

Keynote address before the Pacific International Center for High Technology Research: The Aloha State as a bridge in the Pacific era (delivered by S. I. Hayakawa)

Senator Spark M. Matsunaga Papers

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"THE ALOHA STATE AS A BRIDGE IN THE PACIFIC ERA"
KEYNOTE ADDRESS BY THE HONORABLE SPARK M. MATSUNAGA
UNITED STATES SENATOR
BEFORE THE PACIFIC INTERNATIONAL CENTER
FOR HIGH TECHNOLOGY RESEARCH PLANNING MEETING
UNITED STATES EMBASSY
TOKYO, JAPAN
MONDAY, APRIL 23, 1984

(THANK YOU, DR. MATSUDA, FOR YOUR MOST GENEROUS
INTRODUCTION.)

IN BEHALF OF THE UNITED STATES DELEGATES HERE TODAY FROM
HAWAII AND FROM WASHINGTON, D.C., I EXTEND TO OUR DISTINGUISHED
FRIENDS FROM JAPAN A WARM WELCOME; AND IN THE SPIRIT OF THE
OCCASION AND THE LANGUAGE OF MY PARENTS, PERMIT ME TO SAY:
YOROSHIKU ONEGAI ITASHIMASU; OR AS WE SAY IN HAWAII: ALOHA!
ALOHA KAKOU. ALOHA IS OUR HAWAIIAN WORD OF GREETING AND REGARD.
"ALOHA KAKOU" IS A GREETING TO A GROUP WHICH CARRIES THE THOUGHT:
"MAY THERE BE FRIENDSHIP BETWEEN US."

IT IS IN THAT SPIRIT OF ALOHA AND WITH A SENSE OF HONOR
THAT I ADDRESS THIS GATHERING HERE THIS AFTERNOON. THOSE OF US
FROM THE ALOHA STATE ARE MOST GRATEFUL TO AMBASSADOR

MIKE MANSFIELD AND THE HONORABLE MASUMI ESAKI FOR JOINING US THIS AFTERNOON. WE ARE MOST GRATEFUL ALSO FOR THE PRESENCE OF REPRESENTATIVES FROM KEY MINISTRIES AND AGENCIES OF GOVERNMENT, FROM ACADEMIA AND FROM THE PRIVATE SECTOR. SUCH AN ILLUSTRIOUS CROSS-SECTION OF LEADERSHIP SPELLS SUCCESS FOR THIS PLANNING SESSION TODAY AND TOMORROW ON BEHALF OF A MID-PACIFIC ENDEAVOR WHICH I FOR ONE AM CONVINCED CAN BE OF GREAT BENEFIT TO BOTH JAPAN AND THE UNITED STATES.

OUR TWO NATIONS, AS THE WORLD'S TWO GREAT ECONOMIC TRADING PARTNERS, SHARE IN THE BENEFITS OF A RELATIONSHIP UNIQUE AMONG THE COUNTRIES OF THE GLOBE FOR ITS BREADTH AND DEPTH. THIS RELATIONSHIP MUST BE PRESERVED. THE TIES BETWEEN OUR COUNTRIES MUST BE STRENGTHENED AND EXPANDED IN THE INTEREST OF OUR MUTUAL SECURITY, PROSPERITY, AND STABILITY -- AS WELL AS THAT OF THE ENTIRE PACIFIC COMMUNITY OF NATIONS. WORLD PEACE IS BUILT UPON SUCH TIES OF WORLD TRADE.

TO STRENGTHEN AND EXPAND THESE TIES WE MUST SHARE GLOBAL RESPONSIBILITIES IN A COMPREHENSIVE PARTNERSHIP. SUCH A PARTNERSHIP MUST RECOGNIZE THE BROAD RANGE OF OUR COMMERCIAL

INTERCHANGE AND ITS PROSPECTS FOR EXPANSION. IT CANNOT BE BASED UPON A NARROW FOCUS OF CONFRONTATIONAL NEGOTIATIONS REGARDING A FEW MANUFACTURED WARES.

IN THIS CONTEXT, THERE IS OPPORTUNITY FOR THE MUTUAL EXCHANGE OF TECHNOLOGY, AS WELL AS TECHNOLOGY'S FRUITS, THAT CAN REDOUND TO THE BENEFIT OF BOTH OUR COUNTRIES. IN SUCH AN EXCHANGE THE ALOHA STATE OF HAWAII IS EQUIPPED BY CULTURE, LOCATION AND RESOURCES TO PLAY A MOST IMPORTANT ROLE. IT IS WELL TO BEAR THIS POINT IN MIND IN OUR DISCUSSIONS HERE THIS AFTERNOON AND TOMORROW.

AS AN ISLAND CHAIN ON A FAR SMALLER SCALE THAN JAPAN, HAWAII ALSO IS VULNERABLE TO DISLOCATIONS IN THE GLOBAL OIL MARKET AND DEPENDENT UPON FINITE FOSSIL FUEL FOR OUR ENERGY SUPPLY. THIS HAS SPURRED US TO EXPLOIT OUR RENEWABLE ENERGY RESOURCES WHICH WE HAVE IN ABUNDANCE. IN THE PROCESS HAWAII HAS BECOME THE UNITED STATES NATURAL RENEWABLE ENERGY LABORATORY WHERE THE RESEARCH, DEVELOPMENT AND DEMONSTRATION WORK NECESSARY TO BROADEN OUR NATION'S ENERGY "MIX" IS CARRIED OUT. GEOTHERMAL AND BIOMASS, DIRECT SOLAR WATER HEATING, PHOTOVOLTAIC

APPLICATIONS AND THERMAL CO-GENERATION, WIND AND HYDRO-POWER:
ALL THESE ARE OUR RESOURCES AND TECHNOLOGIES BEING TAPPED FOR
ELECTRIC POWER OR ITS REPLACEMENT, WHILE WE EXPLORE THE PROSPECTS
OF OCEAN THERMAL ENERGY CONVERSION FOR THE FUTURE. TO REPLACE
JET FUEL UPON WHICH OUR VISITOR ECONOMY RESTS, WE LOOK TO
HYDROGEN AND THE PRODUCTION OF HYDROCARBONS FROM AQUACULTURE
FARMING. THROUGH THESE DEVELOPMENTS, HAWAII IS SETTING THE PACE
FOR THE UNITED STATES IN THE TRANSITION TO RENEWABLE ENERGY
TECHNOLOGIES.

RESOURCEFUL BY THE NECESSITIES OF ISLAND LIFE, THE PEOPLE
OF MY STATE HAVE BEEN GENEROUS AS WELL, IN EXTENDING THEIR
KNOWLEDGE AND EXPERIENCE TO ASSIST THEIR PACIFIC NEIGHBORS. AS
FULL-FLEDGED AMERICAN CITIZENS FOR A QUARTER CENTURY, THEY HAVE
BEEN KEENLY CONSCIOUS OF THE FACT THAT THEIR ISLAND COMMUNITY IS
THE WESTERN MOST OUTPOST OF AMERICA'S NEW FRONTIER; THEY KNOW
HAWAII IS A BRIDGE BETWEEN THE EAST AND WEST FOR INTERNATIONAL
COOPERATION IN THE CAUSE OF AMITY IN THE PACIFIC AND PEACE
THROUGHOUT THE WORLD. OUR STATEHOOD YEARS HAVE SEEN THE
FORMATION AND DEVELOPMENT OF INSTITUTIONS FOR THIS MISSION: THE

EAST-WEST CENTER FOR CULTURAL AND TECHNICAL INTERCHANGE WITH ITS WORLD RENOWNED SCHOLARS AND SPECIALISTS FROM MANY LANDS, THE UNIVERSITY OF HAWAII AND ITS PROFESSIONAL SCHOOLS AND OVERSEAS TRAINING PROGRAMS, ESPECIALLY IN ENGINEERING, TROPICAL AGRICULTURE, COMPUTER SCIENCES, OCEAN SCIENCES, ASTRONOMY, GEOPHYSICS, HIGH ENERGY PHYSICS, TELECOMMUNICATIONS, BIOTECHNOLOGY, MEDICINE AND RENEWABLE ENERGY. THERE ARE OTHER INSTITUTIONS AS WELL: THE JAPAN-AMERICA INSTITUTE OF MANAGEMENT SCIENCE, THE OVERSEAS OUTREACH PROGRAMS OF BRIGHAM YOUNG UNIVERSITY'S HAWAII CAMPUS AND THOSE OF VARIOUS OTHER PRIVATE GROUPS AND BUSINESS ORGANIZATIONS. ALL THIS HAS FOSTERED AN ATMOSPHERE CONDUCIVE TO INTERNATIONAL ENDEAVORS FROM THE COMMERCE GENERATED BY THE STATE OF HAWAII FOREIGN TRADE ZONE TO THE SCIENTIFIC UNDERTAKINGS SPONSORED BY THE GOVERNMENTS OF CANADA, THE UNITED KINGDOM AND FRANCE IN MOUNTING A TELESCOPE OBSERVATORY ATOP MAUNA KEA. TODAY THE 50TH AMERICAN STATE ENJOYS THE FRUITS OF INTERNATIONAL COMMERCE, IN MANUFACTURING, TRADE AND FINANCE, THAT HAVE GROWN IN TANDEM WITH OUR SCIENTIFIC AND EDUCATIONAL ENDEAVORS. ALL THESE ARE EVIDENCE OF HAWAII'S SUCCESS IN ITS

STATEHOOD ROLE FOR THE UNITED STATES VIS-A-VIS ASIA AND THE
PACIFIC.

AT THIS "PACIFIC BRIDGE" BETWEEN OUR TWO COUNTRIES, HAWAII
THEN IS IDEALLY SUITED, BY LOCATION AND ITS SPECIAL TIES WITH
JAPAN, TO SERVE AS A CENTER FOR THE EXCHANGE OF TECHNOLOGY. IN
RECOGNITION OF THIS POINT, WHICH I HAVE BEEN STRESSING FOR
SEVERAL YEARS NOW, AND IN RESPONSE TO A PROPOSAL I MADE IN AN
ADDRESS BEFORE THE JAPAN-HAWAII SOCIETY IN 1982, THE UNIVERSITY
OF HAWAII HAS ESTABLISHED THE PACIFIC INTERNATIONAL CENTER FOR
HIGH TECHNOLOGY RESEARCH, IN THE UNIVERSITY'S DISTINGUISHED
COLLEGE OF ENGINEERING. THIS CENTER HAS THE FULL SUPPORT NOT
ONLY OF THE STATE ADMINISTRATION AND LEGISLATURE AND THE
UNIVERSITY'S BOARD OF REGENTS, IT ALSO HAS THE RECOGNITION AND
ENDORSEMENT OF KEY FEDERAL AGENCIES, AS EVIDENCED BY THE
PARTICIPATION OF THE DEPARTMENT OF STATE AND THE DEPARTMENT OF
ENERGY HERE THIS AFTERNOON, AND BY THE STRONG SUPPORT OUR
ORGANIZING EFFORTS HAVE RECEIVED FROM VICE PRESIDENT GEORGE BUSH.

THIS INTERNATIONAL CENTER WILL HAVE AS ITS OBJECTIVE THE
PROMOTION AND FOSTERING OF TECHNOLOGICAL EXCHANGE AND COOPERATION

AMONG THE NATIONS OF THE PACIFIC BASIN. ITS RANGE OF INTEREST WILL BE AS EXTENSIVE AS THOSE OF THE STATE OF HAWAII AND THE NATION AT LARGE. IN ACCORDANCE WITH REGIONAL NEED, IT WILL ORGANIZE SYMPOSIA, WORKSHOPS AND SHORT COURSES, AND WILL PUBLISH AND DISTRIBUTE LITERATURE IN ITS FIELD. I AM SURE IT WILL BE AIDED IN ITS MISSION BY THE FELLOWS IN RENEWABLE ENERGY ENGINEERING, OR THE SO-CALLED "FREE" PROGRAM WHICH I WAS INSTRUMENTAL IN ESTABLISHING AT THE UNIVERSITY OF HAWAII, WHEREBY PROFESSOR'S SALARIES ARE AUGMENTED WITH A POOL OF CORPORATE CONTRIBUTIONS. MEMBERS OF THE CENTER'S STEERING COMMITTEE ARE TO BE DRAWN FROM SUCH PACIFIC COUNTRIES AS THE UNITED STATES, JAPAN, TAIWAN, KOREA, SINGAPORE, AND CHINA.

DR. PAUL YUEN AND DR. PATRICK TAKAHASHI WILL BE SPEAKING FURTHER ON THE BACKGROUND OF, AND PROSPECTS FOR, THE CENTER. FOR MY PART I WOULD ASK ALL OF YOU HERE TO CONSIDER THEIR PLANS WITHIN THE FRAMEWORK OF CHANGE THAT JAPAN IS NOW EXPERIENCING AND THE UNITED STATES HAS EXPERIENCED IN THE PAST. TO MOLLIFY CHARGES OF ECONOMIC IMPERIALISM AS A WORLD INDUSTRIAL LEADER, THE UNITED STATES HAS EXPORTED ITS TECHNOLOGICAL KNOW-HOW, ESPECIALLY

IN THE WAKE OF THE SECOND WORLD WAR. JAPAN NOW HAS REACHED A SIMILAR POINT IN ITS REMARKABLE GROWTH FROM AN ECONOMY BASED ON ADAPTED TECHNOLOGIES TO ONE ROOTED UPON INNOVATIVE INTERNAL DEVELOPMENT OF WHOLE NEW TECHNOLOGIES.

CONSIDER JAPAN'S PREEMINENCE IN INDUSTRIAL ROBOTICS. IN ORDER TO EXPORT SUCH HARDWARE IT WOULD BE WELL TO SEEK APPLICATIONS OVERSEAS THAT CAN YIELD "KNOW HOW" FOR USE BACK AT HOME. I SUBMIT THAT HAWAII IS AN IDEAL LOCATION TO EXPLORE OCEAN ROBOTICS. THIS IS A FIELD WITH PARTICULAR APPLICATION TO OCEAN THERMAL ENERGY CONVERSION (OTEC), AQUACULTURE AND DEEP SEABED MINING, ALL AREAS WHEREIN WE IN HAWAII HAVE ESTABLISHED PIONEERING STAKES. THE PACIFIC CENTER COULD BE A VEHICLE FOR JOINT DEVELOPMENT OF ROBOTS THAT CAN BE SENT ON HAZARDOUS MISSIONS IN THE OCEAN ENVIRONMENT, SUCH AS FOR DEEP SEABED MINING OF MANGANESE NODULES, FOR MAINTAINING OTEC STATIONS, AND FOR TENDING AQUACULTURE FARMS. APPLIED OCEAN ROBOTICS AT THE UNIVERSITY OF HAWAII WOULD REPRESENT AN EDUCATIONAL EXCHANGE OF MUTUAL BENEFIT WHILE DEMONSTRATING THE UTILITY OF ROBOTIC HARDWARE.

I THINK OUR JAPANESE FRIENDS MIGHT BE SURPRISED TO LEARN THAT THE UNIVERSITY OF HAWAII IS A WORLD LEADER IN SPACE RESEARCH. ITS INSTITUTE FOR ASTRONOMY DIRECTS THE OBSERVATORY COMPLEX ON THE 13,000 FOOT SUMMIT OF MAUNA KEA, ON THE BIG ISLAND, GENERALLY CONCEDED TO BE THE FINEST ASTRONOMICAL SITE IN THE WORLD. MAUNA KEA HAS BECOME AN INTERNATIONAL CENTER FOR ASTRONOMICAL RESEARCH, WITH SIX TELESCOPES IN PLACE, AND IMMEDIATE PLANS FOR TWO MORE, REPRESENTING SUCH DIVERSE OWNERSHIPS AS NASA, CANADA, FRANCE, THE UNITED KINGDOM, THE NETHERLANDS, AND, OF COURSE, HAWAII. THE UNIVERSITY'S ELITE DIVISION OF PLANETARY GEOSCIENCES HAS DESIGNED REMOTE SENSING INSTRUMENTATION FOR EVERY MAJOR U.S. PLANETARY PROBE OF THE PAST DECADE, INCLUDING THE VIKING AND MARINER SERIES', AND IS EVEN NOW NEGOTIATING A CONTRACT TO DESIGN SATELLITE INSTRUMENTATION FOR A WEST GERMAN ASTEROID MISSION. A SITE ON THE SOUTHERN TIP OF THE BIG ISLAND HAS BEEN SELECTED BY A MAJOR COMMERCIAL SATELLITE COMPANY AS IDEAL FOR LAUNCHING COMMERCIAL SATELLITES INTO GEOSYNCHRONOUS ORBIT, DUE TO ITS EQUATORIAL LOCATION AND ITS PROXIMITY TO SPACE RESEARCH FACILITIES ON THE BIG ISLAND. THE

POSSIBILITIES FOR COLLABORATION WITH JAPAN'S RAPIDLY GROWING SPACE RESEARCH PROGRAM ARE AS OBVIOUS AS THEY ARE EXTENSIVE.

ANOTHER POSSIBILITY I HAVE SUGGESTED IS THE DEVELOPMENT OF HYDROGEN FUEL. SUCH A DEVELOPMENT, BY ITSELF, COULD SOLVE THE POTENTIALLY CRIPPLING DEPENDENCE ON IMPORTED OIL SHARED BY BOTH JAPAN AND THE UNITED STATES. IF WE CAN FIND SOME COST-EFFECTIVE WAY OF EXTRACTING HYDROGEN FROM WATER, WE WILL HAVE A VIRTUALLY UNLIMITED SUPPLY OF NONPOLLUTING FUEL THAT CAN BE USED TO GENERATE ELECTRICITY OR TO POWER AUTOMOBILES, AIRPLANES, SHIPS -- ANYTHING THAT MOVES. I HAVE INTRODUCED A BILL IN THE UNITED STATES SENATE TO ESTABLISH A NATIONAL HYDROGEN RESEARCH & DEVELOPMENT PROGRAM IN ORDER TO ACCELERATE OUR RESEARCH EFFORTS IN THE PRODUCTION OF LIQUID HYDROGEN WHICH HOLDS PROMISE OF BECOMING THE "ULTIMATE" FUEL. AMERICAN RESEARCHERS HAVE RECENTLY USED SOLAR POWER TO EXTRACT HYDROGEN AT RELATIVELY HIGH CONVERSION EFFICIENCIES. THIS REPRESENTS A MAJOR BREAKTHROUGH. HERE IN JAPAN THERE IS THE "PROJECT SUNSHINE" PROGRAM POINTING TOWARD SIMILAR OBJECTIVES. THERE IS, THEN, A COMMON BODY OF INTEREST WHERE COLLABORATIVE EFFORTS OFFER SPEEDIER PROMISE, AND

HAWAII OFFERS AN IDEAL MEETING GROUND.

DOUBTLESS THERE ARE MANY OTHER PROSPECTS FOR MUTUAL ENDEAVOR THROUGH THE RESEARCH CENTER IN SUCH FIELDS AS TELECOMMUNICATIONS, BIOTECHNOLOGY AND THE LIKE. ADDITIONAL IDEAS MAY BE EXPECTED TODAY AND TOMORROW IN THE COURSE OF THESE DELIBERATIONS.

TECHNOLOGY TRANSFER CAN PAVE THE WAY TOWARD JAPAN'S ECONOMIC GOALS AS AN INDUSTRIALIZED EXPORTER TO THE WORLD AT LARGE. THE UNITED STATES RECOGNIZED THIS NECESSITY IN THE PAST. TODAY IT FINDS ITSELF IN NEED OF PRODUCTIVITY ADVANCES ASSOCIATED WITH HIGH TECHNOLOGY IN ORDER TO MAINTAIN ITS OWN ROLE IN WORLD COMMERCE. THE STATE OF HAWAII AND ITS UNIVERSITY PROPOSE THAT THIS NEW INTERNATIONAL CENTER CAN BE THE VEHICLE FOR A PILOT PROJECT IN TECHNOLOGICAL COOPERATION BETWEEN OUR TWO COUNTRIES. THUS, WE OF HAWAII CAN SERVE THE INTERESTS OF BOTH NATIONS.

THE CENTER WE ARE ENDEAVORING TO DESIGN HAS THE POTENTIAL FOR BEING A CATALYST IN FOSTERING COOPERATION AND UNDERSTANDING BETWEEN OUR OWN COUNTRIES AND AMONG ALL PACIFIC NATIONS AS WELL. THE CONSEQUENTIAL BENEFITS WHICH CAN ACCRUE TO THE 50TH STATE MAY

NOT EVEN BE IMAGINED AT THIS STAGE. BUT THE FULL POTENTIAL OF THE PACIFIC INTERNATIONAL CENTER FOR HIGH TECHNOLOGY RESEARCH WILL ONLY MATERIALIZE IF WE WHO ARE CONCERNED WITH ITS PROMISE WILL COMMIT TO THIS UNDERTAKING OUR BOLDEST VISION, OUR CONSTANT INGENUITY, OUR SUSTAINED AND UNFLAGGING ENERGIES. FOR MY PART, I STAND READY TO ASSIST IN ANY APPROPRIATE WAY TO ADVANCE THE POLICIES AND AIMS WHICH MAY BE AGREED UPON AT THIS PLANNING MEETING. I WISH YOU ALL EVERY SUCCESS IN YOUR ENDEAVORS.

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