

Remarks at a luncheon sponsored by the Economic Development Corporation of Honolulu and the University of Hawai'i: Hawai'i's space future

Senator Spark M. Matsunaga Papers

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HAWAII'S SPACE FUTURE

ADDRESS BY THE HONORABLE SPARK MATSUNAGA
UNITED STATES SENATOR
AT A LUNCHEON JOINTLY SPONSORED BY THE ECONOMIC DEVELOPMENT
CORPORATION OF HONOLULU AND THE UNIVERSITY OF HAWAII
ILIKAI HOTEL - PACIFIC BALLROOM
HONOLULU, HAWAII
TUESDAY, DECEMBER 16, 1986

THANK YOU, DIANE (PLOTTS) ~~AND AL (SIMONE)~~ FOR YOUR MOST
GENEROUS INTRODUCTIONS. WHILE LISTENING TO YOU I FELT AS
DR. REUBEN ANDRES OF JOHNS HOPKINS MEDICAL RESEARCH CENTER MUST
HAVE FELT WHILE LISTENING TO THE M.C. INTRODUCING HIM. HE
REMARKED TO THE PERSON SITTING NEXT TO HIM, "WHOM ARE THEY
TALKING ABOUT? I SURE WOULD LIKE TO MEET THAT FELLOW."

LT. GOV. CAYETANO,

OTHER DISTINGUISHED GUESTS, LADIES AND GENTLEMEN - ALOHA! IT IS
A GREAT PRIVILEGE FOR ME TO BE WITH YOU TODAY TO DISCUSS
"HAWAII'S SPACE FUTURE" AT A LUNCHEON APPROPRIATELY HOSTED BY TWO
ORGANIZATIONS ^{*WHICH*} ~~WHO~~ HAVE TAKEN THE LEAD IN ENCOURAGING SPACE
ACTIVITIES IN HAWAII - EDCH IN THE PRIVATE SECTOR AND UH IN THE
PUBLIC SECTOR. ALL THE PEOPLE OF HAWAII ARE INDEBTED TO YOU,
INCLUDING FUTURE GENERATIONS WHO WILL BENEFIT MOST FROM YOUR
VISION.

DURING THE PAST FEW YEARS, MY NUMEROUS ACTIVITIES IN

NATIONAL AND INTERNATIONAL SPACE POLICY MAY HAVE SEEMED TO OTHERS FAR REMOVED FROM HAWAII'S IMMEDIATE CONCERNS. THE TRUTH OF THE MATTER IS FINALLY BEGINNING TO UNFOLD, FOR BEHIND THE SCENES, THOSE ACTIVITIES ALSO HAVE BEEN CONNECTED WITH MY PURSUIT OF AN AWESOME AND POTENTIALLY TRANSFORMING FUTURE FOR HAWAII. AN EXAMPLE OF THAT CONNECTION IS A LITTLE-NOTED INTERNATIONAL CONFERENCE HELD AT THE SHERATON-WAIKIKI HOTEL EXACTLY ONE YEAR AGO - ON DECEMBER 16, 1985. THE CONFERENCE WAS ORGANIZED BY TWO SOCIETIES OF SPACE SCIENTISTS AND ENGINEERS: (1) THE JAPANESE ROCKET SOCIETY AND (2) THE AMERICAN ASTRONAUTICAL SOCIETY. I WAS INVITED TO ~~DELIVER AN OPENING ADDRESS,~~ ^{SPEAK AT HONOLULU THE CONFERENCE,} ALONG WITH A PROMINENT MEMBER OF THE JAPANESE DIET, THE HONORABLE TETSUO KONDO. ^{BUT} _n DUE TO AN UNEXPECTED EXTENSION OF THE CONGRESSIONAL SESSION, I WAS FORCED TO VIDEOTAPE MY ADDRESS. IN IT, I PROPOSED AN ACTIVE ROLE FOR JAPAN IN THE INTERNATIONAL SPACE YEAR, OR ISY, IN 1992. AMONG OTHER THINGS, I SUGGESTED THAT THE GIANT 7.5 METER \$70 MILLION OPTICAL TELESCOPE JAPAN WAS PLANNING FOR THE SUMMIT OF MAUNA KEA BE COMPLETED IN TIME FOR A MAJOR ISY CELEBRATION ON MAUNA KEA IN 1992. MY VIDEOTAPE WAS TAKEN BACK TO TOKYO, WHERE,

I LATER LEARNED, IT STIRRED CONSIDERABLE COMMENT.

MEANWHILE, I WAS CONSIDERING A STUNNING PROPOSAL BY JAPAN'S REPRESENTATIVE KONDO IN HIS SPEECH THAT DAY. AFTER NOTING THAT THE PACIFIC BASIN WOULD EXPERIENCE EXPONENTIAL GROWTH IN SPACE-RELATED ACTIVITIES DURING THE NEXT TWO DECADES, MR. KONDO PROPOSED WHAT HE CALLED, INTERCHANGEABLY, A PACIFIC SPACE CENTER, A PACIFIC SPACE UNIVERSITY, AN INTERNATIONAL SPACEPORT, A PACIFIC SPACE CITY. THE QUESTION AROSE IN MY MIND: WAS HE REFERRING TO HAWAII? A CORRESPONDENCE BETWEEN THE TWO OF US ENSUED. I LEARNED THAT JAPAN WAS SERIOUSLY INTERESTED IN A NEW WARM WEATHER EQUATORIAL LAUNCH SITE. AT THE SAME TIME, JAPAN'S SPACE PROGRAM WAS BARRED BY LAW FROM MILITARY ACTIVITY. THUS, A COMPLETELY OPEN INTERNATIONAL SPACEPORT AS JAPAN'S PRIMARY LAUNCH SITE, EVEN IF IT WAS LOCATED IN ANOTHER COUNTRY, POSED NO MAJOR PROBLEMS FOR THE JAPANESE GOVERNMENT, AND IT OFFERED NUMEROUS ADVANTAGES FOR THE ACCESS IT WOULD AFFORD TO POTENTIAL CUSTOMERS FOR JAPAN'S RAPIDLY EMERGING SPACE INDUSTRY. I ALSO LEARNED, HOWEVER, THAT REPRESENTATIVE KONDO WAS THINKING MORE OF A REMOTE PACIFIC ISLAND NEAR THE EQUATOR.

IN MY CORRESPONDENCE, I NOTED THE FACT THAT A REMOTE EQUATORIAL ISLAND OFFERED CERTAIN ECONOMIC ADVANTAGES BECAUSE THE EXTRA THRUST PROVIDED BY THE EARTH'S SPIN AT THE EQUATOR WOULD REDUCE ROCKET FUEL REQUIREMENTS. BUT I ALSO POINTED OUT THAT MUCH OF THOSE SAVINGS WOULD BE NEGATED BY SEA AND AIR TRANSPORTATION COSTS TO AND FROM A REMOTE SITE FAR REMOVED FROM PRIMARY TRANSPORTATION ROUTES. MOREOVER, THE PACIFIC SPACE CENTER PROPOSED BY REPRESENTATIVE KONDO WAS FAR MORE THAN A LAUNCH FACILITY. IT INCLUDED RESEARCH INSTITUTES, COMMERCIAL FACILITIES, TRAINING CENTERS, INHABITED BY AN INTERNATIONAL COMMUNITY OF SOPHISTICATED SCIENTISTS, ENGINEERS, BUSINESS PEOPLE, PROFESSORS, AND THEIR FAMILIES. A PACIFIC SPACE CENTER THUS REQUIRED A SOPHISTICATED INFRASTRUCTURE, INCLUDING SCHOOLS, CULTURAL ATTRACTIONS, COMMERCIAL SERVICES, EASY ACCESS TO GLOBAL TRANSPORTATION AND COMMUNICATION, AND OTHER AMENITIES SUCH AS COULD ONLY BE FOUND IN ONE ISLAND COMMUNITY IN THE PACIFIC - THE ALOHA STATE. I ALSO NOTED THAT HAWAII WAS ALREADY A WORLD-CLASS CENTER FOR SPACE SCIENCE RESEARCH, AND THAT IT OFFERED THE FINEST ACTIVE ASTRONOMICAL VIEWING SITE IN THE WORLD, AT MAUNA KEA, AND

POTENTIALLY THE FINEST ALL-AROUND LAUNCH SITE.

REPRESENTATIVE KONDO WAS INTRIGUED BY THOSE OBSERVATIONS ABOUT HAWAII AND HE WAS OPENLY ENTHUSIASTIC ABOUT THE ISY. SUBSEQUENTLY, WE AGREED TO SPEARHEAD PLANS FOR A CONFERENCE IN HAWAII IN 1987, AT WHICH CONFERENCE SPACE OFFICIALS OF PACIFIC RIM NATIONS WOULD DISCUSS HOW THEY MIGHT COORDINATE THEIR ACTIVITIES IN AN INTERNATIONAL SPACE YEAR IN 1992. THE HAWAII CONFERENCE AGENDA WOULD BE PREPARED BY A COMMITTEE OF SCIENTISTS FROM THE UNIVERSITY OF HAWAII AND FROM JAPAN'S INSTITUTE OF SPACE AND ASTRONAUTICAL SCIENCE, OR ISAS, WHICH IS JAPAN'S SPACE SCIENCE AGENCY. INVITATIONS WOULD ALSO BE EXTENDED TO THE OTHER SPACE POWERS IN THE PACIFIC REGION, INCLUDING CHINA, THE U.S.S.R., AUSTRALIA, CANADA, INDONESIA, AND INDIA.

PURSUANT TO THE AGREEMENT, I SOUGHT AND OBTAINED COMMITMENTS FOR HIGH-LEVEL PARTICIPATION FROM NASA, THE NATIONAL ACADEMY OF SCIENCES, AND VARIOUS OTHER GOVERNMENT AGENCIES AND PROFESSIONAL ASSOCIATIONS. ALL THESE OUTSIDE COMMITMENTS TO PARTICIPATE, I MUST EMPHASIZE, ARE BEING MADE IN SUPPORT OF UNIVERSITY OF HAWAII SPACE SCIENTISTS, AND PROVIDE TESTIMONY TO

THE INTERNATIONAL RESPECT AND RECOGNITION THEY ENJOY AND THAT IS GROWING UNDER THE DYNAMIC LEADERSHIP OF AL SIMONE. FOR EXAMPLE, WHEN LONG DISTANCE COMMUNICATIONS SLOWED DOWN PLANNING FOR THE HAWAII CONFERENCE, AL SIMONE PERSONALLY TOOK CHARGE AND SENT UH PROFESSOR THOMAS McCORD TO TOKYO LATE LAST MONTH TO NAIL DOWN THE CONFERENCE DATE AND REACH AGREEMENT ON A PRELIMINARY AGENDA.

THE CONFERENCE, I AM HAPPY TO ANNOUNCE TODAY, WILL BE HELD IN KONA, ON THE BIG ISLAND, AUGUST 19-21, 1987. JAPAN'S DELEGATION WILL BE LED BY MR. KONDO, WHO, I MIGHT ADD, IS NOW MINISTER KONDO. LAST AUGUST, HE WAS NAMED MINISTER OF ECONOMIC PLANNING IN THE JAPANESE GOVERNMENT. MINISTER KONDO'S CHIEF RESPONSIBILITY IS TO DETERMINE JAPAN'S INVESTMENT PRIORITIES.

TO PUT IT MILDLY, WE ARE ONTO SOMETHING BIG. THE KONA CONFERENCE WILL BE A HISTORIC EVENT - THE MOST IMPORTANT INTERNATIONAL SPACE CONFERENCE IN THE HISTORY OF THE PACIFIC BASIN - WHICH WILL DIRECTLY ADDRESS THE FUTURE OF COOPERATIVE ACTIVITY IN THE REGION. IT OFFERS A UNIQUE OPPORTUNITY FOR HAWAII TO BECOME THE PACIFIC REGION'S COORDINATING CENTER FOR ISY ACTIVITIES THROUGH THE ISY'S FIVE-YEAR PLANNING CYCLE BETWEEN

1987 AND 1992. SPACE OFFICIALS FROM PACIFIC NATIONS WOULD MAKE HAWAII THEIR CENTRAL MEETING PLACE. THAT MIGHT EASILY LEAD TO THE PERMANENT ESTABLISHMENT OF A WHOLE NEW ARRAY OF SPACE-RELATED ACTIVITIES AND SERVICES THAT WOULD MAKE HAWAII THE SPACE CENTER OF THE PACIFIC JUST AS THE PACIFIC MOVES INTO THE SPACE AGE. TODAY, I WOULD LIKE TO SUGGEST A FEW SPECIFIC PROPOSALS AIMED AT INSURING THAT EXCITING NEW FUTURE FOR HAWAII:

1. HAWAII ALREADY HAS A LARGE SPACE INDUSTRY WITHOUT FULLY REALIZING IT. DATA PROCESSING, TELECOMMUNICATIONS, SHIPPING, AND OTHER DISCRETE BUSINESS ACTIVITIES, ARE ALL INTEGRAL TO AN EMERGING SPACE CENTER. IN PARTICULAR, HAWAII HAS TREMENDOUS POTENTIAL AS A SATELLITE COMMUNICATIONS CENTER BECAUSE A BUSINESS IN HAWAII COULD USE A SATELLITE TO REACH FURTHER INTO ASIA THAN FROM ANY POINT IN THE UNITED STATES. IN THIS REGARD THE ECONOMIC DEVELOPMENT CORPORATION OF HONOLULU COULD PROVIDE AN EXTREMELY VALUABLE SERVICE BY CATALOGUING HONOLULU'S LESS-THAN-OBVIOUS SPACE-RELATED BUSINESS ASSETS IN AN EASILY ACCESSIBLE FORMAT AND THEN PROMOTING THEM ON THE MAINLAND AND ABROAD.

2. FOR THE PEOPLE OF HAWAII, THE BEST KNOWN SPACE SCIENCE FACILITY AT THE UNIVERSITY OF HAWAII IS THE WORLD-FAMOUS INSTITUTE FOR ASTRONOMY, UNDER DIRECTOR DONALD HALL. DON HALL'S SCIENTISTS MANAGE ASTRONOMICAL ACTIVITIES AT MAUNA KEA AND THEY ALSO DESIGN INSTRUMENTS FOR ORBITING SPACE TELESCOPES LAUNCHED BY NASA. THE UH SPACE SCIENCE FACILITY LEAST KNOWN TO THE PEOPLE OF HAWAII IS THE BEST KNOWN IN THE SCIENTIFIC WORLD. IT IS THE WORLD-RENOWNED AND MOST HIGHLY RESPECTED DIVISION OF PLANETARY GEOSCIENCES OF THE UH INSTITUTE OF GEOPHYSICS, UNDER DIRECTOR THOMAS McCORD. TOM McCORD'S SCIENTISTS DESIGN AND BUILD INSTRUMENTS AND SOFTWARE FOR SPACECRAFT AND REDUCE AND ANALYZE DATA SENT BACK BY THOSE SPACECRAFT. THEY ARE CURRENTLY WORKING ON UPCOMING NASA MISSIONS TO VENUS, MARS, AND JUPITER, AS WELL AS A DRAMATIC NASA COMET MISSION SCHEDULED, SIGNIFICANTLY, FOR 1992. THEY ALSO MANAGE NASA'S PACIFIC REGIONAL DATA CENTER, WHICH SERVES THE ENTIRE PACIFIC BASIN. I MYSELF RECEIVED A GUIDED TOUR OF THE UH FACILITIES ONLY LAST MONTH. THE PLACE WAS NOT EASY TO FIND. THIS WORLD-FAMOUS SPACE CENTER IS BURIED IN THE BASEMENT OF SINCLAIR LIBRARY ON THE MANOA CAMPUS, WHERE I USED TO DO MY

HOMework 45 YEARS AGO.

I SUGGEST THAT OUR UNIVERSITY'S WORLD FAMOUS PLANETARY MISSION FACILITY BE SINGLED OUT IN A MANNER COMPARABLE WITH OUR INSTITUTE FOR ASTRONOMY. A GOOD PLACE TO BEGIN WOULD BE ITS NAME. THE NAME PLANETARY GEOSCIENCES DIVISION OF THE INSTITUTE OF GEOPHYSICS ALMOST SEEMS DESIGNED FOR OBLIVION. PERHAPS IT CAN BE RENAMED THE PACIFIC INSTITUTE FOR PLANETARY SCIENCE AND ASSIGNED NEW QUARTERS THAT ARE EVEN MORE DISTINCTIVE THAN THE NEW MARINE SCIENCES BUILDING WHERE A FLOOR HAS BEEN RESERVED FOR IT.

3. HAWAII SHOULD CONSIDER SUBMITTING A PROPOSAL TO NASA FOR A CENTER FOR THE COMMERCIAL DEVELOPMENT OF SPACE THAT LINKS THE UNIVERSITY OF HAWAII AND OUR BUSINESS COMMUNITY. NASA HAS PROVIDED FINANCIAL SUPPORT FOR ESTABLISHING TEN SUCH CENTERS DURING THE PAST TWO YEARS, ON A COMPETITIVE BASIS, FROM PROPOSALS SUBMITTED BY UNIVERSITIES IN ALLIANCE WITH PRIVATE INDUSTRIES. NASA PROVIDES UP TO \$1 MILLION A YEAR FOR A FIVE YEAR PERIOD. 1987 WILL PROBABLY BE THE LAST YEAR FOR NEW APPLICATIONS! THE HAWAII PROPOSAL MIGHT BE COORDINATED BY OUR PROVISIONALLY-NAMED UH INSTITUTE FOR PLANETARY SCIENCE, WHICH DESIGNS INSTRUMENTS AND

SOFTWARE FOR SPACE MISSIONS THAT CAN ALSO BE EMPLOYED IN THE LUCRATIVE BUSINESS OF STUDYING THE EARTH FROM SATELLITES.

THEREIN LIES THE POTENTIAL FOR A FRUITFUL RELATIONSHIP BETWEEN THE UH AND HAWAII'S BUSINESS COMMUNITY ON THE EXACT MODEL OF MIT AND THE THRIVING LOCAL BUSINESS ENVIRONMENT IT HAS FOSTERED. THE DISTINCTIVE QUARTERS I MENTIONED FOR THE PLANETARY SCIENCE GROUP MIGHT ALSO INCLUDE A CENTER FOR THE COMMERCIAL DEVELOPMENT OF SPACE.

4. HAWAII'S SPACE CENTER EFFORTS WOULD RECEIVE AN ADDITIONAL BOOST FROM THE ESTABLISHMENT HERE OF AN INTERNATIONAL REMOTE SENSING AND SPACE COMMUNICATIONS INSTITUTE, WHICH WOULD HAVE WORKING TIES WITH THE UH COMMERCIAL SPACE CENTER, ITS PLANETARY SCIENCE INSTITUTE, AND ITS IMMENSELY SUCCESSFUL PEACESAT PROGRAM THAT TRANSMITS INSTRUCTIONAL ACTIVITIES VIA SATELLITE TO REMOTE AREAS IN THE PACIFIC. SUCH AN INSTITUTE WOULD PRIMARILY SERVE THIRD WORLD NATIONS, WHO BENEFIT GREATLY FROM REMOTE SENSING IMAGERY IN COMBATING DROUGHT AND THE INCURSION OF DESERTS, IN MANAGING FARMING AND IRRIGATION PROGRAMS, FOR COMMUNICATION AND EDUCATION, AND IN NUMEROUS OTHER

WAYS. THE PROBLEM IS THAT MOST THIRD WORLD COUNTRIES LACK THE SKILLS TO USE SATELLITE RECEIVER EQUIPMENT AND TO ANALYZE SATELLITE DATA. AN INTERNATIONAL REMOTE SENSING INSTITUTE MIGHT BE A JOINT PROJECT OF UH AND THE EAST-WEST CENTER, IN CONJUNCTION WITH THE UNITED NATIONS UNIVERSITY, OR UNU. UNU HAS HEADQUARTERS IN TOKYO, BUT IT MAINLY RUNS REGIONAL TRAINING PROGRAMS FOR THIRD WORLD NATIONS - AND IT ESTABLISHES TRAINING INSTITUTES. A REMOTE SENSING AND SPACE COMMUNICATIONS INSTITUTE IS ON ITS AGENDA, BUT A SITE HAS NOT YET BEEN SELECTED.

THAT INSTITUTE, BY THE WAY, WOULD ALSO ACT AS A POWERFUL MAGNET FOR SPACE-RELATED BUSINESSES. THE MOST IMPORTANT UNEXPLOITED MARKET FOR EARTH-BASED REMOTE SENSING AND COMMUNICATIONS EQUIPMENT CONSISTS OF THE THIRD WORLD NATIONS THAT WOULD BE SERVED BY OUR NEW TRAINING INSTITUTE. SPACE BUSINESSES WOULD FLOCK HERE. THAT INITIATIVE ALONE WOULD MAKE HAWAII AN INTERNATIONAL COMMERCIAL SPACE CENTER. I PROPOSE IT AS A TARGET FOR 1992.

5. THE INSTITUTE FOR ASTRONOMY CAN ALSO MAKE A VERY SPECIAL CONTRIBUTION TO HAWAII'S SPACE FUTURE BY 1992, WHEN AT

LEAST TEN MAJOR TELESCOPES WILL BE OPERATING FROM THE SUMMIT OF MAUNA KEA, INCLUDING THE WORLD'S TWO LARGEST OPTICAL TELESCOPES.

EACH OF THOSE TELESCOPES REQUIRES SUPPORT FACILITIES WHICH ~~ARE~~ ^{ADD}

~~BOON~~ TO THE LOCAL ECONOMY. BUT IN ADDITION, BY 1992 MAUNA KEA

WILL BE READY FOR A SOPHISTICATED DATA PROCESSING FACILITY THAT WILL

~~SERVES~~ ALL THE TELESCOPES AND CONNECTS THEM WITH ASTRONOMY

INSTITUTES AROUND THE WORLD. THAT FACILITY COULD NURTURE A

POLLUTION-FREE DATA PROCESSING INDUSTRY ON THE BIG ISLAND THAT

WOULD TIE IN WITH SIMILAR ACTIVITIES ELSEWHERE IN HAWAII.

6. CLEARLY, THE UNIVERSITY OF HAWAII WILL BE THE PRIMARY

INITIAL CONTRIBUTOR TO A PACIFIC SPACE CENTER HERE, AND THAT

CONTRIBUTION SHOULD BE BROADLY CONCEIVED. FOR INSTANCE, I WAS

RECENTLY BRIEFED ON AN EXCITING NEW UH INITIATIVE WHICH WAS NOT

DEVELOPED WITH A PACIFIC SPACE CENTER IN MIND, ^{BUT} WHICH ^C WOULD MAKE

AN IMMENSELY VALUABLE CONTRIBUTION TO THE CONCEPT. IT IS A NEW

SCHOOL FOR PACIFIC, ASIAN AND HAWAIIAN STUDIES ON THE MANOA

CAMPUS, INCLUDING SEPARATE JAPANESE, CHINESE, KOREAN, HAWAIIAN,

PHILIPPINES, AUSTRALIAN, AND NEW ZEALAND STUDY CENTERS, WITH A

~~PARK, GARDEN, AND CULTURAL PAVILIONS.~~ I SUGGEST ^{THAT} THE NEW UH

SCHOOL OFFER SHORT-TERM PROGRAMS FOR AMERICAN BUSINESS PEOPLE WHICH ADDRESS WHAT IS PERHAPS THE BIGGEST OBSTACLE TO GREATER AMERICAN EXPORTS TO ASIA - NAMELY, THE UNFAMILIARITY OF AMERICAN BUSINESSES WITH ASIAN CULTURAL AND ECONOMIC PRACTICES. IF THE NEW UH SCHOOL OFFERS SUCH PROGRAMS, IT WILL GAIN FINANCIAL SUPPORT FROM PRIVATE INDUSTRY WHILE ALSO ADDING GREATLY TO HAWAII'S ATTRACTION AS A HEADQUARTERS FOR THE PACIFIC DIVISIONS OF AMERICAN CORPORATIONS, INCLUDING, OF COURSE, SPACE-RELATED BUSINESSES.

MY LARGER POINT IS THAT, IF IT IS TO SUCCEED, A PACIFIC SPACE CENTER MUST BE CONCEIVED AS A HUMANISTIC AS WELL AS A SCIENTIFIC AND AN ECONOMIC ENTERPRISE. SPACE ISN'T JUST A PLACE. IT IS ALSO AN AGE IN HUMAN HISTORY WHOSE INFLUENCE WILL BE AS PROFOUND AS THE RENAISSANCE. I SINCERELY HOPE THAT THE NEW UH SCHOOL WILL BE COMPLETED BEFORE THE ISY, SO THAT IT CAN BE INVOLVED IN ISY PLANNING AND ACTIVITIES FOR HAWAII.

← p 47. ANOTHER EDUCATIONAL INSTITUTION WITH IMPORTANT SPACE CENTER ASSETS IS THE BISHOP MUSEUM. FOR EXAMPLE, MUSEUM PLANETARIA WILL PLAY AN ACTIVE ROLE IN ISY ACTIVITIES. BISHOP

MUSEUM OFFICIALS HOPE ONE DAY TO BUILD A NEW PLANETARIUM WITH A FUTURISTIC 180 DEGREE IMAX THEATRE, LIKE THE ONE NOW INSTALLED AT THE AIR AND SPACE MUSEUM IN WASHINGTON, D. C. IT IS SUCH A MAGNIFICENT SPACE CENTER OBJECTIVE THAT I PROPOSE THAT 1992 BE ESTABLISHED AS A GOAL FOR ITS ATTAINMENT. IT WOULD BECOME ONE OF HAWAII'S FOREMOST VISITOR ATTRACTIONS.

8. MY EIGHTH PROPOSAL CONCERNS A LAUNCH FACILITY, WHICH IS ESSENTIAL FOR ANY TRULY SIGNIFICANT SPACE CENTER. IN THIS CONNECTION I WOULD LIKE TO EXPRESS MY WARMEST PRAISE AND ADMIRATION FOR HAWAII'S TRULY GREAT BUSINESS VISIONARY - W.A. "DOC" BUYERS. ONLY A DOC BUYERS WOULD HAVE HAD THE IMAGINATION, BUSINESS ACUMEN AND THE COURAGE TO COME UP WITH PROJECT 160, WHICH DOC ANNOUNCED LAST THURSDAY FOR C. BREWER'S FUTURISTIC PLANS FOR THE KA'U DISTRICT ON THE BIG ISLAND. PROJECT 160 IS AN INSPIRED PROPOSAL. IT INCLUDES A UNIQUE HEALTH AND FITNESS RESORT CENTER, A DIVERSIFIED AGRICULTURE COMPLEX, AND, MOST IMPORTANT FOR OUR PURPOSES, A GENEROUS 500-ACRE DONATION OF OCEANFRONT LAND FOR A LAUNCH SITE TO ANY U.S. OR FOREIGN AGENCY OR PRIVATE ENTREPREUR WHO WOULD BUILD A LAUNCH

FACILITY THERE AND NAME IT AFTER HAWAII'S NOBLEST SPACE HERO,
ELLISON ONIZUKA.

FINDING THE RIGHT SPONSORS FOR A SPACE LAUNCH FACILITY IN
HAWAII, AND DEVELOPING IT IN A MANNER ACCEPTABLE TO THE ENTIRE
COMMUNITY, IS AN IMMENSELY COMPLEX UNDERTAKING. BUT I AM
CONVINCED IT CAN BE DONE. WE MUST FIRST RECOGNIZE THAT THE SPACE
AGE IS THE AGE OF LONG LEAD TIMES, IN WHICH NOTHING HAPPENS
OVERNIGHT. AT THIS MOMENT, NASA FACES A BUDGETARY CRISIS, AS A
RESULT OF THE CHALLENGER TRAGEDY AND THE PRESSURES OF
GRAMM-RUDMAN, BUT THAT CAN CHANGE. ALSO, NASA ISN'T THE ONLY
PLAYER IN THIS HIGH STAKES GAME. I HAVE ALREADY MENTIONED
JAPAN'S INTERESTS. CHINA IS ALSO LOOKING FOR A LAUNCH SITE
CLOSER TO THE EQUATOR. IN LIGHT OF THE RECENT DECISION TO LIMIT
THE SHUTTLE'S USE FOR COMMERCIAL LAUNCHES, A NEW PRIVATE LAUNCH
INDUSTRY IS DEVELOPING IN OUR OWN COUNTRY, SPURRING INTEREST
AMONG LARGE AEROSPACE COMPANIES ABOUT LAUNCH SITES. IN RESPONSE
TO ALL THAT ACTIVITY, AUSTRALIA HAS BEGUN TOUTING A POSSIBLE
INTERNATIONAL LAUNCH SITE FOR ITS ^{BWA} CAPE YORK PENINSULA. SINGAPORE
AND BORNEO ALSO HAVE BEEN MENTIONED AS POSSIBLE INTERNATIONAL

LAUNCH SITES. THOSE THREE LOCATIONS ARE ALL CLOSER TO THE EQUATOR THAN HAWAII. BUT NONE OF THEM CAN MATCH OUR ADVANTAGES FOR A PACIFIC SPACE CENTER GRANDLY CONCEIVED. THAT'S WHY IT IS IMPERATIVE TO DEVELOP OUR SPACE ASSETS ACROSS A VERY BROAD FRONT, AS I AM SUGGESTING TODAY, WITH FULL AWARENESS THAT EACH PART WILL HELP THE OTHERS. YOU CAN BE SURE THAT THE PACIFIC SPACE OFFICIALS ASSEMBLED IN KONA NEXT YEAR WILL ALSO BE GIVEN AN OPPORTUNITY TO VISIT OTHER LOCATIONS ON THE BIG ISLAND. I INTEND TO JOIN APPROPRIATE STATE AND COUNTY OFFICIALS TO ESCORT THEM PERSONALLY. BRIEFINGS ABOUT HAWAII'S MANY SPACE ASSETS SHOULD ALSO BE PREPARED. THE MORE WE CAN SHOW THAT WE ARE DOING SOMETHING, THE BETTER OUR CHANCES. I WANT THEM ALL TO GO HOME WANTING TO COME BACK.

9. MY NINTH AND FINAL SUGGESTION PERTAINS TO THE BIG ISLAND LAUNCH FACILITY. IT RELATES TO THE LARGE PARCEL OF LAND NEAR SOUTH POINT, BELONGING TO THE DEPARTMENT OF HAWAIIAN HOME LANDS. SOUTH POINT, OR KA LAE AS IT IS KNOWN TO THE HAWAIIAN COMMUNITY, IS A TRULY SACRED SITE FOR ALL THE PEOPLE OF HAWAII. IT IS REPORTEDLY THE SITE OF THE FIRST POLYNESIAN LANDING IN THE

HAWAIIAN ISLANDS, WHICH WAS ALSO THE FIRST HUMAN LANDING, MORE THAN ONE THOUSAND YEARS AGO. ITS SAND DUNES HOLD ARTIFACTS THAT CATALOGUE THE LONGEST CONTINUOUS RECORD OF SETTLEMENT TO BE FOUND ANYWHERE IN HAWAII - EXTENDING OVER SEVERAL HUNDRED YEARS. WHEN KA LAE WAS THREATENED BY VANDALS A COUPLE OF YEARS AGO, I OBTAINED A FEDERAL APPROPRIATION AND A DONATION FROM THE DONALD REYNOLDS FOUNDATION TO PROTECT THE AREA AND UPGRADE THE MOST IMPORTANT SITES, WHICH ARE ON THE NATIONAL HISTORIC REGISTER. TODAY, I WOULD LIKE TO OFFER A PROPOSAL FOR KA LAE THAT I BELIEVE WOULD COMMEMORATE FOR ALL TIME THE SPIRIT OF THE GREAT VOYAGERS WHO DISCOVERED HAWAII.

I PROPOSE THE HISTORIC SITES AT KA LAE BE PROTECTED BY ESTABLISHING A PARK DEDICATED TO THE MEMORY OF HAWAII'S DISCOVERERS, THAT WOULD SYMBOLIZE AS AN ANCHORING COMPONENT OF OUR STATEWIDE PACIFIC SPACE CENTER. I THINK THE POLYNESIAN VOYAGERS WHO DISCOVERED HAWAII WERE PERHAPS THE MOST DARING EXPLORERS THE HUMAN SPECIES HAS EVER KNOWN. THEY WERE HERALDS OF THE FUTURE. THEY PURSUED NEW WORLDS AND NEW INVENTIONS. WERE HAWAII'S POLYNESIAN DISCOVERERS TO EMERGE AMONG US TODAY, I AM

SURE THEY WOULD ASPIRE TO BE ASTRONAUTS AND ASTRONOMERS, AND TO EXPLORE THE GREATEST OCEAN OF ALL - THE LIMITLESS OCEAN OF SPACE.

THE PARK AT KA LAE WOULD PROTECT HISTORIC SITES AND ALSO DISPLAY VESSELS AND IMPLEMENTS OF THE GREAT POLYNESIAN VOYAGERS WHO DISCOVERED HAWAII. IT MIGHT BE CALLED DISCOVERY PARK. IT COULD BE DEDICATED IN 1992, THE 500TH ANNIVERSARY OF THE DISCOVERY OF AMERICA, THE YEAR OF THE ISY WHOSE PRINCIPAL THEME IS EXPLORATION, AND PERHAPS ALSO THE COMPLETION YEAR FOR A LAUNCH FACILITY CONCEIVED IN THEIR SPIRIT. THE PARK COULD SERVE AS THE FIRST STEP IN BUILDING THE ROADS, ^{INSTALLING} ELECTRICITY AND OTHER INFRASTRUCTURE NECESSARY TO PERMIT LONG OVERDUE SETTLEMENT OF KA LAE HOMESTEADS. THEY HAVE BEEN VACANT TOO LONG FOR LACK OF FUNDS. PERHAPS OUR SPACE EFFORTS CAN HELP SETTLE THEM.

AND THAT, LADIES AND GENTLEMEN, CONCLUDES MY LIST OF ANNOUNCEMENTS AND PROPOSALS CONCERNING HAWAII'S SPACE FUTURE. TO SUMMARIZE, IT BEGINS WITH A SPACE CONFERENCE THAT WILL CREATE A WHOLE NEW RANGE OF POSSIBILITIES FOR THAT FUTURE. IT CONTINUES WITH WHAT MIGHT BE CALLED A HAWAII '92 PROGRAM, DESIGNED TO ESTABLISH HAWAII AS A PACIFIC SPACE CENTER IN TIME FOR THE

INTERNATIONAL SPACE YEAR IN 1992. ALL THE OBJECTIVES ARE WITHIN REACH. BY 1992, IF WE WORK UNITEDLY WITH DEDICATION AND DETERMINATION, HAWAII CAN HAVE AN ORGANIZED AND ARTICULATE SPACE BUSINESS COMMUNITY, A PACIFIC, ASIAN AND HAWAIIAN STUDIES CENTER WITH SPACE-RELATED APPLICATIONS, A HAWAII SPACE STUDIES PROGRAM, A HAWAII PACIFIC PLANETARY SCIENCE INSTITUTE, A HAWAII CENTER FOR THE COMMERCIAL DEVELOPMENT OF SPACE, A HAWAII INTERNATIONAL REMOTE SENSING AND COMMUNICATIONS INSTITUTE, A HAWAII INTERNATIONAL ASTRONOMICAL DATA PROCESSING FACILITY, A HAWAII SATELLITE COMMUNICATIONS INDUSTRY EFFORT, A HAWAII IMAX-EQUIPPED PLANETARIUM, A HAWAII ELLISON ONIZUKA SPACEPORT WITH NUMEROUS SUPPORT FACILITIES INSPIRINGLY PROPOSED BY DOC BUYERS, AND A HAWAII DISCOVERY PARK NEARBY THAT HONORS THE MEMORY OF THE SPIRITUAL ANCESTORS OF SPACE EXPLORATION, THE GREAT POLYNESIAN VOYAGERS. NOW YOU KNOW WHAT THE MARS PROJECT IS ALL ABOUT.

THANK YOU FOR LISTENING.

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HAWAII'S SPACE FUTURE

ADDRESS BY THE HONORABLE SPARK MATSUNAGA

UNITED STATES SENATOR

AT A LUNCHEON JOINTLY SPONSORED BY THE ECONOMIC DEVELOPMENT
CORPORATION OF HONOLULU AND THE UNIVERSITY OF HAWAII

ILIKAI HOTEL - PACIFIC BALLROOM

HONOLULU, HAWAII

TUESDAY, DECEMBER 16, 1986

THANK YOU, DIANE (PLOTTS) FOR YOUR MOST GENEROUS
INTRODUCTION. WHILE LISTENING TO YOU I FELT AS DR. REUBEN ANDRES
OF JOHNS HOPKINS MEDICAL RESEARCH CENTER MUST HAVE FELT WHILE
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WOULD LIKE TO MEET THAT FELLOW." LT. GOVERNOR CAYETANO, OTHER
DISTINGUISHED GUESTS, LADIES AND GENTLEMEN - ALOHA! IT IS A
GREAT PRIVILEGE FOR ME TO BE WITH YOU TODAY TO DISCUSS "HAWAII'S
SPACE FUTURE" AT A LUNCHEON APPROPRIATELY HOSTED BY TWO
ORGANIZATIONS WHICH HAVE TAKEN THE LEAD IN ENCOURAGING SPACE
ACTIVITIES IN HAWAII - EDCH IN THE PRIVATE SECTOR AND UH IN THE
PUBLIC SECTOR. ALL THE PEOPLE OF HAWAII ARE INDEBTED TO YOU,
INCLUDING FUTURE GENERATIONS WHO WILL BENEFIT MOST FROM YOUR

VISION.

DURING THE PAST FEW YEARS, MY NUMEROUS ACTIVITIES IN NATIONAL AND INTERNATIONAL SPACE POLICY MAY HAVE SEEMED TO OTHERS FAR REMOVED FROM HAWAII'S IMMEDIATE CONCERNS. THE TRUTH OF THE MATTER IS FINALLY BEGINNING TO UNFOLD, FOR BEHIND THE SCENES, THOSE ACTIVITIES ALSO HAVE BEEN CONNECTED WITH MY PURSUIT OF AN AWESOME AND POTENTIALLY TRANSFORMING FUTURE FOR HAWAII. AN EXAMPLE OF THAT CONNECTION IS A LITTLE-NOTED INTERNATIONAL CONFERENCE HELD AT THE SHERATON-WAIKIKI HOTEL EXACTLY ONE YEAR AGO - ON DECEMBER 16, 1985. THE CONFERENCE WAS ORGANIZED BY TWO SOCIETIES OF SPACE SCIENTISTS AND ENGINEERS: (1) THE JAPANESE ROCKET SOCIETY AND (2) THE AMERICAN ASTRONAUTICAL SOCIETY. I WAS INVITED TO SPEAK AT THE HONOLULU CONFERENCE, ALONG WITH A PROMINENT MEMBER OF THE JAPANESE DIET, THE HONORABLE TETSUO KONDO. BUT DUE TO AN UNEXPECTED EXTENSION OF THE CONGRESSIONAL SESSION, I WAS FORCED TO VIDEOTAPE MY ADDRESS. IN IT, I PROPOSED AN ACTIVE ROLE FOR JAPAN IN THE INTERNATIONAL SPACE YEAR, OR ISY, IN 1992. AMONG OTHER THINGS, I SUGGESTED THAT THE GIANT 7.5 METER \$70 MILLION OPTICAL TELESCOPE JAPAN WAS

PLANNING FOR THE SUMMIT OF MAUNA KEA BE COMPLETED IN TIME FOR A MAJOR ISY CELEBRATION ON MAUNA KEA IN 1992. MY VIDEOTAPE WAS TAKEN BACK TO TOKYO, WHERE, I LATER LEARNED, IT STIRRED CONSIDERABLE COMMENT.

MEANWHILE, I WAS CONSIDERING A STUNNING PROPOSAL BY JAPAN'S REPRESENTATIVE KONDO IN HIS SPEECH THAT DAY. AFTER NOTING THAT THE PACIFIC BASIN WOULD EXPERIENCE EXPONENTIAL GROWTH IN SPACE-RELATED ACTIVITIES DURING THE NEXT TWO DECADES, MR. KONDO PROPOSED WHAT HE CALLED, INTERCHANGEABLY, A PACIFIC SPACE CENTER, A PACIFIC SPACE UNIVERSITY, AN INTERNATIONAL SPACEPORT, A PACIFIC SPACE CITY. THE QUESTION AROSE IN MY MIND: WAS HE REFERRING TO HAWAII? A CORRESPONDENCE BETWEEN THE TWO OF US ENSUED. I LEARNED THAT JAPAN WAS SERIOUSLY INTERESTED IN A NEW WARM WEATHER EQUATORIAL LAUNCH SITE. AT THE SAME TIME, JAPAN'S SPACE PROGRAM WAS BARRED BY LAW FROM MILITARY ACTIVITY. THUS, A COMPLETELY OPEN INTERNATIONAL SPACEPORT AS JAPAN'S PRIMARY LAUNCH SITE, EVEN IF IT WAS LOCATED IN ANOTHER COUNTRY, POSED NO MAJOR PROBLEMS FOR THE JAPANESE GOVERNMENT, AND IT OFFERED NUMEROUS ADVANTAGES FOR THE ACCESS IT WOULD AFFORD TO

POTENTIAL CUSTOMERS FOR JAPAN'S RAPIDLY EMERGING SPACE INDUSTRY. I ALSO LEARNED, HOWEVER, THAT REPRESENTATIVE KONDO WAS THINKING MORE OF A REMOTE PACIFIC ISLAND NEAR THE EQUATOR.

IN MY CORRESPONDENCE, I NOTED THE FACT THAT A REMOTE EQUATORIAL ISLAND OFFERED CERTAIN ECONOMIC ADVANTAGES BECAUSE THE EXTRA THRUST PROVIDED BY THE EARTH'S SPIN AT THE EQUATOR WOULD REDUCE ROCKET FUEL REQUIREMENTS. BUT I ALSO POINTED OUT THAT MUCH OF THOSE SAVINGS WOULD BE NEGATED BY SEA AND AIR TRANSPORTATION COSTS TO AND FROM A REMOTE SITE FAR REMOVED FROM PRIMARY TRANSPORTATION ROUTES. MOREOVER, THE PACIFIC SPACE CENTER PROPOSED BY REPRESENTATIVE KONDO WAS FAR MORE THAN A LAUNCH FACILITY. IT INCLUDED RESEARCH INSTITUTES, COMMERCIAL FACILITIES, TRAINING CENTERS, INHABITED BY AN INTERNATIONAL COMMUNITY OF SOPHISTICATED SCIENTISTS, ENGINEERS, BUSINESS PEOPLE, PROFESSORS, AND THEIR FAMILIES. A PACIFIC SPACE CENTER THUS REQUIRED A SOPHISTICATED INFRASTRUCTURE, INCLUDING SCHOOLS, CULTURAL ATTRACTIONS, COMMERCIAL SERVICES, EASY ACCESS TO GLOBAL TRANSPORTATION AND COMMUNICATION, AND OTHER AMENITIES SUCH AS COULD ONLY BE FOUND IN ONE ISLAND COMMUNITY IN THE PACIFIC - THE

ALOHA STATE. I ALSO NOTED THAT HAWAII WAS ALREADY A WORLD-CLASS CENTER FOR SPACE SCIENCE RESEARCH, AND THAT IT OFFERED THE FINEST ACTIVE ASTRONOMICAL VIEWING SITE IN THE WORLD, AT MAUNA KEA, AND POTENTIALLY THE FINEST ALL-AROUND LAUNCH SITE.

REPRESENTATIVE KONDO WAS INTRIGUED BY THOSE OBSERVATIONS ABOUT HAWAII AND HE WAS OPENLY ENTHUSIASTIC ABOUT THE ISY. SUBSEQUENTLY, WE AGREED TO SPEARHEAD PLANS FOR A CONFERENCE IN HAWAII IN 1987, AT WHICH CONFERENCE SPACE OFFICIALS OF PACIFIC RIM NATIONS WOULD DISCUSS HOW THEY MIGHT COORDINATE THEIR ACTIVITIES IN AN INTERNATIONAL SPACE YEAR IN 1992. THE HAWAII CONFERENCE AGENDA WOULD BE PREPARED BY A COMMITTEE OF SCIENTISTS FROM THE UNIVERSITY OF HAWAII AND FROM JAPAN'S INSTITUTE OF SPACE AND ASTRONAUTICAL SCIENCE, OR ISAS, WHICH IS JAPAN'S SPACE SCIENCE AGENCY. INVITATIONS WOULD ALSO BE EXTENDED TO THE OTHER SPACE POWERS IN THE PACIFIC REGION, INCLUDING CHINA, THE U.S.S.R., AUSTRALIA, CANADA, INDONESIA, AND INDIA.

PURSUANT TO THE AGREEMENT, I SOUGHT AND OBTAINED COMMITMENTS FOR HIGH-LEVEL PARTICIPATION FROM NASA, THE NATIONAL ACADEMY OF SCIENCES, AND VARIOUS OTHER GOVERNMENT AGENCIES AND

PROFESSIONAL ASSOCIATIONS. ALL THESE OUTSIDE COMMITMENTS TO PARTICIPATE, I MUST EMPHASIZE, ARE BEING MADE IN SUPPORT OF UNIVERSITY OF HAWAII SPACE SCIENTISTS, AND PROVIDE TESTIMONY TO THE INTERNATIONAL RESPECT AND RECOGNITION THEY ENJOY AND THAT IS GROWING UNDER THE DYNAMIC LEADERSHIP OF AL SIMONE. FOR EXAMPLE, WHEN LONG DISTANCE COMMUNICATIONS SLOWED DOWN PLANNING FOR THE HAWAII CONFERENCE, AL SIMONE PERSONALLY TOOK CHARGE AND SENT UH PROFESSOR THOMAS McCORD TO TOKYO LATE LAST MONTH TO NAIL DOWN THE CONFERENCE DATE AND REACH AGREEMENT ON A PRELIMINARY AGENDA.

THE CONFERENCE, I AM HAPPY TO ANNOUNCE TODAY, WILL BE HELD IN KONA, ON THE BIG ISLAND, AUGUST 19-21, 1987. JAPAN'S DELEGATION WILL BE LED BY MR. KONDO, WHO, I MIGHT ADD, IS NOW MINISTER KONDO. LAST AUGUST, HE WAS NAMED MINISTER OF ECONOMIC PLANNING IN THE JAPANESE GOVERNMENT. MINISTER KONDO'S CHIEF RESPONSIBILITY IS TO DETERMINE JAPAN'S INVESTMENT PRIORITIES.

TO PUT IT MILDLY, WE ARE ONTO SOMETHING BIG. THE KONA CONFERENCE WILL BE A HISTORIC EVENT - THE MOST IMPORTANT INTERNATIONAL SPACE CONFERENCE IN THE HISTORY OF THE PACIFIC BASIN - WHICH WILL DIRECTLY ADDRESS THE FUTURE OF COOPERATIVE

ACTIVITY IN THE REGION. IT OFFERS A UNIQUE OPPORTUNITY FOR HAWAII TO BECOME THE PACIFIC REGION'S COORDINATING CENTER FOR ISY ACTIVITIES THROUGH THE ISY'S FIVE-YEAR PLANNING CYCLE BETWEEN 1987 AND 1992. SPACE OFFICIALS FROM PACIFIC NATIONS WOULD MAKE HAWAII THEIR CENTRAL MEETING PLACE. THAT MIGHT EASILY LEAD TO THE PERMANENT ESTABLISHMENT OF A WHOLE NEW ARRAY OF SPACE-RELATED ACTIVITIES AND SERVICES THAT WOULD MAKE HAWAII THE SPACE CENTER OF THE PACIFIC JUST AS THE PACIFIC MOVES INTO THE SPACE AGE. TODAY, I WOULD LIKE TO SUGGEST A FEW SPECIFIC PROPOSALS AIMED AT INSURING THAT EXCITING NEW FUTURE FOR HAWAII:

1. HAWAII ALREADY HAS A LARGE SPACE INDUSTRY WITHOUT FULLY REALIZING IT. DATA PROCESSING, TELECOMMUNICATIONS, SHIPPING, AND OTHER DISCRETE BUSINESS ACTIVITIES, ARE ALL INTEGRAL TO AN EMERGING SPACE CENTER. IN PARTICULAR, HAWAII HAS TREMENDOUS POTENTIAL AS A SATELLITE COMMUNICATIONS CENTER BECAUSE A BUSINESS IN HAWAII COULD USE A SATELLITE TO REACH FURTHER INTO ASIA THAN FROM ANY POINT IN THE UNITED STATES. IN THIS REGARD THE ECONOMIC DEVELOPMENT CORPORATION OF HONOLULU COULD PROVIDE AN EXTREMELY VALUABLE SERVICE BY CATALOGUING HONOLULU'S

LESS-THAN-OBVIOUS SPACE-RELATED BUSINESS ASSETS IN AN EASILY ACCESSIBLE FORMAT AND THEN PROMOTING THEM ON THE MAINLAND AND ABROAD.

2. FOR THE PEOPLE OF HAWAII, THE BEST KNOWN SPACE SCIENCE FACILITY AT THE UNIVERSITY OF HAWAII IS THE WORLD-FAMOUS INSTITUTE FOR ASTRONOMY, UNDER DIRECTOR DONALD HALL. DON HALL'S SCIENTISTS MANAGE ASTRONOMICAL ACTIVITIES AT MAUNA KEA AND THEY ALSO DESIGN INSTRUMENTS FOR ORBITING SPACE TELESCOPES LAUNCHED BY NASA. THE UH SPACE SCIENCE FACILITY LEAST KNOWN TO THE PEOPLE OF HAWAII IS THE BEST KNOWN IN THE SCIENTIFIC WORLD. IT IS THE WORLD-RENOWNED AND MOST HIGHLY RESPECTED DIVISION OF PLANETARY GEOSCIENCES OF THE UH INSTITUTE OF GEOPHYSICS, UNDER DIRECTOR THOMAS MCCORD. TOM MCCORD'S SCIENTISTS DESIGN AND BUILD INSTRUMENTS AND SOFTWARE FOR SPACECRAFT AND REDUCE AND ANALYZE DATA SENT BACK BY THOSE SPACECRAFT. THEY ARE CURRENTLY WORKING ON UPCOMING NASA MISSIONS TO VENUS, MARS, AND JUPITER, AS WELL AS A DRAMATIC NASA COMET MISSION SCHEDULED, SIGNIFICANTLY, FOR 1992. THEY ALSO MANAGE NASA'S PACIFIC REGIONAL DATA CENTER, WHICH SERVES THE ENTIRE PACIFIC BASIN. I MYSELF RECEIVED A GUIDED TOUR

OF THE UH FACILITIES ONLY LAST MONTH. THE PLACE WAS NOT EASY TO FIND. THIS WORLD-FAMOUS SPACE CENTER IS BURIED IN THE BASEMENT OF SINCLAIR LIBRARY ON THE MANOA CAMPUS, WHERE I USED TO DO MY HOMEWORK 45 YEARS AGO.

I SUGGEST THAT OUR UNIVERSITY'S WORLD FAMOUS PLANETARY MISSION FACILITY BE SINGLED OUT IN A MANNER COMPARABLE WITH OUR INSTITUTE FOR ASTRONOMY. A GOOD PLACE TO BEGIN WOULD BE ITS NAME. THE NAME PLANETARY GEOSCIENCES DIVISION OF THE INSTITUTE OF GEOPHYSICS ALMOST SEEMS DESIGNED FOR OBLIVION. PERHAPS IT CAN BE RENAMED THE PACIFIC INSTITUTE FOR PLANETARY SCIENCE AND ASSIGNED NEW QUARTERS THAT ARE EVEN MORE DISTINCTIVE THAN THE NEW MARINE SCIENCES BUILDING WHERE A FLOOR HAS BEEN RESERVED FOR IT.

3. HAWAII SHOULD CONSIDER SUBMITTING A PROPOSAL TO NASA FOR A CENTER FOR THE COMMERCIAL DEVELOPMENT OF SPACE THAT LINKS THE UNIVERSITY OF HAWAII AND OUR BUSINESS COMMUNITY. NASA HAS PROVIDED FINANCIAL SUPPORT FOR ESTABLISHING TEN SUCH CENTERS DURING THE PAST TWO YEARS, ON A COMPETITIVE BASIS, FROM PROPOSALS SUBMITTED BY UNIVERSITIES IN ALLIANCE WITH PRIVATE INDUSTRIES. NASA PROVIDES UP TO \$1 MILLION A YEAR FOR A FIVE YEAR PERIOD.

1987 WILL PROBABLY BE THE LAST YEAR FOR NEW APPLICATIONS! THE HAWAII PROPOSAL MIGHT BE COORDINATED BY OUR PROVISIONALLY-NAMED UH INSTITUTE FOR PLANETARY SCIENCE, WHICH DESIGNS INSTRUMENTS AND SOFTWARE FOR SPACE MISSIONS THAT CAN ALSO BE EMPLOYED IN THE LUCRATIVE BUSINESS OF STUDYING THE EARTH FROM SATELLITES.

THEREIN LIES THE POTENTIAL FOR A FRUITFUL RELATIONSHIP BETWEEN THE UH AND HAWAII'S BUSINESS COMMUNITY ON THE EXACT MODEL OF MIT AND THE THRIVING LOCAL BUSINESS ENVIRONMENT IT HAS FOSTERED. THE DISTINCTIVE QUARTERS I MENTIONED FOR THE PLANETARY SCIENCE GROUP MIGHT ALSO INCLUDE A CENTER FOR THE COMMERCIAL DEVELOPMENT OF SPACE.

4. HAWAII'S SPACE CENTER EFFORTS WOULD RECEIVE AN ADDITIONAL BOOST FROM THE ESTABLISHMENT HERE OF AN INTERNATIONAL REMOTE SENSING AND SPACE COMMUNICATIONS INSTITUTE, WHICH WOULD HAVE WORKING TIES WITH THE UH COMMERCIAL SPACE CENTER, ITS PLANETARY SCIENCE INSTITUTE, AND ITS IMMENSELY SUCCESSFUL PEACESAT PROGRAM THAT TRANSMITS INSTRUCTIONAL ACTIVITIES VIA SATELLITE TO REMOTE AREAS IN THE PACIFIC. SUCH AN INSTITUTE WOULD PRIMARILY SERVE THIRD WORLD NATIONS, WHO BENEFIT GREATLY

FROM REMOTE SENSING IMAGERY IN COMBATING DROUGHT AND THE INCURSION OF DESERTS, IN MANAGING FARMING AND IRRIGATION PROGRAMS, FOR COMMUNICATION AND EDUCATION, AND IN NUMEROUS OTHER WAYS. THE PROBLEM IS THAT MOST THIRD WORLD COUNTRIES LACK THE SKILLS TO USE SATELLITE RECEIVER EQUIPMENT AND TO ANALYZE SATELLITE DATA. AN INTERNATIONAL REMOTE SENSING INSTITUTE MIGHT BE A JOINT PROJECT OF UH AND THE EAST-WEST CENTER, IN CONJUNCTION WITH THE UNITED NATIONS UNIVERSITY, OR UNU. UNU HAS HEADQUARTERS IN TOKYO, BUT IT MAINLY RUNS REGIONAL TRAINING PROGRAMS FOR THIRD WORLD NATIONS - AND IT ESTABLISHES TRAINING INSTITUTES. A REMOTE SENSING AND SPACE COMMUNICATIONS INSTITUTE IS ON ITS AGENDA, BUT A SITE HAS NOT YET BEEN SELECTED.

THAT INSTITUTE, BY THE WAY, WOULD ALSO ACT AS A POWERFUL MAGNET FOR SPACE-RELATED BUSINESSES. THE MOST IMPORTANT UNEXPLOITED MARKET FOR EARTH-BASED REMOTE SENSING AND COMMUNICATIONS EQUIPMENT CONSISTS OF THE THIRD WORLD NATIONS THAT WOULD BE SERVED BY OUR NEW TRAINING INSTITUTE. SPACE BUSINESSES WOULD FLOCK HERE. THAT INITIATIVE ALONE WOULD MAKE HAWAII AN INTERNATIONAL COMMERCIAL SPACE CENTER. I PROPOSE IT AS A TARGET

FOR 1992.

5. THE INSTITUTE FOR ASTRONOMY CAN ALSO MAKE A VERY SPECIAL CONTRIBUTION TO HAWAII'S SPACE FUTURE BY 1992, WHEN AT LEAST TEN MAJOR TELESCOPES WILL BE OPERATING FROM THE SUMMIT OF MAUNA KEA, INCLUDING THE WORLD'S TWO LARGEST OPTICAL TELESCOPES. EACH OF THOSE TELESCOPES REQUIRES SUPPORT FACILITIES WHICH ADD TO THE LOCAL ECONOMY. BUT IN ADDITION, BY 1992 MAUNA KEA WILL BE READY FOR A SOPHISTICATED DATA PROCESSING FACILITY THAT WILL SERVE ALL THE TELESCOPES AND CONNECTS THEM WITH ASTRONOMY INSTITUTES AROUND THE WORLD. THAT FACILITY COULD NURTURE A POLLUTION-FREE DATA PROCESSING INDUSTRY ON THE BIG ISLAND THAT WOULD TIE IN WITH SIMILAR ACTIVITIES ELSEWHERE IN HAWAII.

6. CLEARLY, THE UNIVERSITY OF HAWAII WILL BE THE PRIMARY INITIAL CONTRIBUTOR TO A PACIFIC SPACE CENTER HERE, AND THAT CONTRIBUTION SHOULD BE BROADLY CONCEIVED. FOR INSTANCE, I WAS RECENTLY BRIEFED ON AN EXCITING NEW UH INITIATIVE WHICH WAS NOT DEVELOPED WITH A PACIFIC SPACE CENTER IN MIND, BUT WHICH COULD MAKE AN IMMENSELY VALUABLE CONTRIBUTION TO THE CONCEPT. IT IS A NEW SCHOOL FOR PACIFIC, ASIAN AND HAWAIIAN STUDIES ON THE MANOA

CAMPUS, INCLUDING SEPARATE JAPANESE, CHINESE, KOREAN, HAWAIIAN, PHILIPPINES, AUSTRALIAN, AND NEW ZEALAND STUDY CENTERS, WITH A PARK, GARDEN, AND CULTURAL PAVILIONS. I SUGGEST THAT THE NEW UH SCHOOL OFFER SHORT-TERM PROGRAMS FOR AMERICAN BUSINESS PEOPLE WHICH ADDRESS WHAT IS PERHAPS THE BIGGEST OBSTACLE TO GREATER AMERICAN EXPORTS TO ASIA - NAMELY, THE UNFAMILIARITY OF AMERICAN BUSINESSES WITH ASIAN CULTURAL AND ECONOMIC PRACTICES. IF THE NEW UH SCHOOL OFFERS SUCH PROGRAMS, IT WILL GAIN FINANCIAL SUPPORT FROM PRIVATE INDUSTRY WHILE ALSO ADDING GREATLY TO HAWAII'S ATTRACTION AS A HEADQUARTERS FOR THE PACIFIC DIVISIONS OF AMERICAN CORPORATIONS, INCLUDING, OF COURSE, SPACE-RELATED BUSINESSES.

MY LARGER POINT IS THAT, IF IT IS TO SUCCEED, A PACIFIC SPACE CENTER MUST BE CONCEIVED AS A HUMANISTIC AS WELL AS A SCIENTIFIC AND AN ECONOMIC ENTERPRISE. SPACE ISN'T JUST A PLACE. IT IS ALSO AN AGE IN HUMAN HISTORY WHOSE INFLUENCE WILL BE AS PROFOUND AS THE RENAISSANCE. I SINCERELY HOPE THAT THE NEW UH SCHOOL WILL BE COMPLETED BEFORE THE ISY, SO THAT IT CAN BE INVOLVED IN ISY PLANNING AND ACTIVITIES FOR HAWAII.

7. ANOTHER EDUCATIONAL INSTITUTION WITH IMPORTANT SPACE CENTER ASSETS IS THE BISHOP MUSEUM. FOR EXAMPLE, MUSEUM PLANETARIA WILL PLAY AN ACTIVE ROLE IN ISY ACTIVITIES. BISHOP MUSEUM OFFICIALS HOPE ONE DAY TO BUILD A NEW PLANETARIUM WITH A FUTURISTIC 180 DEGREE IMAX THEATRE, LIKE THE ONE NOW INSTALLED AT THE AIR AND SPACE MUSEUM IN WASHINGTON, D. C. IT IS SUCH A MAGNIFICENT SPACE CENTER OBJECTIVE THAT I PROPOSE THAT 1992 BE ESTABLISHED AS A GOAL FOR ITS ATTAINMENT. IT WOULD BECOME ONE OF HAWAII'S FOREMOST VISITOR ATTRACTIONS.

8. MY EIGHTH PROPOSAL CONCERNS A LAUNCH FACILITY, WHICH IS ESSENTIAL FOR ANY TRULY SIGNIFICANT SPACE CENTER. IN THIS CONNECTION I WOULD LIKE TO EXPRESS MY WARMEST PRAISE AND ADMIRATION FOR HAWAII'S TRULY GREAT BUSINESS VISIONARY - W.A. "DOC" BUYERS. ONLY A DOC BUYERS WOULD HAVE HAD THE IMAGINATION, BUSINESS ACUMEN AND THE COURAGE TO COME UP WITH PROJECT 160, WHICH DOC ANNOUNCED LAST THURSDAY FOR C. BREWER'S FUTURISTIC PLANS FOR THE KA'U DISTRICT ON THE BIG ISLAND. PROJECT 160 IS AN INSPIRED PROPOSAL. IT INCLUDES A UNIQUE HEALTH AND FITNESS RESORT CENTER, A DIVERSIFIED AGRICULTURE COMPLEX,

AND, MOST IMPORTANT FOR OUR PURPOSES, A GENEROUS 500-ACRE DONATION OF OCEANFRONT LAND FOR A LAUNCH SITE TO ANY U.S. OR FOREIGN AGENCY OR PRIVATE ENTREPREUR WHO WOULD BUILD A LAUNCH FACILITY THERE AND NAME IT AFTER HAWAII'S NOBLEST SPACE HERO, ELLISON ONIZUKA.

FINDING THE RIGHT SPONSORS FOR A SPACE LAUNCH FACILITY IN HAWAII, AND DEVELOPING IT IN A MANNER ACCEPTABLE TO THE ENTIRE COMMUNITY, IS AN IMMENSELY COMPLEX UNDERTAKING. BUT I AM CONVINCED IT CAN BE DONE. WE MUST FIRST RECOGNIZE THAT THE SPACE AGE IS THE AGE OF LONG LEAD TIMES, IN WHICH NOTHING HAPPENS OVERNIGHT. AT THIS MOMENT, NASA FACES A BUDGETARY CRISIS, AS A RESULT OF THE CHALLENGER TRAGEDY AND THE PRESSURES OF GRAMM-RUDMAN, BUT THAT CAN CHANGE. ALSO, NASA ISN'T THE ONLY PLAYER IN THIS HIGH STAKES GAME. I HAVE ALREADY MENTIONED JAPAN'S INTERESTS. CHINA IS ALSO LOOKING FOR A LAUNCH SITE CLOSER TO THE EQUATOR. IN LIGHT OF THE RECENT DECISION TO LIMIT THE SHUTTLE'S USE FOR COMMERCIAL LAUNCHES, A NEW PRIVATE LAUNCH INDUSTRY IS DEVELOPING IN OUR OWN COUNTRY, SPURRING INTEREST AMONG LARGE AEROSPACE COMPANIES ABOUT LAUNCH SITES. IN RESPONSE

TO ALL THAT ACTIVITY, AUSTRALIA HAS BEGUN TOUTING A POSSIBLE INTERNATIONAL LAUNCH SITE FOR ITS OWN CAPE YORK PENINSULA. SINGAPORE AND BORNEO ALSO HAVE BEEN MENTIONED AS POSSIBLE INTERNATIONAL LAUNCH SITES. THOSE THREE LOCATIONS ARE ALL CLOSER TO THE EQUATOR THAN HAWAII. BUT NONE OF THEM CAN MATCH OUR ADVANTAGES FOR A PACIFIC SPACE CENTER GRANDLY CONCEIVED. THAT'S WHY IT IS IMPERATIVE TO DEVELOP OUR SPACE ASSETS ACROSS A VERY BROAD FRONT, AS I AM SUGGESTING TODAY, WITH FULL AWARENESS THAT EACH PART WILL HELP THE OTHERS. YOU CAN BE SURE THAT THE PACIFIC SPACE OFFICIALS ASSEMBLED IN KONA NEXT YEAR WILL ALSO BE GIVEN AN OPPORTUNITY TO VISIT OTHER LOCATIONS ON THE BIG ISLAND. I INTEND TO JOIN APPROPRIATE STATE AND COUNTY OFFICIALS TO ESCORT THEM PERSONALLY. BRIEFINGS ABOUT HAWAII'S MANY SPACE ASSETS SHOULD ALSO BE PREPARED. THE MORE WE CAN SHOW THAT WE ARE DOING SOMETHING, THE BETTER OUR CHANCES. I WANT THEM ALL TO GO HOME WANTING TO COME BACK.

9. MY NINTH AND FINAL SUGGESTION PERTAINS TO THE BIG ISLAND LAUNCH FACILITY. IT RELATES TO THE LARGE PARCEL OF LAND NEAR SOUTH POINT, BELONGING TO THE DEPARTMENT OF HAWAIIAN HOME

LANDS. SOUTH POINT, OR KA LAE AS IT IS KNOWN TO THE HAWAIIAN COMMUNITY, IS A TRULY SACRED SITE FOR ALL THE PEOPLE OF HAWAII. IT IS REPORTEDLY THE SITE OF THE FIRST POLYNESIAN LANDING IN THE HAWAIIAN ISLANDS, WHICH WAS ALSO THE FIRST HUMAN LANDING, MORE THAN ONE THOUSAND YEARS AGO. ITS SAND DUNES HOLD ARTIFACTS THAT CATALOGUE THE LONGEST CONTINUOUS RECORD OF SETTLEMENT TO BE FOUND ANYWHERE IN HAWAII - EXTENDING OVER SEVERAL HUNDRED YEARS. WHEN KA LAE WAS THREATENED BY VANDALS A COUPLE OF YEARS AGO, I OBTAINED A FEDERAL APPROPRIATION AND A DONATION FROM THE DONALD REYNOLDS FOUNDATION TO PROTECT THE AREA AND UPGRADE THE MOST IMPORTANT SITES, WHICH ARE ON THE NATIONAL HISTORIC REGISTER. TODAY, I WOULD LIKE TO OFFER A PROPOSAL FOR KA LAE THAT I BELIEVE WOULD COMMEMORATE FOR ALL TIME THE SPIRIT OF THE GREAT VOYAGERS WHO DISCOVERED HAWAII.

I PROPOSE THE HISTORIC SITES AT KA LAE BE PROTECTED BY ESTABLISHING A PARK DEDICATED TO THE MEMORY OF HAWAII'S DISCOVERERS, THAT WOULD SYMBOLIZE AS AN ANCHORING COMPONENT OF OUR STATEWIDE PACIFIC SPACE CENTER. I THINK THE POLYNESIAN VOYAGERS WHO DISCOVERED HAWAII WERE PERHAPS THE MOST DARING

EXPLORERS THE HUMAN SPECIES HAS EVER KNOWN. THEY WERE HERALDS OF THE FUTURE. THEY PURSUED NEW WORLDS AND NEW INVENTIONS. WERE HAWAII'S POLYNESIAN DISCOVERERS TO EMERGE AMONG US TODAY, I AM SURE THEY WOULD ASPIRE TO BE ASTRONAUTS AND ASTRONOMERS, AND TO EXPLORE THE GREATEST OCEAN OF ALL - THE LIMITLESS OCEAN OF SPACE.

THE PARK AT KA LAE WOULD PROTECT HISTORIC SITES AND ALSO DISPLAY VESSELS AND IMPLEMENTS OF THE GREAT POLYNESIAN VOYAGERS WHO DISCOVERED HAWAII. IT MIGHT BE CALLED DISCOVERY PARK. IT COULD BE DEDICATED IN 1992, THE 500TH ANNIVERSARY OF THE DISCOVERY OF AMERICA, THE YEAR OF THE ISY WHOSE PRINCIPAL THEME IS EXPLORATION, AND PERHAPS ALSO THE COMPLETION YEAR FOR A LAUNCH FACILITY CONCEIVED IN THEIR SPIRIT. THE PARK COULD SERVE AS THE FIRST STEP IN BUILDING THE ROADS, INSTALLING ELECTRICITY AND OTHER INFRASTRUCTURE NECESSARY TO PERMIT LONG OVERDUE SETTLEMENT OF KA LAE HOMESTEADS. THEY HAVE BEEN VACANT TOO LONG FOR LACK OF FUNDS. PERHAPS OUR SPACE EFFORTS CAN HELP SETTLE THEM.

AND THAT, LADIES AND GENTLEMEN, CONCLUDES MY LIST OF ANNOUNCEMENTS AND PROPOSALS CONCERNING HAWAII'S SPACE FUTURE. TO SUMMARIZE, IT BEGINS WITH A SPACE CONFERENCE THAT WILL CREATE A

WHOLE NEW RANGE OF POSSIBILITIES FOR THAT FUTURE. IT CONTINUES WITH WHAT MIGHT BE CALLED A HAWAII '92 PROGRAM, DESIGNED TO ESTABLISH HAWAII AS A PACIFIC SPACE CENTER IN TIME FOR THE INTERNATIONAL SPACE YEAR IN 1992. ALL THE OBJECTIVES ARE WITHIN REACH. BY 1992, IF WE WORK UNITEDLY WITH DEDICATION AND DETERMINATION, HAWAII CAN HAVE AN ORGANIZED AND ARTICULATE SPACE BUSINESS COMMUNITY, A PACIFIC, ASIAN AND HAWAIIAN STUDIES CENTER WITH SPACE-RELATED APPLICATIONS, A HAWAII SPACE STUDIES PROGRAM, A HAWAII PACIFIC PLANETARY SCIENCE INSTITUTE, A HAWAII CENTER FOR THE COMMERCIAL DEVELOPMENT OF SPACE, A HAWAII INTERNATIONAL REMOTE SENSING AND COMMUNICATIONS INSTITUTE, A HAWAII INTERNATIONAL ASTRONOMICAL DATA PROCESSING FACILITY, A HAWAII SATELLITE COMMUNICATIONS INDUSTRY EFFORT, A HAWAII IMAX-EQUIPPED PLANETARIUM, A HAWAII ELLISON ONIZUKA SPACEPORT WITH NUMEROUS SUPPORT FACILITIES INSPIRINGLY PROPOSED BY DOC BUYERS, AND A HAWAII DISCOVERY PARK NEARBY THAT HONORS THE MEMORY OF THE SPIRITUAL ANCESTORS OF SPACE EXPLORATION, THE GREAT POLYNESIAN VOYAGERS. NOW YOU KNOW WHAT THE MARS PROJECT IS ALL ABOUT.

THANK YOU FOR LISTENING.