HUMANISTIC SCIENCE AND HUMANISTIC MEDICINE

GOOD AFTERNOON,

DESPITE THE REMARKABLE PHYSICAL RESEMBLANCE THAT MAY CONFUSE MANY OF YOU, I AM NOT FRANCIS COLLINS (SLIDE 1). FRANCIS WAS SCHEDULED TO SERVE AS AAP PRESIDENT THIS YEAR AFTER A DECADE OF SERVICE AS A MEMBER OF OUR COUNCIL. WHEN CONFIRMED BY CONGRESS AS NIH DIRECTOR IN JULY 2009, FRANCIS WAS OBLIGED TO RESIGN AS AAP PRESIDENT. ALL OF US AT THIS MEETING AND ACROSS THE NATION ARE GRATEFUL FOR HIS LEADERSHIP OF THE NIH. HIS TALK THIS MORNING AT THE PLENARY SESSION REMINDED US, ALTHOUGH WE NEEDED NO REMINDER, THAT NIH HAS A DISTINGUISHED SCIENTIST AND A GREAT HUMAN BEING AS ITS DIRECTOR. I WISH TO EXTEND MY DEEP APPRECIATION TO FRANCIS COLLINS, FOR HIS SERVICE TO THE NATION AND TO THE AAP, AND TO WISH HIM A LONG

AND SUCCESSFUL TENURE AS NIH DIRECTOR. (FRANCIS, WOULD YOU STAND SO WE CAN RECOGNIZE YOU).

LET ME ALSO EXPRESS MY APPRECIATION TO JON EPSTEIN, PRESIDENT OF THE ASCI (SLIDE 2), FOR HIS GRACIOUS AND AUTHENTIC PARTNERSHIP THIS PAST YEAR. THE SUCCESS OF THIS MEETING, JOINTLY SPONSORED AND MANAGED BY THE YOUNG FARTS AND THE OLD TURKS, OR IS IT THE OTHER WAY AROUND, JON?, IS EMBLEMATIC OF OUR COMMON PURPOSE, COMMON VALUES AND UNCOMMON FELLOWSHIP. MY THANKS TO JON AND ALL OF HIS FELLOW COUNSELORS FOR THEIR EFFORTS ON BEHALF OF THIS MEETING AND THE PHYSICIAN SCIENTIST COMMUNITY BROADLY. (SLIDE OFF) I AM ESPECIALLY GRATEFUL TO THE MEMBERS OF THE AAP COUNCIL WHOSE WORK ON BEHALF OF THE ASSOCIATION OCCURS QUIETLY AND OUT OF VIEW OF THE MEMBERSHIP. I KNOW FIRSTHAND THE EFFORT INVOLVED IN REVIEWING NOMINATIONS FOR MEMBERSHIP AND MANAGING THE ASSOCIATION. MY FELLOW COUNCILORS, THANK YOU FOR ALL OF YOUR EFFORTS. AND A SPECIAL WORD OF THANKS IS DUE LORI ENNIS, OUR ENORMOUSLY CAPABLE EXECUTIVE

DIRECTOR, WHOSE GRACIOUS MANAGEMENT KEEPS OUR ORGANIZATION RUNNING SMOOTHLY.

INTERNAL MEDICINE SHOULD BE IN ITS GOLDEN AGE. NEVER BEFORE HAVE THE INTELLECTUAL CHALLENGES BEEN GREATER OR THE RICHNESS OF OPPORTUNITY GREATER TO MAKE SCIENTIFIC DISCOVERIES, IMPROVE CLINICAL CARE OR INVIGORATE THE EDUCATION OF OUR STUDENTS AND RESIDENTS. YET AT THE VERY MOMENT WHEN MEDICAL STUDENTS SHOULD BE FLOCKING TO OUR TRAINING PROGRAMS AND RESIDENTS CHOOSING CAREERS JUST LIKE OURS, INTEREST IN INTERNAL MEDICINE HAS DECLINED. IN PART, THE WANING INTEREST IN INTERNAL MEDICINE CAN BE ATTRIBUTED TO EXTERNAL FACTORS THAT WE ALL HAVE LEARNED TO RECITE LIKE A NEW SECULAR CATECHISM: RE-IMBURSEMENT RATES THAT FAVOR PROCEDURAL SPECIALTIES OVER COGNITIVE ONES; INCREASING EMPHASIS ON LIFE-STYLE ISSUES THAT FAVOR WHAT THE MEDICAL STUDENTS REFER TO AS THE ROAD TO HAPPINESS: CAREERS IN RADIOLOGY, OPHTHALMOLOGY, ANESTHESIOLOGY AND DERMATOLOGY; AND CLINICAL GUIDELINES THAT MAKE THE PRACTICE OF

INTERNAL MEDICINE MORE STANDARDIZED, LESS DEPENDENT ON KNOWLEDGE AND JUDGMENT, AND LESS INTERESTING TO THE MOST TALENTED MEDICAL STUDENTS.

BUT THE DECLINE IN INTEREST OF INTERNAL MEDICINE CAN ALSO BE ATTRIBUTED IN PART TO OUR FAILURE TO PRESERVE THE VERY ELEMENTS THAT HAVE ALWAYS MADE INTERNAL MEDICINE EXCITING AND TO INCORPORATE NEW ELEMENTS THAT WOULD INCREASE THE ATTRACTIVENESS OF OUR DISCIPLINE. RE-INVIGORATING INTERNAL MEDICINE IS NOT SELF-SERVING. INTERNAL MEDICINE IS THE FRONT DOOR FOR THE PRACTICE OF MEDICINE FOR ALL ADULT PATIENTS; THE BACKBONE OF THE EDUCATIONAL ENTERPRISE IN OUR MEDICAL SCHOOLS AND HOSPITALS; WE ARE THE RESEARCH ENGINES OF OUR ACADEMIC MEDICAL CENTERS; WE ARE THE CONSCIENCE OF THE PROFESSION OF MEDICINE.

OUR PROFESSION, WITH ITS COMMITMENT TO BETTER HEALTH FOR ALL PEOPLE, IS AT THE VERY CENTER OF HUMAN PROGRESS BOTH IN THIS COUNTRY AND AROUND THE WORLD. YET IT HAS ONLY BEEN IN THE LAST 50 YEARS THAT

MEDICAL CARE HAS BEEN RECOGNIZED AS A BASIC HUMAN RIGHT IN MOST WESTERN COUNTRIES, AND IN OUR GREAT COUNTRY, THAT RIGHT WAS CODIFIED BELATEDLY INTO LAW ONLY IN THE PAST MONTH. JUST AS ACCESS TO MEDICAL CARE MUST NOT BE LIMITED TO THOSE AFFLUENT ENOUGH TO AFFORD IT, THE PRIVILEGE OF PROVIDING MEDICAL CARE MUST NOT BE SEEN PRIMARILY AS A PATH TO AFFLUENCE. ACADEMIC MEDICINE DOES NOT EXIST SO THAT INDIVIDUALS HAVE THE OPPORTUNITY TO EARN A HANDSOME LIVING. MEDICINE EXISTS TO IMPROVE THE HEALTH OF THE PEOPLE.

THE PRIVILEGE TO PROVIDE MEDICAL CARE TO THOSE WHO NEED IT, AND THE PRIVILEGED LIVES WE ENJOY AS COMPENSATION FOR OUR LONG PERIOD OF LEARNING AND SERVICE, DERIVES FROM A SOCIAL CONTRACT BETWEEN OUR PROFESSION AND THE LARGER SOCIETY. THIS SAME CONTRACT GOVERNS NOT JUST OUR DUTY TO THE QUALITY AND CONTENT OF MEDICAL PRACTICE AND MEDICAL EDUCATION, BUT THAT CONTRACT ALSO GOVERNS MEDICAL INVESTIGATION. SOCIETY DOES NOT SUPPORT AN EXTENSIVE BIOMEDICAL RESEARCH ENTERPRISE FOR THE PURPOSE OF OUR OWN SELF-IMPROVEMENT.

WE ARE SUPPORTED SO GENEROUSLY FOR ONE PURPOSE ALONE, A PURPOSE STATED WITH THE UTMOST CLARITY IN THE CHARTER OF THE NATIONAL INSTITUTES OF HEALTH, "…TO IMPROVE THE HEALTH AND HEALTHCARE OF THE AMERICAN PEOPLE."

JUST AS SOCIETY EXPECTS THAT BIOMEDICAL RESEARCH WILL LEAD TO BETTER TREATMENTS FOR THE PREVENTION AND CURE OF DISEASE, THEY HAVE ALSO INVESTED HEAVILY IN GRADUATE MEDICAL EDUCATION CONVINCED BY US THAT CLOSE PROXIMITY TO MEDICAL RESEARCH IS REQUIRED FOR THE BEST INSTRUCTION IN MEDICAL SCIENCE AND THE MEDICAL ARTS. OUR MEETING THIS YEAR IN CHICAGO IS A TESTIMONY TO THE EXTRAORDINARY SCIENCE NOW BEING DONE BY MEMBERS OF OUR ASSOCIATION AND BY MEMBERS OF THE AMERICAN SOCIETY FOR CLINICAL INVESTIGATION. BUT IT IS FAIR TO EXAMINE THE CONTENT OF OUR MEETING AND ASK WHAT IT IS ABOUT OUR ASSOCIATION THAT DISTINGUISHES US FROM A SOCIETY OF MOLECULAR BIOLOGISTS OR MOLECULAR GENETICISTS OR BIOCHEMISTS. ALTHOUGH IT IS DIFFICULT TO DISCERN AT TIMES, I WOULD ARGUE THAT WE ARE UNITED BY A

COMMON INTEREST – THE SICK PATIENT – AND BY A COMMON PURPOSE – TO PREVENT OR CURE DISEASE WHEN WE CAN, OR TO ALLEVIATE SUFFERING WHEN WE CANNOT.

THIS COMMON INTEREST AND COMMON PURPOSE UNITES OUR SCIENCE, PRACTICE AND TEACHING. THE PATIENT'S WELLBEING MOTIVATES THE SOCIAL CONTRACT BETWEEN OUR PROFESSION AND THE PUBLIC. YET BOTH OUR MEDICAL SCIENCE AND OUR MEDICAL PRACTICE ARE PERCEIVED BY THE PUBLIC AS TOO FAR REMOVED FROM THEIR FEARS AND CONCERNS ABOUT THEIR HEALTH. THAT IS WHY I WISH TODAY TO ARGUE THAT A RENEWED COMMITMENT TO HUMANISTIC MEDICINE AND SCIENCE IS ESSENTIAL TO A RENEWAL OF OUR PROFESSION BROADLY AND INTERNAL MEDICINE SPECIFICALLY.

THE ROOTS OF THIS COMMITMENT ARE OLD AND DEEP. THEY EXTEND BACK TO THE MIDDLE OF THE 19TH CENTURY IN EUROPE THAT WAS THEN HOME TO THE GREAT CENTERS OF SCIENCE AND EDUCATION IN MEDICINE. AND NO

EUROPEAN PHYSICIAN AND SCIENTIST WAS MORE CELEBRATED THAN RUDOLF VIRCHOW (SLIDE).

VIRCHOW WAS BORN EARLY IN THE 19TH CENTURY AND DIED JUST AS THE 20TH CENTURY WAS GETTING STARTED. HE PROMOTED THE UNITARY THEORY OF THE CELL, IDENTIFIED THE HARD, LEFT SUPRACLAVICULAR LYMPH NODE THAT BEARS HIS NAME AND IS AN INDICATOR OF ABDOMINAL MALIGNANCY, AND NAMED THE TRIAD OF TRAUMA, STRESS AND HYPERCOAGULABILITY AS THE SUBSTRATE FOR VENOUS THROMBOSIS. FOR HIS MANY ACCOMPLISHMENTS, VIRCHOW WAS CALLED THE "FATHER OF MODERN PATHOLOGY".

VIRCHOW HAD ANOTHER SET OF ACCOMPLISHMENTS. HE WAS AN ANTHROPOLOGIST, A POLITICIAN AND A REFORMER. HE WAS A CHAMPION OF THE "HOPEY-CHANGEY THING' THAT HAS BECOME THE FALSE TARGET OF DEMAGOGUES IN OUR COUNTRY. HE BELIEVED THAT SOCIAL, BEHAVIORAL AND ENVIRONMENTAL CONDITIONS CONTRIBUTED TO DISEASE AND THAT GOVERNMENT WAS ACCOUNTABLE FOR IMPROVING THE HEALTH OF THE

PUBLIC. HE FAMOUSLY STATED THAT "WEALTH, EDUCATION AND FREEDOM WERE THE INDICATORS OF A NATION'S HEALTH". HE WAS ONCE ASKED WHETHER MEDICINE WAS A BIOLOGICAL SCIENCE OR A SOCIAL SCIENCE. AND HE RESPONDED WITH HIS USUAL UNFALTERING CONFIDENCE THAT MEDICINE WAS 100% A BIOLOGICAL SCIENCE. AND 100% A SOCIAL SCIENCE. FOR THESE ACHIEVEMENTS, VIRCHOW IS OFTEN REGARDED AS THE "FATHER OF SOCIAL MEDICINE".

VIRCHOW WAS A VIGOROUS PROPONENT OF HUMANISTIC SCIENCE. HE CARED ABOUT THE MICROBES AND THE ENVIRONMENT THAT PROPAGATED THEM; THE PATHOLOGICAL MECHANISMS UNDERLYING DISEASE AND THE CLINICAL MANIFESTATIONS THAT TYPIFIED ILLNESS. AFTER HIS DEATH, HIS STATURE WAS ECLIPSED BY ONE OF THE FOUNDERS OF THIS ASSOCIATION, THE EXTRAORDINARY CLINICIAN, TEACHER AND SCHOLAR, WILLIAM OSLER. WHAT I FIND SO REMARKABLE ABOUT OSLER IS HIS DEDICATION BOTH TO THE SCIENCE AND CRAFT OF MEDICINE, AND AN UNRELENTING OPTIMISM THAT GAVE EVERY ONE OF HIS PUBLIC ORATIONS A HOPEFULNESS THAT SURELY

INSPIRED HIS COLLEAGUES AND THE BROADER PUBLIC AND THAT CONTINUE TO INSPIRE US TODAY. IN AN ADDRESS OSLER GAVE IN 1910 IN EDINBURGH, WHICH HE TITLED, "MAN'S REDEMPTION OF MAN", OSLER WROTE THAT MAN WOULD BE REDEEMED IN PART BY OUR INCREASING POWER TO CURE DISEASE AND RELIEVE PHYSICAL SUFFERING.

OSLER NAMED SEVERAL EXAMPLES OF THE GREAT ADVANCE OF SCIENCE THAT ENABLED MAN'S PHYSICAL REDEMPTION INCLUDING THE DARING EXPERIMENT OF MAN ON MAN IN THE INTRODUCTION OF ANESTHESIA FOR THE FIRST TIME IN 1846 AT THE MASSACHUSETTS GENERAL HOSPITAL, AND THE GROWTH OF WHAT OSLER REFERS TO AS THE "SANITARY SCIENCES" THAT HE EXPECTED WOULD ELIMINATE THE GREAT PLAGUES OF THE WORLD, NOT ANTICIPATING OF COURSE THE NEW AND STILL DEVASTATING PLAGUE OF HIV/AIDS.

WE HAVE OUR CONTEMPORARY EXAMPLES OF SCIENCE REDEEMING MAN IN OUR ERA THANKS TO THE EXTRAORDINARY WORK OF OUR OWN AAP MEMBERS. THE GREAT SCOURGE OF HEART DISEASE HAS BEEN LESSENED

THANKS TO THE EFFORTS OF MANY IN THE AAP, BUT PROMINENTLY MIKE BROWN AND JOE GOLDSTEIN, WHOSE PIONEERING STUDIES ON THE REGULATION OF CHOLESTEROL METABOLISM HAS ALTERED THE PREVALENCE AND COURSE OF CORONARY ARTERY DISEASE. MANY IN THIS AUDIENCE REMEMBER WHEN HODGKIN'S DISEASE WAS UNIFORMLY FATAL UNTIL HENRY KAPLAN AND SAUL ROSENBERG AT STANFORD USING RADIATION THERAPY AND VINCE DEVITA, GEORGE CANELLOS AND OTHERS USING COMBINATION CHEMOTHERAPY CURED HODGKIN'S DISEASE. I HOPE YOU WILL PERMIT ME TO EXTEND A WORD OF PERSONAL GRATITUDE TO ALL THOSE WHO WERE RESPONSIBLE FOR THAT PARTICULAR ACHIEVEMENT AND TO OTHER MEMBERS OF OUR ASSOCIATION FOR MANY OTHER REMARKABLE CURES OF PREVIOUSLY FATAL DISEASES.

WHEN DISEASES ARE UNIFORMLY FATAL OVER SHORT TIME PERIODS, AS HODGKIN'S DISEASE ONCE WAS, THE BENEFITS OF LIFESAVING THERAPIES ARE RELATIVELY EASY TO DEMONSTRATE. BUT THE BENEFITS OF MOST THERAPIES AND THE HAZARDS ASSOCIATED WITH EXPOSURES THAT INCREASE RISK

MODESTLY, REQUIRE RIGOROUS SCIENTIFIC EVALUATION. INDEED ONE OF THE GREAT ACHIEVEMENTS OF THE SECOND HALF OF THE 20TH CENTURY WAS THE DEVELOPMENT OF METHODS THAT ENABLE US TO DEMONSTRATE THAT CLINICAL THERAPY DOES MORE GOOD THAN HARM. FOR THE EVALUATION OF CLINICAL THERAPY, INVESTIGATORS HAVE DEMANDED RIGOROUS FULFILLMENT OF 3 KEY PRINCIPLES EMBEDDED IN THE SCIENTIFIC METHOD: USE OF "CONTROL" GROUPS; SUFFICIENT SAMPLE SIZE TO ENABLE STATISTICAL CONFIDENCE; AND THE USE OF RANDOMIZATION TO ALLOCATE THERAPY. THESE BIOSTATISTICAL PRINCIPLES, AND OTHERS RELATED TO THEM, WERE HUGE ADVANCES THAT HELPED TO ENSURE VALIDITY IN THE EVALUATION OF TREATMENT EFFECTIVENESS. YET A MAJOR DISADVANTAGE OF THESE SAME METHODOLOGICAL DEVELOPMENTS HAS BEEN THE UNINTENDED IMPACT IN MAKING OUR CLINICAL SCIENCE LESS FLEXIBLE, LESS ADAPTED TO THE ACTUAL EXPERIENCES OF PATIENTS AND LESS HUMANISTIC. LET ME ILLUSTRATE WHAT I MEAN BY THIS DIMINISHED EMPHASIS ON HUMANISTIC SCIENCE.

EARLY IN MY CAREER I WAS INTERESTED IN CONTROVERSIES IN THE DESIGN AND ANALYSIS OF CLINICAL RESEARCH. ONE OF THE DISPUTES TO WHICH I WAS ATTRACTED WAS THE MANAGEMENT OF POST-RANDOMIZATION CHANGES IN TREATMENT IN THE ANALYSIS OF CLINICAL TRIAL DATA. THIS ISSUE SURFACED PROMINENTLY IN STUDIES COMPARING SURGERY WITH MEDICAL THERAPY IN PATIENTS WITH CORONARY ARTERY DISEASE. SOME PATIENTS RANDOMIZED TO SURGERY REFUSED THE OPERATION; OTHERS RANDOMIZED TO MEDICAL TREATMENT WOULD LATER CHOOSE SURGERY. IF THE PRIMARY ENDPOINT IN THE STUDY IS MORTALITY, HOW SHOULD A DEATH BE HANDLED FOR A PATIENT RANDOMIZED TO SURGERY WHO NEVER HAD THE OPERATION; OR A SURVIVOR WHO DECIDED EARLY TO HAVE SURGERY EVEN THOUGH RANDOMIZED TO MEDICINE?

USING THE INTENT-TO-TREAT PRINCIPLE, TRIALISTS ANALYZE THE DATA SO THAT OUTCOMES ARE ATTRIBUTED TO THE TREATMENT AS RANDOMIZED, NOT AS RECEIVED BY THE PATIENT. WHEN THE CORONARY DRUG PROJECT, A

RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED CLINICAL TRIAL, REPORTED THAT LIPID LOWERING DRUGS WERE NOT SUPERIOR TO PLACEBO IN PREVENTING DEATHS AMONG PATIENTS WHO HAD SURVIVED A MYOCARDIAL INFARCTION, CLINICIANS AND TRIALISTS ALIKE ARGUED FOR MORE RELEVANT ANALYSES.

HERE ARE THE RESULTS FROM THE CORONARY DRUG PROJECT TRIAL AS REPORTED BY THE INVESTIGATORS. THE FIVE-YEAR MORTALITY RATES FOR PATIENTS RANDOMIZED TO CLOFIBRATE WERE 18%, AND WERE 19 % FOR THOSE RANDOMIZED TO PLACEBO. THE RESULTS WERE HUGELY DISAPPOINTING. SO THE INVESTIGATORS RESPONDED. SURELY, THEY ARGUED, NO ONE EVER SUGGESTED THAT MEDICATIONS COULD BE EFFECTIVE IN PATIENTS WHO FAILED TO TAKE THEM, WHO FAILED TO ADHERE TO TREATMENT. AND IN FACT, WHEN THE BENEFITS OF CLOFIBRATE WERE ASSESSED ACCORDING TO LEVELS OF ADHERENCE, HIGH ADHERERS HAD A MORTALITY RATE OF ONLY 15%, COMPARED TO A MORTALITY OF 25% IN POOR ADHERERS. SURELY, THIS WAS EVIDENCE FOR THE EFFECTIVENESS OF LIPID-LOWERING DRUGS IN PREVENTING

DEATH AMONG PATIENTS WITH HEART DISEASE. YET WHEN THE INVESTIGATORS NEXT PERFORMED THE SAME ADHERENCE ANALYSIS IN PATIENTS RANDOMIZED TO PLACEBO … WHO COULD HAVE EXPECTED THAT HIGH ADHERERS TO PLACEBO, A BIOLOGICALLY INERT SUBSTANCE, WOULD HAVE A MORTALITY RATE OF 15% AND POOR ADHERERS TO PLACEBO RATE OF 28%. ADHERENCE TO TREATMENT, NOT TREATMENT ITSELF, WAS POWERFULLY ASSOCIATED WITH SURVIVAL AFTER HEART ATTACKS.

THIS PHENOMENON HAS BEEN OBSERVED IN NUMEROUS RCTS WHERE IT HAS BEEN LOOKED FOR. A RELATED PHENOMENON, THE PLACEBO EFFECT, HAS ALSO BEEN OBSERVED CONSISTENTLY IN RCTS OF PAIN AND ANTI-DEPRESSANTS. THE NEUROBIOLOGY OF THIS EFFECT IS BEING EXPLORED IN STUDIES THAT EXAMINE BOTH OPIOID AND NON-OPIOID BRAIN MECHANISMS. AND THE BEST EVIDENCE NOW SUGGESTS THAT ONE OF THE KEY PROCESSES UNDERLYING BOTH THE ADHERENCE AND PLACEBO EFFECTS IS THE PSYCHOLOGICAL PRINCIPLE OF EXPECTANCY.

I RELATE THIS STORY ABOUT ADHERENCE NOT SIMPLY TO CRITICIZE THE LIMITING CONSTRAINTS OF RIGID MATHEMATICAL MODELS, BUT RATHER TO EMPHASIZE THE IMPORTANCE OF RESTORING A FOCUS ON THE FEATURES AND EXPERIENCES OF OUR PATIENTS THAT UNIQUELY DEFINE OUR HUMAN QUALITIES. AFTER YEARS OF NEGLECT OF THE DISTINCTIVE INFORMATION THAT ONLY PATIENTS CAN PROVIDE, WE HAVE AN OPPORTUNITY FOR A NEW BEGINNING.

FOR THIS GRAND NEW OPPORTUNITY, I OFFER MY HEARTFELT APPRECIATION TO MY COLLEAGUES WORKING IN THE FIELD OF HUMAN GENETICS. THE RAPIDLY EXPANDING CAPACITY FOR WHOLE GENOME SEQUENCING IS PROPELLING US RAPIDLY TOWARDS AN ERA IN WHICH CLINICAL INFORMATION WILL BE MORE VALUED THAN EVER BEFORE. NOW, OF COURSE, MUCH OF THE FOCUS IS ON PARA CLINICAL DATA, THE PROTEOMICS, METABOLOMICS AND OTHER – OMICS THAT ARE MOVING RAPIDLY FROM THE LAB TO THE CLINIC. HUMAN PHENOTYPING CANNOT END THERE. MORE THAN EVER WE NEED TO TURN OUR FOCUS TO THE SYMPTOMS, SIGNS AND CLINICAL

COURSE OF OUR PATIENTS. PHYSICAL FINDINGS DETECTED AND MEASURED ACCURATELY DURING THE CLINICAL EXAMINATION WILL BE CELEBRATED ONCE AGAIN, RECOGNIZED NOW AS AMONG THE HUMAN "BIOMARKERS" THAT DEFINE OUR PHENOTYPES. VIRCHOW AND OSLER WOULD BOTH BE DELIGHTED TO LEARN THAT 21ST CENTURY BIOMEDICAL SCIENCE REQUIRES US TO MEASURE OUR PATIENTS' PSYCHOLOGICAL TRAITS, AND THEIR PHYSICAL AND INTELLECTUAL FUNCTIONING, EVEN THEIR SOCIAL CONDITIONS. WITH THESE DATA AND WITH ENRICHED BIOLOGICAL MEASURES, WE WILL NEED TO CREATE NEW DISEASE TAXONOMIES THAT MORE PRECISELY CHARACTERIZE OUR PATIENTS. IN SHORT, WE NEED MORE <u>HUMANISTIC</u> SCIENCE.

THE HOPES AND EXPECTATIONS THAT ARE EVOKED IN THE PATIENT BY THE VERY IDEA OF TREATMENT OR BY THE THERAPEUTIC STYLE OF THE PHYSICIAN, MAY BE CRITICAL TO THE BENEFITS OUR PATIENTS EXPERIENCE. AND JUST AS HUMANISTIC SCIENCE IS NEEDED TO ENRICH OUR UNDERSTANDING OF DISEASE AND ITS TREATMENT, SO, TOO, HUMANISTIC MEDICINE IS NEEDED TO FULFILL THE PROMISE OF INTERNAL MEDICINE.

AS A GENERAL INTERNIST WHOSE RESEARCH HAS FOCUSED ON THE QUANTITATIVE BASIS OF CLINICAL CARE, I WOULD APPEAR TO SHARE LITTLE IN COMMON WITH MANY OF MY COLLEAGUES IN THE AAP AND ASCI WHO ARE HERE AT THIS MEETING. YET, JUST LIKE ALL OF YOU MY CAREER HAS BEEN SHAPED BY ROLE MODELS I ENCOUNTERED AMONG MY TEACHERS, COLLEAGUES AND STUDENTS AND WHO EMBODIED A DEDICATION TO HUMANISTIC MEDICINE. I TRAINED IN INTERNAL MEDICINE IN PLACES WHERE THE SCIENCE AND PRACTICE OF MEDICINE WERE CONNECTED EFFORTLESSLY, AND WHERE THE LEADING PHYSICIAN-SCIENTISTS, WHETHER LABORATORY-BASED OR PATIENT-BASED INVESTIGATORS, WILLINGLY TOOK THEIR TURN CARING FOR PATIENTS AND TEACHING STUDENTS AND RESIDENTS IN THE HOSPITAL. THEY DID SO ALONGSIDE SUPERB CLINICIANS, SENIOR DOCTORS WHO WERE NOTABLE FOR THEIR SKILLS AT THE BEDSIDE AND WHOSE KNOWLEDGE AND EXPERIENCE SHAPED THEIR DECISIONS IN THE CARE OF PATIENTS. I WAS A RESIDENT AT MCGILL'S ROYAL VICTORIA HOSPITAL WITH AAP MEMBER JOHN BECK AS CHAIR OF MEDICINE, AND LATER AT THE

MASSACHUSETTS GENERAL HOSPITAL WITH AAP MEMBER AND KOBER MEDALIST ALEX LEAF AS CHAIR. INTERNAL MEDICINE HOUSESTAFF AT THOSE HOSPITALS WERE INSPIRED TO PURSUE CAREERS IN ACADEMIC MEDICINE THAT EMPHASIZED RESEARCH AND WAS BUILT ON A PLATFORM OF CLINICAL EXCELLENCE. I WORKED WITH MY FELLOW AAP COUNCILOR, WARNER GREENE WHEN I WAS A SENIOR RESIDENT AND HE WAS AN INTERN; AS A NEWLY MINTED FACULTY MEMBER AT YALE I WAS THE ATTENDING PHYSICIAN WHEN MY FELLOW COUNCILOR PAUL ROTHMAN WAS A CLINICAL CLERK ON THE MEDICAL SERVICE. LATER, I REMEMBER BEING ASSIGNED TO ATTEND ON THE MEDICAL SERVICE AT THE WEST HAVEN VA OPPOSITE MY COLLEAGUE AND FELLOW COUNCILOR RICK LIFTON. WHAT A HUMBLING EXPERIENCE. A FORMER BRIGHAM CHIEF RESIDENT, RICK WAS A BETTER DOCTOR THAN I WAS; A DISCIPLINED SCIENTIST, HE BROUGHT RIGOROUS CRITICAL REASONING TO THE CARE OF PATIENTS AT THE BEDSIDE. MEDICAL STUDENTS WHO CLAMORED TO ROTATE ON HIS TEAM INVARIABLY CHOSE TO PURSUE INTERNAL MEDICINE

RESIDENCY; RESIDENTS WHO WORKED WITH HIM WERE INSPIRED TO PURSUE CAREERS AS PHYSICIAN – INVESTIGATORS OR AS SCHOLARLY CLINICIANS.

I RECOUNT THESE EXPERIENCES NOT TO WALLOW IN NOSTALGIA OR TO DECLARE HOW MUCH BETTER THINGS WERE IN THE GOOD OLD DAYS. THESE ARE THE GOOD OLD DAYS. AND EVEN BETTER DAYS ARE AHEAD. OUR RESIDENTS NO LONGER WORK THE HOURS WE DID; THEY HAVE A BETTER BALANCE BETWEEN WORK AND LIFE. THEY HAVE THE BENEFITS OF THE ELECTRONIC MEDICAL RECORD (YES, THERE ARE BENEFITS); THEY HAVE READY ACCESS TO AN ARRAY OF IMAGING AND LABORATORY TECHNOLOGIES THAT WERE UNAVAILABLE JUST 10 YEARS AGO; THEY ARE ABLE TO OFFER OUR PATIENTS INTERVENTIONAL PROCEDURES THAT ARE MAKING SURGERY MORE MEDICAL AND MEDICINE MORE SURGICAL. BUT JUST AS MUCH HAS BEEN GAINED, MUCH HAS BEEN LOST. WHAT HAS BEEN LOST IS THE COMMITMENT OF OUR BEST SCIENTISTS TO CLINICAL EXCELLENCE, THE WELLSPRING FOR HUMANISTIC SCIENCE AND HUMANISTIC MEDICINE. THE DESIRED INTEGRATION OF SCIENCE WITH CLINICAL CARE WILL NOT OCCUR AS FULLY PROMISED

UNLESS WE RESTORE A CULTURE OF SCIENCE BASED EXCELLENCE IN CLINICAL CARE, AND THIS CULTURE WILL NOT EMERGE WITHOUT THE CONCERTED EFFORTS OF MEMBERS OF THIS SOCIETY AND OUR COLLEAGUES IN THE ASCI. TOO MANY OF US HAVE BEEN MISSING FROM THE FRONTLINES OF THIS STRUGGLE AS THE CLINICIANS, TEACHERS AND THE ROLE MODELS.

A COMMITMENT TO CLINICAL EXCELLENCE MODELED BY EXPERIENCED PHYSICIANS WHO WERE SCHOLARS IN WORDS OR DEEDS MADE INTERNAL MEDICINE THE SPECIALTY THAT EVERY TOP MEDICAL STUDENT WISHED TO PURSUE. CLINICAL EXCELLENCE IS THE BEDROCK ON WHICH INTERNAL MEDICINE AND THE AAP HAS BEEN BUILT; CLINICAL EXCELLENCE INTEGRATED WITH SCIENTIFIC EXCELLENCE IS THE HOPE FOR A STRONG RESURGENCE OF INTEREST IN AND INVIGORATION OF INTERNAL MEDICINE IN THE YEARS AHEAD.

THE ELEMENTS OF CLINICAL EXCELLENCE ARE FAMILIAR TO YOU ALL. HIGH LEVELS OF KNOWLEDGE THAT ARE A PRE-REQUISITE TO EXPERTISE; CRITICAL REASONING SKILLS THAT ARE ESSENTIAL FOR THE PARSIMONIOUS PRACTICE OF MEDICINE; A CARING ATTITUDE TOWARDS OUR COLLEAGUES AND

PATIENTS; AND EXCELLENCE IN THE CRAFT OF MEDICINE PRACTICED AT THE BEDSIDE.

RECENTLY, MY COLLEAGUE ABRAHAM VERGHESE AND I HAD THE AUDACITY TO PUBLISH AN ARTICLE IN THE BRITISH MEDICAL JOURNAL TITLED, "IN PRAISE OF THE PHYSICAL EXAMINATION". WE ARGUE THAT BEDSIDE SKILLS NOT ONLY MAKE OUR TRAINEES BETTER DOCTORS, SKILL AT THE BEDSIDE IS A FUNDAMENTAL RITUAL OF MEDICINE THAT ENHANCES PATIENTS' CONFIDENCE IN THEIR DOCTORS AND ENCOURAGES ACCEPTANCE OF OUR ADVICE AND ADHERENCE WITH OUR RECOMMENDATIONS FOR TREATMENT.

TO EMPHASIZE THE IMPORTANCE OF BEDSIDE SKILLS, DR. VERGHESE HAS LED THE DEVELOPMENT OF THE STANFORD 25 THAT SHOWCASES AND TEACHES 25 TECHNIQUE DEPENDENT PHYSICAL EXAM SKILLS TO ALL OF OUR RESIDENTS. HERE IS A LIST OF JUST A FEW OF THOSE 25 THAT ARE BECOMING THE NEW STANFORD CATECHISM. MANY ARE TRADITIONAL SKILLS THAT ALL OF US LEARNED IN OUR OWN TRAINING. OTHERS USE NEW TECHNOLOGIES SUCH AS PORTABLE ULTRASOUND OR PANOPTIC RETINOSCOPES. BUT EVEN THE OLD

SKILLS HAVE NEW MEANING. HOW WILL WE ACHIEVE THE GOAL OF HUMAN PHENOTYPING THAT INCLUDES PHYSICAL FINDINGS IF WE DO NOT OR CANNOT COMPETENTLY EXAMINE OUR PATIENTS. LEARNING TO ELICIT AN ANKLE REFLEX IN A BED-RIDDEN PATIENT REQUIRES ATTENTION TO TECHNIQUE THAT WILL EXTEND TO MANY OTHER SKILLS THAT ARE NEEDED FOR CONTEMPORARY CLINICAL SCIENCE AND CLINICAL CARE. I KNOW THAT THESE EFFORTS ALONE ARE INSUFFICIENT. BUT TO PARAPHRASE PRESIDENT BARACK OBAMA, STARTING TODAY, WE MUST PICK OURSELVES UP, DUST OURSELVES OFF AND BEGIN AGAIN THE WORK OF REMAKING INTERNAL MEDICINE.

AS PHYSICIANS-INVESTIGATORS, WE ARE DEDICATED TO IMPROVING MEDICAL CARE BY INCREASING MEDICAL KNOWLEDGE. OUR GOAL DOES NOT DIFFER FROM OUR COLLEAGUES IN PRACTICE, ONLY OUR APPROACH. NOT SO LONG AGO, THE SAME PERSON COULD HOPE TO BE BOTH A GREAT SCIENTIST AND AN OUTSTANDING CLINICIAN. BUT THE ADVANCE OF SCIENTIFIC KNOWLEDGE AND THE SOPHISTICATION OF RESEARCH TECHNIQUES HAVE

MADE IT DIFFICULT FOR PHYSICIAN INVESTIGATORS TO SERVE BOTH ROLES AS WELL AS WE MIGHT LIKE.

YET, WE CANNOT ALLOW THE DEPTH OF OUR SPECIALIZATION TO NARROW THE BREADTH OF OUR MEDICAL INTERESTS. LET ME ASSERT WHAT I KNOW MANY OF YOU DO NOT WISH TO HEAR: THAT EVERY PHYSICIAN-INVESTIGATOR IN A CLINICAL DEPARTMENT, WHETHER WORKING AS A LABORATORY SCIENTIST OR CLINICAL SCIENTIST, SHOULD RETAIN THE PROFICIENCY TO ATTEND ON THEIR SPECIALTY OR GENERAL MEDICAL WARDS. FREQUENT CONTACT WITH OUR HOUSE STAFF AND FELLOWS IS THE MOST CERTAIN PRECAUTION AGAINST A RESTRICTED APPROACH TO CLINICAL PROBLEMS AND THE MOST CERTAIN INSURANCE THAT WE WILL MAINTAIN A FOCUS ON THE PROBLEMS THAT MATTER MOST TO THE CARE OF OUR PATIENTS.

THE AAP MUST LEAD IN THIS EFFORT. LET US PLEDGE TO END OUR COMPLAINTS THAT INTERNAL MEDICINE TRAINING IS TOO LONG AND INSTEAD WORK FIRST TO MAKE INTERNAL MEDICINE TRAINING BETTER; LET US PLEDGE TO END THE DEBATE ABOUT WHETHER WE NEED MORE BASIC RESEARCH, OR

TRANSLATIONAL RESEARCH, OR POPULATION RESEARCH, AND INSTEAD WORK TO DO ONLY RESEARCH THAT MATTERS. LET US PLEDGE TO END OUR ACADEMIC AMBIVALENCE TOWARDS COLLEAGUES IN PRACTICE WITH WHOM WE SHARE A COMMON PURPOSE OR COLLEAGUES IN INDUSTRY WITH WHOM WE SHARE A COMMON INTEREST, AND INSTEAD WORK TOGETHER TO ADVANCE SCIENCE AND IMPROVE CARE. FINALLY, LET US PLEDGE TO ATTEND ON MEDICINE, RECOGNIZING THAT HOUSE STAFF NEED THE MATURITY AND EXPERIENCE OF SENIOR ATTENDINGS, OF MEMBERS OF THE AAP AND ASCI, AS MUCH AS THEY NEED THE SYSTEMS BASED PRACTICE KNOWLEDGE OF YOUNG HOSPITALISTS!!

FOR MANY YEARS, THE ICONIC PICTURE OF THE CARING PHYSICIAN HAS BEEN THIS PAINTING BY LUKE FILDES. FILDES WAS ASKED BY HENRY TATE TO PAINT A PICTURE FOR HIS NEW NATIONAL GALLERY OF BRITISH ART. FILDES DECIDED TO PAINT A PICTURE INSPIRED BY THE DEATH OF HIS SON, CALLED THE DOCTOR.

I WISH TO SUBSTITUTE A NEW PICTURE THAT CAPTURES FOR ME THE ESSENCE OF THE CARING DOCTOR OF THE MODERN ERA. IN 1999, JEAN WILSON, THE ESTEEMED PHYSICIAN-SCIENTIST AT UNIVERSITY OF TEXAS SOUTH WESTERN, RECEIVED THE KOBER MEDAL FROM OUR SOCIETY. HE WAS INTRODUCED BY HIS COLLEAGUES AND FRIENDS, JOE GOLDSTEIN AND MICHAEL BROWN. DURING THEIR PRESENTATION, THEY DETAILED THE MANY ACCOMPLISHMENTS OF JEAN WILSON AS SCIENTIST, TEACHER, AND LEADER. AND TO ILLUSTRATE HIS DEDICATION TO HIS ROLE AS A PHYSICIAN, THEY SHOWED THIS PICTURE OF JEAN WILSON CUTTING THE TOENAILS OF HIS DIABETIC PATIENTS. JEAN WILSON, PHYSICIAN-SCIENTIST, GAVE DEEP MEANING TO BOTH ROLES.

ON THE WEBSITE OF THE STANFORD DEPARTMENT OF MEDICINE, WE HAVE PLACED THESE WORDS FROM TINSLEY HARRISON WHICH WERE PREPARED FOR THE PREFACE OF THE FIRST EDITION OF HARRISON'S TEXTBOOK IN 1950. THEY RESONATE AS STRONGLY TODAY:

"NO GREATER OPPORTUNITY, RESPONSIBILITY OR OBLIGATION CAN FALL TO THE LOT OF A HUMAN BEING THAN TO BECOME A PHYSICIAN. IN THE CARE OF THE SUFFERING, SHE NEEDS TECHNICAL SKILL, SCIENTIFIC KNOWLEDGE, AND HUMAN UNDERSTANDING. SHE WHO USES THIS WITH COURAGE, WITH HUMILITY AND WITH WISDOM, WILL PROVIDE A UNIQUE SERVICE FOR HER FELLOW BEINGS, AND WILL BUILD AN ENDURING EDIFICE OF CHARACTER WITHIN HERSELF. THE PHYSICIAN SHOULD ASK OF HER DESTINY NO MORE THAN THIS; SHE SHOULD BE CONTENT WITH NO LESS."

THANK YOU FOR THE PRIVILEGE OF SERVING AS PRESIDENT, AND MAY THE AAP CONTINUE TO BRING CREDIT TO OUR PROFESSION.