIALS.

ALL OF THIS IS DESIGNED TO PROVIDE THE NATION'S DECISION-MAKERS AND ALL OUR CITIZENS WITH ACCURATE, REAL-TIME INFORMATION AND TO NEUTRALIZE RUMORS. FOR EXAMPLE, ONE RUMOR SAID THAT LLOYD'S OF LONDON WOULD NO LONGER INSURE TANKERS IN THE GULF, A RUMOR WE FOUND TO BE COMPLETELY UNTRUE AND ONE WHICH WE QUICKLY DEBUNKED.

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IN THE PAST WEEK -- A MOMENTOUS WEEK -- WE HAVE SEEN IMPRESSIVE MILITARY ACTIONS BY OUR TROOPS, IN CONCERT WITH OTHERS IN THE MULTINATIONAL FORCE; AND WE HAVE SEEN A HIGH LEVEL OF INTERNATIONAL COORDINATION TO MAINTAIN STABILITY IN THE WORLD OIL MARKET.

IN ADDRESSING THE NATION LAST WEEK, PRESIDENT BUSH SAID:

> "WHEN WE ARE SUCCESSFUL -- AND WE WILL BE -- WE HAVE A REAL CHANCE AT THIS NEW WORLD ORDER, AN ORDER IN WHICH A CREDIBLE UNITED NATIONS CAN USE ITS PEACEKEEPING

ROLE TO FULFILL THE PROMISE ENVISIONED [BY] THE U.N.'S FOUNDERS."

THIS IS A TIME OF CHALLENGE -- BUT ALSO OF TREMENDOUS OPPORTUNITY TO FIND WAYS TO REALIZE THE PRESIDENT'S VISION OF A NEW WORLD ORDER FOR A NEW CENTURY -- A WORLD WHERE THE RULE OF LAW, NOT THE LAW OF THE JUNGLE, GOVERNS THE CONDUCT OF NATIONS.

SO TODAY, TO CONCLUDE, LET ME LEAVE YOU WITH A TWOFOLD MESSAGE -- A MESSAGE I HOPE YOU WILL TAKE TO HEART, AND TAKE BACK TO YOUR COMMUNITIES ALL ACROSS AMERICA.

FIRST, I URGE YOU TO RAISE YOUR VOICE IN SUPPORT OF THE PRESIDENT'S EFFORTS -- IN THE GULF AND IN PROMOTING A NEW WORLD ORDER OF STABILITY AND SECURITY. HE IS MANAGING TREMENDOUSLY COMPLEX PROBLEMS MASTERFULLY. HE NEEDS AND DESERVES OUR FULLEST SUPPORT.

SECOND, I ASSURE YOU -- THERE IS NO SHORTAGE OF CRUDE OIL OR PETROLEUM PRODUCTS, NOR IS THERE LIKELY TO BE. YOU AND I AND ALL AMERICANS SHOULD TRY TO UNDERSTAND THIS AND CONTINUE TO ACT RESPONSIBLY, IN OUR BUSINESSES AND OUR PERSONAL DECISIONS. WE MUST KEEP FAITH WITH THE BRAVE MEN AND WOMEN IN THE MIDDLE EAST WHO CARRY FORWARD THE TORCH OF JUSTICE AND LAW, AND ARE LEADING THE WAY TOWARD A MORE SECURE AND STABLE WORLD.

THANK YOU VERY MUCH. I'D BE HAPPY TO TAKE A FEW QUESTIONS.

**The Secretary of Energy**
Washington, DC 20585

REMARKS BY

JAMES D. WATKINS
ADMIRAL, U.S. NAVY (RETIRED)
SECRETARY OF ENERGY

BEFORE THE

THE NATIONAL PETROLEUM COUNCIL

THE MADISON HOTEL
WASHINGTON, D.C.

JANUARY 23, 1991

OPERATION DESERT STORM IS BARELY A WEEK OLD; AND WHILE THERE ARE SURELY GOING TO BE SOME DIFFICULT TIMES AHEAD, INITIAL RESULTS HAVE BEEN GRATIFYING. MILITARILY, THE OPERATION IS OBVIOUSLY PROCEEDING ACCORDING TO CAREFUL PLAN. THE BRAVE MEN AND WOMEN OF DESERT STORM -- A FORCE DRAWN FROM 28 DIFFERENT NATIONS -- ARE FIGHTING WITH SKILL AND DETERMINATION TO LIBERATE KUWAIT. THEY ARE ALSO FIGHTING WITH STATE-OF-THE-ART EQUIPMENT AND TECHNOLOGY, TO ADVANCE OUR CAUSE AND MINIMIZE CASUALTIES. THEY HAVE OUR FULLEST SUPPORT, AND OUR CONTINUING PRAYERS FOR A SUCCESSFUL MISSION AND A SAFE RETURN TO FRIENDS AND FAMILIES.

AS A NATION, WE CAN TAKE GREAT COMFORT IN THE PRESIDENT'S EXPERIENCED LEADERSHIP. AS SECRETARY OF ENERGY, I HAVE WATCHED AT FIRSTHAND HIS IMPRESSIVE EFFORTS IN BUILDING THE MULTINATIONAL COALITION NOW ARRAYED AGAINST SADDAM HUSSEIN. THE PRESIDENT HAS SHOWN BOTH TOUGHNESS AND COMPASSION. UNWILLING TO COMPROMISE ON PRINCIPLE OR GIVE ANY GROUND TO THE AGGRESSOR, HE NEVERTHELESS WENT THE EXTRA MILE AND PURSUED ALL POSSIBLE DIPLOMATIC AVENUES IN THE SEARCH FOR A PEACEFUL AND JUST SOLUTION. FINALLY, WHEN WAR CAME, THE COALITION WAS TRULY UNITED AND SUPERBLY PREPARED.

WE CAN ALSO BE ENCOURAGED THAT, AT THE OUTBREAK OF HOSTILITIES, OIL PRICES DID NOT SOAR, AS SO MANY HAD FORECAST. IN FACT, AS YOU WELL KNOW, QUITE THE OPPOSITE OCCURRED. THIS IS NO ACCIDENT. RATHER, IT IS THE RESULT OF INITIAL MILITARY SUCCESSES AND A GREAT DEAL OF PLANNING AND INTERNATIONAL COOPERATION <u>BEFORE</u> OUTBREAK OF HOSTILITIES.

I WAS IN THE MIDDLE EAST LAST MONTH, AND SPOKE FRANKLY WITH BOTH SAUDI AND UAE LEADERS AS WELL AS GENERAL SCHWARZKOPF. MY PURPOSE WAS TWOFOLD: FIRST, TO VALIDATE FIRSTHAND THAT, EVEN IN THE EVENT OF HOSTILITIES, THE OIL FIELDS WERE GOING TO CONTINUE TO OPERATE; AND, SECOND, TO ENSURE THAT THE DEPARTMENT OF ENERGY HAD EFFECTIVE CHANNELS OF COMMUNICATION WITH SAUDI AND U.S. OFFICIALS. WE WERE SUCCESSFUL ON BOTH COUNTS.

SAUDI AND UAE OIL FIELDS AND FACILITIES <u>ARE</u> WELL PROTECTED AGAINST MILITARY THREAT AND WILL CONTINUE TO PRODUCE. THE SAUDIS HAVE TOP RATE OPERATING AND SECURITY PERSONNEL IN PLACE; THE MULTINATIONAL FORCE IS WELL POSITIONED TO HELP DEFEND THEM; AND THOROUGH PRECAUTIONS HAVE BEEN TAKEN THERE AGAINST THE THREAT OF TERRORISM.

HERE AT HOME, WE'VE ALSO SEEN REAL EFFORT AND COMMITMENT TO THE PUBLIC GOOD. THE PETROLEUM INDUSTRY WAS RESPONSIVE TO THE PRESIDENT'S CALL FOR INCREASED DOMESTIC OIL PRODUCTION. IT'S UP BEYOND PRIOR PLANS BY SOME 150,000 BARRELS A DAY, AND WILL BE UP ANOTHER 150,000 BARRELS A DAY BY THE END OF THE YEAR. WE ALSO APPRECIATED THE

RESPONSIBLE WAY INDUSTRY ACTED IN THE FACE OF THE QUICK RUN-UP IN CRUDE PRICES AFTER AUGUST 2. YOUR RESTRAINT IN PASSING CRUDE COSTS TOO RAPIDLY INTO THE RETAIL MARKET SHOWED SPECIAL SENSITIVITY TO CONSUMER INTERESTS.

CONSUMERS TOO HAVE DONE THEIR PART. CONSUMPTION IN THE U.S. IS DOWN ABOUT 5 PERCENT FROM THE SAME PERIOD LAST YEAR, AND WORLDWIDE, DOWN ABOUT 2.5 PERCENT -- WHILE SUPPLIES ARE SLIGHTLY ABOVE PRE-INVASION LEVELS.

STILL, TO HEDGE AGAINST EVEN THE POSSIBILITY OF A SUPPLY SHORTAGE, THE INTERNATIONAL ENERGY AGENCY (IEA) ACTED LAST WEEK, AT THE OUTSET OF HOSTILITIES, TO MAKE AN ADDITIONAL TWO MILLION BARRELS OF OIL A DAY AVAILABLE TO THE MARKET. AS PART OF THIS COORDINATED EFFORT, THE U.S. WILL DRAW MORE THAN 33 MILLION BARRELS OF OIL FROM ITS STRATEGIC PETROLEUM RESERVE -- 1.1 MILLIONS BARRELS PER DAY OVER A 30-DAY PERIOD.

NOW SOME HAVE RAISED QUESTION AS TO WHETHER, OR TO WHAT EXTENT, THE SALE SHOULD PROCEED AS PLANNED BY THE IEA NATIONS.....RAISED AFTER THE FIRST DAY'S DRAMATIC DROP IN OIL PRICES WHICH DEFIED PREDICTIONS OF PUNDITS. WELL, I DO NOT BELIEVE THAT A COUPLE OF DAYS OF MARKET ACTIVITY SHOULD BE THE SOLE CRITERIA FOR DECISION-MAKING. IN FACT, A STEADY HAND ON THE TILLER AT THIS JUNCTURE IN THE CAMPAIGN IS PRUDENT, AS I SEE IT. IN FACT, AS PART OF ITS PLAN, THE IEA AGREED TO CONVENE A GOVERNING BOARD MEETING WITHIN 10 DAYS OF ACTIVATION OF ITS PLAN. THE IEA WILL HOLD THIS MEETING ON NEXT MONDAY, TO ASSESS THE SITUATION AND DECIDE ON ANY MODIFICATIONS TO THE COORDINATED PLAN. JOHN EASTON, OUR ASSISTANT SECRETARY FOR INTERNATIONAL ENERGY, WILL ATTEND. THE POTENTIAL FOR A SHORTFALL OF OIL, NOT THE FACT THAT THE PRICE HAS DROPPED, WILL DETERMINE THE IEA RESPONSE. I DO NOT ENVISION ANY CHANGE IN COURSE BY IEA NATIONS UNLESS CIRCUMSTANCES DRAMATICALLY CHANGE OVER THE NEXT FEW DAYS.

REGARDING CURRENT SPR DRAWDOWN PLANS, PRESIDENT BUSH HAS DIRECTED THE SECRETARY OF THE TREASURY TO WAIVE PROVISIONS OF THE JONES ACT, SO THAT TANKERS WILL BE AVAILABLE TO MOVE SPR OIL TO PORTS ALL ALONG OUR COASTS AS NEEDED. BOTH USE OF THE RESERVE AND THE JONES ACT WAIVER WERE RECOMMENDATIONS IN YOUR SHORT TERM PETROLEUM OUTLOOK REPORT.

NOW I'M ASKING YOU FOR ANOTHER GOOD DEED. HELP ME GET THE RIGHT MESSAGE OUT TO THE AMERICAN PEOPLE:

WORLD OIL SUPPLIES ARE FULLY ADEQUATE TODAY. WORLD DEMAND IS DROPPING. STRATEGIC RESERVES ARE MOVING INTO THE MARKET. AND THERE STILL HAS BEEN NO

SIGNIFICANT DAMAGE TO PRODUCTION CAPACITY IN THE PERSIAN GULF. OF COURSE THE THREAT REMAINS, BUT IT SEEMS TO BE WELL MANAGED AT THIS POINT, AS PREDICTED.

THIS IS A MESSAGE WE MUST REPEAT, AND REPEAT, BECAUSE AS YOU AND I KNOW ONLY TOO WELL, CONSUMER CONFIDENCE IS VITAL. AND WHILE WE DON'T HAVE AN OIL SUPPLY PROBLEM NOW, IRRATIONAL CONSUMER BEHAVIOR COULD CREATE ONE.

FOR EXAMPLE, IN 1990 MOTOR GASOLINE IN THE U.S. WAS SUPPLIED AT AN AVERAGE RATE OF 302 MILLION GALLONS A DAY. NOW WE HAVE ROUGHLY 185 MILLION PASSENGER VEHICLES AND SMALL TRUCKS REGISTERED IN THE U.S. SO, IF EVERY DRIVER PANICKED AND DECIDED TO TOP OFF BY JUST TWO GALLONS ON THE SAME DAY, DEMAND WOULD SOAR TO 370 MILLION GALLONS. OF COURSE, ON THAT DAY THERE WOULD BE A "SHORTAGE" -- NOT A REAL MARKET SHORTAGE, BUT A BEHAVIOR-INDUCED SHORTAGE.

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LET ME CONCLUDE BY THANKING THE NPC AGAIN, FOR YOUR FINE WORK AND YOUR UNHESITATING SUPPORT DURING THE PAST DIFFICULT MONTHS. OVER THE YEARS YOU HAVE MADE MANY CONTRIBUTIONS TO OUR NATION'S WELL-BEING, BUT NONE MORE IMPORTANT THAN YOUR FINE RESPONSE IN THE PRESENT CRISIS. I ESPECIALLY APPRECIATE BEING ABLE TO CALL ON YOU AT SHORT NOTICE AND KNOW THAT I WILL RECEIVE YOUR BEST EFFORTS AND JUDGMENT -- AS EXEMPLIFIED IN THE TWO REPORTS YOU'RE DELIVERING TODAY, ON ENERGY EMERGENCY PREPAREDNESS AND SHORT-TERM PETROLEUM OUTLOOK. THEY ARRIVE AT A CRUCIAL TIME FOR OUR COUNTRY.

I ALSO KNOW THAT SOME OF YOU HAVE SONS AND DAUGHTERS, RELATIVES, AND FRIENDS SERVING IN OUR ARMED FORCES IN THE GULF. YOU SHOULD BE DEEPLY PROUD OF THEM. THEY ARE DOING A SUPERB JOB IN SUPPORTING A CAUSE THAT IS JUST AND RIGHT. BECAUSE OF THEM, WE WILL PREVAIL, AND THEN COMMENCE AN AGGRESSIVE SEARCH FOR THE HOPED-FOR NEW WORLD ORDER IN THAT DIFFICULT BUT VITALLY IMPORTANT REGION OF THE WORLD ON WHICH SO MUCH OF MANKIND RELIES.

THANK YOU, AND GOD BLESS THE UNITED STATES OF AMERICA.

THE WHITE HOUSE

Office of the Press Secretary

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For Immediate Release January 22, 1991

## STATEMENT BY THE PRESS SECRETARY

The President met with his national security advisers this afternoon in the Oval Office to discuss Operation Desert Storm. Attending were Vice President Quayle, Secretary of State Baker, Secretary of Defense Cheney, Chairman of the Joint Chiefs General Powell, Chief of Staff Sununu, National Security Adviser Scowcroft, and Deputy NSC Adviser Gates. The meeting is one of a series the President has held with his advisers to discuss the progress of military operations, and the consultations with coalition partners.

Secretary Cheney and General Powell presented the President with an assessment of the military operation, concentrating on the air campaign and its impact on Iraqi targets. The President expressed confidence in the military's performance. Operation Desert Storm proceeds as planned. Secretary Baker reported on Deputy Secretary Eagleburger's mission to Israel.

The latest Iraqi missile attack on Israel is a continued example of Iraq's unprovoked aggression against its neighbors. We condemn this brutal act of terror against innocent victims which has caused a number of casualties. Israel has shown remarkable restraint in the face of this aggression. We continue to consult with the Government of Israel and will continue doing so as events unfold.

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