

COMMENCEMENT ADDRESS - UNIVERSITY OF UTAH
THE THIRD CENTURY IN AMERICAN MEDICINE

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THE TITLE FOR THIS DISCUSSION MAY BE TOO AMBITIOUS, HOWEVER, I HOPE TO USE THIS OCCASION TO CONDUCT AN EXAMINATION OF WHAT LIES AHEAD IN ANESTHESIOLOGY: OUR BRANCH OF MEDICINE.

THE LOOK INTO THE FUTURE HAS MADE ME REAPPRAISE AND EXAMINE SOME ASPECTS OF OUR PAST, AND THE PRESENT - AN EXERCISE WHICH HAS BEEN A USEFUL AND REWARDING EDUCATIONAL EXPERIENCE FOR ME. IT IS NOT ONLY INTERESTING AND OFTEN GOOD FUN TO LOOK AT THINGS THIS WAY, BUT THE FAILURE TO DO SO IS SELF DEFEATING. THE DISTINGUISHED PHILOSOPHER GEORGE SANTAYANA LONG AGO OBSERVED THAT "THOSE WHO ARE UNAWARE OF HISTORY ARE CONDEMNED TO REPEAT IT". THIS OPPORTUNITY TO TALK TO YOU IS A HAPPY ONE FOR ME FOR PERSONAL REASONS. IT BRINGS ME IN CLOSER CONTACT WITH OLD AND GOOD FRIENDS; IT ENABLES ME TO MEET NEW AND VIBRANT PEOPLE IN ANESTHESIOLOGY - AN EXPERIENCE WHICH I GREATLY CHERISH AND ENJOY.

NOW, WE MUST LOOK AT THE IMPORTANT AND SERIOUS ASPECTS OF MY SUBJECT. THE FIRST CENTURY OF THE AMERICAN SCENE IN OUR COUNTRY'S HISTORY WAS MARKED BY AN EXTRAORDINARILY INTERESTING CONFLICT, WHICH HAD LASTING EFFECTS UPON MEDICINE. THE 18TH CENTURY WAS KNOWN AS THE AGE OF REASON. IT WAS THE AGE OF INTELLECTUAL GIANTS; OF UNLIMITED OPTIMISM OF THE POWER OF THE MIND; OF PEOPLE LIKE FRANKLIN, ADAMS, AND JEFFERSON. THE LATE PRESIDENT KENNEDY, WHILE PRESIDING

OVER A DINNER AT THE WHITE HOUSE CONSISTING ENTIRELY OF NOBEL LAUREATES, SAID, "NEVER IN THE HISTORY OF THIS HOUSE HAS SO MUCH TALENT BEEN ASSEMBLED SINCE THE TIME WHEN THOMAS JEFFERSON DINED ALONE". BENJAMIN FRANKLIN, IN THE 18TH CENTURY WROTE, "IT IS IMPOSSIBLE TO IMAGINE THE HEIGHT TO WHICH WE MAY BE CARRIED IN A THOUSAND YEARS, THE POWER OF MAN OVER MATTER. WE MAY PERHAPS EVEN LEARN TO DEPRIVE LARGE MASSES OF THEIR GRAVITY, AND GIVE THEM ABSOLUTE LEVITY, FOR THE SAKE OF EASY TRANSPORT. AGRICULTURE MAY DIMINISH ITS LABOR AND DOUBLE ITS PRODUCE; ALL DISEASES MAY BY SURE MEANS BE PREVENTED OR CURED." NOTE THESE EXAMPLES OF INTELLIGENCE, REASON AND OPTIMISM.

THE INTELLECTUALITY OF AMERICA'S FIRST CENTURY AND ITS OPTIMISTIC EXPECTATION IN SO MANY AREAS INCLUDING THE FIELD OF HEALTH AND DISEASE, STANDS IN SHARP CONTRAST TO THE CAPABILITY OF THE MEDICINE OF THAT ERA. IT HAS BEEN A CONSTANT PUZZLE TO ME THAT SO MUCH OPTIMISM ABOUT THE CONTROL OF DISEASE, ITS PREVENTION, AND ITS MANAGEMENT, SHOULD HAVE OCCURRED WHEN THE MEDICINE OF THE TIMES HAD MADE LITTLE PROGRESS IN THE PAST CENTURIES AND THERE WAS NO REAL BASIS FOR THEIR GREAT EXPECTATIONS. THERE WAS ALMOST NOTHING KNOWN OF IMPORTANCE IN ELEMENTARY MATTERS SUCH AS STRAIGHTFORWARD CLINICAL CARE FOR THE COMMON ILLNESSES OR INJURIES.

FROM THE TIME OF ITS DISCOVERY, THE DEVELOPMENT OF ANESTHESIOLOGY HAS BEEN A MAJOR CONTRIBUTION TO THE WELFARE OF ALL HUMANITY. THIS TREMENDOUS ACCOMPLISHMENT IN THE UNITED STATES WAS NOT FOLLOWED QUICKLY BY A MAJOR APPLICATION TO PATIENT CARE. UNFORTUNATELY, THERE WAS A VERY SLOW EVOLUTION. ANYBODY AVAILABLE, RANGING FROM PHYSICIANS AND NURSES TO ORDERLIES OR OTHERS COULD

ADMINISTER ETHER. THERE SEEMED TO BE GRUDGING AND INADEQUATE APPRECIATION OF THIS MAGNIFICENT ACCOMPLISHMENT, EVEN THOUGH IN RETROSPECT THE DISCOVERY OF ANESTHESIA HAS ALWAYS BEEN HAILED AS A MAJOR ACHIEVEMENT BY AMERICA.

THERE WAS CERTAINLY NO UNIVERSITY PRESENCE IN ANESTHESIA NOR FOR THAT MATTER WAS THERE MUCH IN ANY OTHER BRANCH OF MEDICINE UNTIL THE PERIOD OF THE FAMOUS FLEXNER REPORT OF 1912 MIDWAY IN THE SECOND AMERICAN CENTURY. THERE WAS NO ORGANIZED PROCESS OF RESEARCH IN ANESTHESIOLOGY ALTHOUGH THERE WERE SCIENTISTS INTERESTED IN RELATED BASIC SCIENCES THAT DEALT WITH THE LAWS OF NATURE WHICH WOULD HAVE APPLICATION TO VARIOUS ASPECTS OF THE ANESTHETIC PROCESS.

WORLD WAR I STIMULATED AN INTEREST IN OUR FIELD BOTH IN THE UNITED STATES AND TO A GREATER EXTENT IN BRITAIN. WORLD WAR II HOWEVER HAD A MAJOR IMPACT UPON THE DEVELOPMENT OF ALL OF MEDICINE, BIOMEDICAL SCIENCE AND ANESTHESIOLOGY ALONG WITH IT. THIS WAS THE PERIOD IN WHICH THE PEOPLE OF THE UNITED STATES AS A MATTER OF PUBLIC POLICY DECIDED TO INVEST THEIR MONEY IN THE DEVELOPMENT OF FUNDAMENTAL KNOWLEDGE WHICH THEY HOPED WOULD LEAD TO THE CONQUEST OF DISEASE. THERE IS LITTLE DOUBT THAT THE LAST QUARTER OF THE SECOND AMERICAN CENTURY WAS THE GOLDEN AGE OF SCIENTIFIC DISCOVERY, OF BIOMEDICAL SCIENTIFIC PROGRESS AND OF NEWER DEVELOPMENTS IN MEDICINE INCLUDING, OF COURSE, ANESTHESIOLOGY. THERE HAVE BEEN THOSE WHO HAVE STATED THAT, IN THE 30 YEARS SINCE THE END OF WORLD WAR II, THE SUM OF MEDICALLY RELATED KNOWLEDGE THAT HAS BEEN DEVELOPED EXCEEDED THE ENTIRE PERIOD OF ALL RECORDED HISTORY. ONE CAN THEREFORE SEE THE ENORMOUS FERMENT THAT TOOK PLACE AT THAT TIME. SOME OF US IN THIS ROOM WERE FORTUNATE TO BE PART OF THIS GOLDEN AGE AND TO HAVE HAD THE

OPPORTUNITY OF PARTICIPATING IN THE DEVELOPMENT OF NEW KNOWLEDGE; THE OPPORTUNITY TO TEACH IT TO OTHERS; AND FINALLY THE GREAT OPPORTUNITY AND RESPONSIBILITY TO APPLY MUCH OF THIS KNOWLEDGE TO THE CARE OF SICK PEOPLE. MANY OF YOU HERE TODAY ARE PRODUCTS OF THIS PARTICULAR FLOWERING OF MAJOR INTEREST ON THE PART OF THE PUBLIC IN THE PROCESSES THAT I HAVE DESCRIBED.

IN THE LAST FEW YEARS A VAST CHANGE APPEARS TO ME TO BE DEVELOPING, AND IF PROJECTED INTO THE THIRD AMERICAN CENTURY, WILL LEAD TO AN EXTRAORDINARILY DIFFERENT KIND OF WORLD IN WHICH MEDICINE NOW FINDS ITSELF.

THERE HAVE BEEN A LARGE VARIETY OF FORCES AT PLAY WHICH APPEAR TO BE CONTRADICTORY; IN SOME INSTANCES THE RESULT OF DISILLUSION AND IN OTHER INSTANCES THE BELIEF THAT THERE ARE THOSE OTHER THAN EDUCATED EXPERTS WHO CAN MAKE THE PROPER JUDGMENTS ABOUT SCIENCE, MEDICINE AND ANESTHESIOLOGY.

LET ME ATTEMPT TO EXPLORE WITH YOU CERTAIN ASPECTS OF THESE INFLUENCES AND PROJECT INTO THE FUTURE WITH THESE TRENDS IN MIND.

THE BURGEONING OF KNOWLEDGE HAS PRODUCED A MAJOR PROBLEM IN KEEPING ABREAST OF ONGOING RESEARCH AND THE DEVELOPMENT OF NEW KNOWLEDGE. ALTHOUGH THE WORLD IN GENERAL, INCLUDING ARTISTS, MUSICIANS, WRITERS AND CERTAINLY CONSUMERS ARE AGREED THAT IT IS INCREASINGLY IMPORTANT TO BE COGNIZANT OF SCIENTIFIC DEVELOPMENTS, THE MEANS BY WHICH THIS MAY BE DONE IS VERY DIFFICULT. KEEPING UP WITH SCIENTIFIC PROGRESS IS FAR MORE

COMPLICATED THAN KEEPING UP WITH DEVELOPMENTS IN THE FIELD OF POLITICS, FOR INSTANCE. THERE IS A HUGE NETWORK OF COMMUNICATION IN TELEVISION, RADIO AND WRITING, DEVOTED TO THE DISSEMINATION AND THE INTERPRETATION OF THE NEWS. THEY ARE IN GENERAL LESS INTERESTED IN AND CERTAINLY LESS COMPETENT IN REPORTING THE DEVELOPMENTS OF BIOMEDICAL RESEARCH AND ITS IMPLICATIONS. THESE MEDIA COVER VERY SUPERFICIALLY WHAT IS GOING ON IN THE WORLD OF SCIENCE. EVEN THE SECONDARY SCIENTIFIC PUBLICATIONS DESIGNED FOR WIDER INFORMATION, SEEM TO KEEP PROFESSIONALS AS WELL AS LAYMEN INFORMED TO SOME EXTENT ABOUT SCIENTIFIC PROGRESS BUT WITH INFORMATION THAT IS NOT DETAILED, NOT TIMELY, AND CERTAINLY DOES NOT INCLUDE ORIGINAL RESEARCH FINDINGS. THERE IS RARELY AN ORIGINAL ANALYSIS OR AN INSIGHT INTO THE PROCESS OF DISCOVERY.

SCIENTISTS THEREFORE ARE LEFT WITH RESEARCH PUBLICATIONS AND DIRECT COMMUNICATION WITH SCIENTISTS ENGAGED IN THIS RESEARCH. THE NEWS, IN SHORT, IS PRESENTED LESS THAN ADEQUATELY BY THE NEWSMAKERS THEMSELVES IN THEIR OWN WORDS AND IN THEIR OWN TECHNICAL LANGUAGE. THIS SITUATION PRESENTS SERIOUS AND UNRESOLVED PROBLEMS. A GENERATION THAT IS ABLE TO EFFECT COMMUNICATIONS ON SUCH A GRAND SCALE SHOULD BE ABLE TO DO A BETTER JOB IN THE DISSEMINATION OF KNOWLEDGE THAT IS AN ESSENTIAL TOOL FOR US, TO COMPREHEND WHAT IS GOING ON AT PRESENT AND IN THE FUTURE IN AREAS OF INTEREST TO ALL OF US.

THE THIRD AMERICAN CENTURY HAS PLACED A GREATER EMPHASIS THAN EVER BEFORE UPON THE RELATIONSHIP OF HUMANITIES TO MEDICINE. HOWEVER, THIS QUALITY IS NOT NEW. SO IMPORTANT HAVE THESE CONTRIBUTIONS BEEN IN THE PAST THAT SUCH NAMES AS

GALILEO, NEWTON, KEATS, CRONIN, DOYLE, AND WILLIAMS ARE NOT RECOGNIZED AS PHYSICIANS FIRST - WHICH THEY WERE - BUT MEDICINE THROUGH THEM AND MANY OTHERS NURTURED THE HUMANITIES. THIS INTERPLAY IN BOTH DIRECTIONS, BETWEEN MEDICINE AND THE ARTS - AND THE SOCIOLOGICAL DISCIPLINES - IS NATURAL, HISTORICALLY OBVIOUS AND AN AXIOM FOR NOW AND THE FUTURE.

THE THIRD AMERICAN CENTURY, IN ITS INCREASING EMPHASIS UPON HUMANISTIC QUALITIES AS BEING VERY IMPORTANT IN THE HEALTH CARE SYSTEM, IS PURVEYING A LEGITIMATE, IMPORTANT, REALLY NOT NEW, ASPECT OF MEDICINE BUT WITH A NEW KIND OF AWARENESS. THERE ARE THOSE WHO THINK THAT THE HUMANISTIC SENSIBILITY IS SUBJECTIVELY ORIENTED, SELFCONSCIOUS, CARING, IMAGINATIVE, EMOTIONAL, IN SHORT SENSITIVE, IN CONTRAST TO THE MEDICAL SENSIBILITY WHICH IS ASSUMED TO BE OBJECTIVE, SELF-EFFACING, CIRCUMSCRIBED, INTERESTED IN RATIONAL AND FACTUAL MATTERS RATHER THAN NUANCES; IN SHORT IT IS COLD. THERE IS CURRENTLY A DELIBERATE EFFORT TO UNITE SENSIBILITY AND RATIONALITY IN MEDICINE, AND I THINK, IN ANESTHESIOLOGY THESE EFFORTS GREATLY STRESS THE BRINGING TOGETHER OF SENSITIVE ELEMENTS AS MODIFIERS TO THE COLD OBJECTIVITY OF THE MEDICAL SCIENTIST. THE PHYSICIANS WITH THIS VIEWPOINT ARE CONSIDERED TO BE VALUE ORIENTED MEDICAL SCIENTISTS, WITH THE ATTRIBUTES OF THE INFORMED HUMANIST.

I SAY THIS IS NOT NEW, BUT IT IS NONETHELESS A MATTER OF HEIGHTENED AWARENESS. ANESTHESIOLOGISTS ARE CERTAINLY GOING TO HAVE TO APPRECIATE, AS DICKENS PUT IT, THE "GREAT EXPECTATIONS" OF THE PUBLIC IN THEIR DEMANDS. AS I VIEW IT, COMPASSION AND SENSITIVITY ARE GOING TO BE THOUGHT TO BE MORE

IMPORTANT THAN THE SCIENTIFIC KNOWLEDGE WHICH IS REQUIRED TO COPE WITH THE PROBLEMS OF THOSE WHO ARE ILL. I SEE NO CONFLICT HERE. BUT I DO SEE A CONFLICT IN THE DECISION PROCESSES BY THE UNINFORMED, WHICH I WILL DISCUSS. THE ANESTHESIOLOGIST WILL HAVE TO, AND REALLY SHOULD, PAY GREATER ATTENTION TO EMERGING FROM HIS RELATIVE ANONYMITY INTO A REAL PRESENCE FOR PATIENTS SO THAT THE HUMANISTIC ASPECTS OF HIS MEDICAL ART AND SCIENCE CAN HAVE A NEW DIMENSION TO SATISFY THESE CONSUMER ORIENTED NEEDS OF PATIENTS.

IN ANOTHER MAJOR ASPECT OF THE ARTS, I VIEW THE BEGINNINGS OF THE THIRD AMERICAN CENTURY AS AN ENVIRONMENT IN WHICH IT WILL BE EXTREMELY DIFFICULT FOR PERSONS WITH CREATIVE IMAGINATION TO WORK AND PERHAPS EVEN TO LIVE. IT WILL BE AN ENVIRONMENT WHICH, BECAUSE OF ITS MANY EXTERNAL PRESSURES AND PROBLEMS, WILL SHARPLY DIMINISH THE INDIVIDUALITY THAT IS SO VITAL TO MEDICINE, TO MEDICAL RESEARCH AND TO THE PRACTICE OF OUR OWN SPECIALTY.

IT IS NOT POSSIBLE TO PREDICT WITH ANY REASONABLE ACCURACY WHAT THE MOST EXCITING FRONTIERS IN BIOLOGY OR MEDICINE WILL BE IN THE CENTURY TO COME, BUT IT SEEMS RELATIVELY EASY TO FORECAST WHAT LIFE MAY BECOME IN THE AMERICAN MEDICAL OR SCIENTIFIC COMMUNITY. WE ARE LIVING IN A WORLD IN WHICH THE EXCITEMENT OF PLUNGING IN AND COPING WITH THE QUESTIONS OF AN UNKNOWN WORLD OF NATURE IS BEING DENIED AND SEVERELY BUREAUCRATIZED. AS FOR THE RESEARCH TEAM OF THE FUTURE, PROBABLY FEW OF THEM WILL BE WEARING LABORATORY COATS, MOST OF THE TEAM WILL BE COMPOSED OF LEGISLATORS, LAWYERS, ECONOMISTS,

DIPLOMATS, BUDGET PLANNERS, APTITUDE TESTERS, ACCOUNTANTS, UNION OFFICIALS, TECHNOLOGY ASSESSORS AND VAST HORDES OF CONSUMERS WHO ARE ANXIOUS CITIZENS. FEW OF THESE PEOPLE WOULD KNOW THE DIFFERENCE BETWEEN AN OLIVE PITTER AND AN ANESTHETIC GAS MACHINE OR A BLOOD GAS APPARATUS. THE PRESENCE OF THESE PEOPLE IN THE MIDST OF SCIENTIFIC ENTERPRISE IS A VARIATION ON THEIR CONCERN WITH MILITARY ACTIVITIES, I.E., SCIENCE IS TOO POTENT, TOO COSTLY, TOO DANGEROUS AND TOO IMPORTANT TO BE ENTRUSTED TO THE SCIENTIST. SCIENTIFIC RESEARCH AND MEDICAL ACTIVITIES MAY BE CONDUCTED IN A SOCIETY IN WHICH AN ATMOSPHERE OF CAUTION AND THRIFT WILL PREVAIL. THERE WILL BE LITTLE INTEREST IN SEEING THAT SCIENTIFIC RESEARCH FOR ITS OWN SAKE, FOR DEVELOPING KNOWLEDGE, IS PURSUED. NOR WILL IT BE PERMITTED AND ENCOURAGED UNLESS IT HAS SOME TANGIBLE, IMMEDIATE OBJECTIVE. THERE WILL BE WHOLE AREAS OF SCIENTIFIC RESEARCH AND TECHNOLOGICAL APPLICATION COMPLETELY SHUNNED AS ECONOMICALLY IMPRACTICAL OR TOO DANGEROUS, WHATEVER THAT MAY MEAN. THE CHOICE OF RESEARCH, IT SEEMS TO ME, WILL NOT BE LEFT TO THOSE WHO PERFORM THE RESEARCH, BUT IT WILL REQUIRE THE APPROVAL AND SCRUTINY OF A WIDE RANGE OF NON-SCIENTISTS WHO ARE CONCERNED WITH COST, PRIORITIES, SOCIAL IMPACT, PUBLIC SAFETY, POLITICAL SIGNIFICANCE, AND VALUE TO THE COMMUNITY. TO COMPOUND THESE PROBLEMS FURTHER, CONDUCTING HIGH QUALITY RESEARCH WILL REQUIRE THE USE OF INCREASINGLY EXPENSIVE EQUIPMENT. THERE MAY STILL BE THE THINKERS WITH THEIR TRADITIONAL TOOLS OF PAPER AND PENCIL, BUT THE TESTING OF THEIR FINDINGS WILL REQUIRE COMPUTERS AND ADVANCED INSTRUMENTATION. BIG SCIENCE MEANS BIG ORGANIZATIONS. THERE WILL BE LAYER UPON LAYER OF ADMINISTRATORS, LAYER UPON LAYER OF ACCOUNTANTS, LAYER UPON LAYER OF BUREAUCRATS TO DETERMINE WHETHER SOMETHING IS IN

"THE BEST INTEREST OF THE PEOPLE OR THE COMMUNITY". THE KIND OF FREE WHEELING RESEARCH THAT WAS SO IMPORTANT TO PROGRESS, THE JOY OF WORK AND DISCOVERY, MAY DISAPPEAR.

THE POSSIBILITY OF INDIVIDUAL RESEARCH WORK MAY BE AT AN END. IT WILL NOT BE POSSIBLE FOR A CHARLES LINDBERGH TO FLY THE ATLANTIC WHENEVER HE DECIDES TO GO. THERE WILL BE COMMITTEES OF PHYSICIANS, PSYCHOLOGISTS, ENGINEERS AND OTHERS TO DETERMINE HOW FIT OR HOW PROPER THE PROJECT IS. THIS COMMENTARY MAY BE ONLY THE REFLECTION OF THE INCREASED SOPHISTICATION AND COMPLEXITY OF THE PROBLEMS. IT IS POSSIBLE THAT THE ASTRONAUTS WOULD HAVE DIED AND THE PROJECT FAILED HAD THE SPIRIT OF LINDBERGH PERSISTED. HOWEVER, ONE MUST BE CONCERNED AS TO HOW FAR THESE KINDS OF CONTROLS CAN BE TAKEN WITHOUT STIFLING INDIVIDUAL INITIATIVE.

ALSO, POLITICAL EVENTS CERTAINLY WILL HAVE THEIR ROLE IN BIOMEDICAL RESEARCH AND MEDICAL PRACTICE. THE DECISIONS AS TO WHAT KIND OF MONEY TO PUT INTO WHAT KIND OF RESEARCH ARE OFTEN POLITICALLY MOTIVATED AND NOT MEDICALLY DETERMINED. THE HEALTH CARE ASPECTS OF RESEARCH IN THE FIELD OF MEDICAL ECONOMICS AND ITS APPLICATION ARE CONTINUALLY THWARTED BY THE POLITICAL REALITIES THAT HAVE MADE A SHAMBLES OF COST CONTAINMENT - FOR EXAMPLE THE MEDICARE AND MEDICAID PROGRAMS - AND HAVE MADE IT IMPOSSIBLE TO ACHIEVE SOME KIND OF RATIONAL PROGRESS WHEN SUCH ORGANIZATIONS AS HEALTH SYSTEMS AGENCIES ARE EMPOWERED BY LAW, WITHOUT THE TRADITIONAL CHECKS AND BALANCES OF THE AMERICAN SYSTEM, TO MAKE DECISIONS THAT WILL HAVE FAR REACHING SHORT AND LONG TERM EFFECTS UPON THE HEALTH DELIVERY SYSTEM. THE IMPLICATION THAT THE CONSUMER CAN MAKE A REASONABLE DECISION ABOUT WHAT IS BEST FOR HIM, IS A THEORETICALLY ENTICING AND ENCHANTING IDEA TO WHICH ONE CANNOT POSSIBLY FIND ANY

OBJECTION. HOWEVER, THE PRACTICAL WORKINGS IN THE REAL WORLD ARE THAT THERE IS AN EMPHASIS UPON MINDLESS COMPASSION AND A REWARD FOR HOMOGENIZED NON-THINKING. THERE IS A MAJOR PENALTY UPON THE GROWTH OF NEW KNOWLEDGE AND ITS IMPLEMENTATION. THIS, OF COURSE, IS THE TRADITIONAL THORN OF THE DEMOCRATIC PROCESS. BIOMEDICAL RESEARCH AND PATIENT CARE ARE FUNDAMENTALLY NOT EGALITARIAN PROCESSES, THEY DO REQUIRE SPECIAL KNOWLEDGE AND COMPETENCE. IT WILL TAX THE INGENUITY OF ALL MANKIND TO BE ABLE TO AVOID THE PITFALLS OF THE LACK OF CHECKS AND BALANCES OF THE CONSUMER MOVEMENT IN THIS COUNTRY AND AT THE SAME TIME PREVENT THE GREED, THE ABUSE, THE MISMANAGEMENT WHEN THE POLITICIANS AND THE PROVIDERS ALONE ARE IN CHARGE. THESE CONFLICTS, IRVING KRISTOL VIEWS AS SIGNALS OF THE DECADENCE OF OUR TIMES FROM WHICH AMERICA'S THIRD CENTURY IN MEDICINE WILL NOT BE EXEMPT

THESE KINDS OF INFLUENCES ARE PREVENTING US FROM DEVELOPING NEW PHARMACEUTICAL AGENTS INCLUDING ANESTHETIC DRUGS. THERE SEEMS TO BE AN ASSUMPTION BY THE PUBLIC THAT ANY DRUG WHICH HAS ANY DANGERS IS UNACCEPTABLE FOR CLINICAL USE. THERE IS NO WAY IN WHICH IT IS POSSIBLE TO PERSUADE THE PEOPLE, IN THE MOOD OF THE TIMES, THAT THERE IS NO SUCH THING AS A TOTALLY SAFE CHEMICAL THAT WILL INFLUENCE A BIOLOGICAL PROCESS. THERE SEEM TO BE IMPORTANT SOCIAL CONSTRAINTS ON TAKING ANY RISK AT ALL, AND YET THERE ARE MAJOR COMPLAINTS BY THE PEOPLE AND THE CONGRESS OF THE HIGH COST OF DRUGS AND THE HIGH DEGREE OF PROFITS OF THE PHARMACEUTICAL INDUSTRY AND SO ON. ACTUALLY, THE RESTRICTIONS THAT TO A LARGE DEGREE ARE UNREASONABLE, MAKE IT A HAZARD FOR INDUSTRY TO ENGAGE IN RESEARCH FROM A FINANCIAL STANDPOINT AS WELL AS FROM A SOCIAL STANDPOINT. THE COST OF BRINGING A DRUG TO SUCCESSFUL COMMERCIAL USE REQUIRES SOME TEN YEARS OF WORK ON THE AVERAGE AND SOMEWHERE IN THE ORDER OF AT

LEAST 5 MILLION DOLLARS PER PRODUCT. CLEARLY, THE EXTERNAL SOCIAL FORCES ARE MAKING A MAJOR NEGATIVE IMPACT UPON THE DEVELOPMENT OF NEW CHEMICALS FOR HUMAN TREATMENT. THERE IS ALSO AN IMPORTANT SOCIAL CONSEQUENCE OF THIS PULLING BACK BY INDUSTRY OF ITS ACTIVITIES AND INNOVATIONS. THERE WILL BE FEWER AND FEWER SCIENTISTS REQUIRED AND FEWER CLINICIANS OF CERTAIN SPECIALTIES - SURGEONS ALREADY HAVE BEEN IDENTIFIED - AND WE MAY BE NEXT. THE SCIENTIFIC COMMUNITY IN SHORT, IN THE THIRD AMERICAN CENTURY, APPEARS TO BE GROWING VERY CAUTIOUS ABOUT WHAT IT WILL DO IN RESEARCH AND THE FINAL DECISIONS WILL BE DETERMINED BY COST, SOCIETAL VALUES, POTENTIAL BENEFITS AND HAZARDS. THESE RESEARCHERS WILL BE SCREENED AND THEIR WORK MONITORED. THERE WILL BE NO ENVIRONMENT FAVORABLE FOR INITIATIVE, LATE BLOOMERS OR INNOVATORS. I FORESEE A SCIENTIFIC COMMUNITY THAT IS HEAVILY ORGANIZED, BUREAUCRATIZED, NOT VERY PRODUCTIVE, RELATIVELY SAFE AND PROBABLY PRETTY DULL IN ITS OUTPUT. IT WILL BE A BAROQUE OR MANNERED PERIOD OF SCIENTIFIC PRODUCTIVITY, MARKEDLY DIFFERENT FROM THE UNLIMITED ASPIRATIONS OF THE FERMENTING PERIOD OF THE EARLY SECOND AMERICAN CENTURY AND THE RENAISSANCE ACCOMPLISHMENT OF THE LATE SECOND AMERICAN CENTURY. I DO NOT VIEW THESE OBSERVATIONS AS TOTALLY PESSIMISTIC. THEY ARE ATTEMPTS TO BE ACCURATE EVALUATIONS OF HOW THE PRESENT WILL DEVELOP INTO THE FUTURE - AND TO HELP US PREPARE TO DO SOMETHING CONSTRUCTIVE TO PREVENT NEGATIVE FORCES FROM PREVAILING.

IF THIS IS AN AGE OF DECADENCE THAT WE ARE APPROACHING, IT IS ALSO THE END OF THE AMERICAN IMPERIAL PERIOD. THE DECADENCE SEEMS TO IRVING KRISTOL TO BE DUE TO AFFLUENCE AND SPECIFICALLY OUR SPIRITUAL INABILITY TO COPE WITH THAT AFFLUENCE WHICH IS MAKING MOST OF THE TROUBLE. IN HIS VIEW THE PURSUIT OF

HAPPINESS, CLASSIC IN THE AMERICAN TRADITION, HAS SUNK TO A LUDICROUS PARODY OF CAPITALISM IN WHICH WE CONSUME IN SUCCESSION ALL POSSIBLE BRANDS OF PIE IN THE SKY.

WILL ALL THESE DIRE EVENTS TAKE PLACE? PROBABLY YES - IF WE DO NOT REVERSE THE PROCESSES I HAVE DESCRIBED.

IN JANUARY, OF 1976, THE DISTINGUISHED EDITOR OF SCIENCE, DR. PHILIP H. ABELSON, SAID THAT IN HIS VIEW WE HAVE HAD ENOUGH PESSIMISM. CERTAINLY, NOT EVERYBODY LOOKS UPON IT IN THE WAY I HAVE PORTRAYED IT. ABELSON MAKES THE VERY VALID POINT THAT IT IS OPTIMISTS WHO ACHIEVE IN RESEARCH AND NOT PESSIMISTS - LET US SEE WHETHER WE CAN BE POSITIVE ABOUT THE FUTURE.

IT IS POSSIBLY THE TIME TO AGREE WITH PHILIP ABELSON AND SAY "ENOUGH OF PESSIMISM". AFTER ALL BENJAMIN FRANKLIN'S ENTHUSIASM AND PREDICTIONS HAVE BEEN AMPLY AND MANY TIMES OVER FULFILLED. IF ONE COULD BE OPTIMISTIC IN AMERICA'S FIRST CENTURY WHEN THERE WAS GREAT POVERTY, HARDSHIP AND UNMERCIFUL RAVAGE OF DISEASE, IT SEEMS NOT UNREASONABLE TO EXPECT IN A SOCIETY THAT IS SO AFFLUENT AND WHERE SO MUCH HAS BEEN ACCOMPLISHED IN MEDICINE AND TECHNOLOGY WHICH HAS LIBERATED HUMANS FROM MUCH OF THE DRUDGERY AND PAIN, THAT THE TIME FOR PESSIMISM MIGHT BE PAST. HOWEVER, THE HUMAN CONDITION IS BEYOND UNDERSTANDING AND YET IS WONDERFUL TOO. MANY PEOPLE LOOKING AT AMERICA'S THIRD CENTURY DO NOT FEEL GRATITUDE TOWARD THEIR BENEFACTORS NOR DO THEY ADMIRE THE KIND OF KNOWLEDGE THAT HAS MADE LIFE SO MUCH BETTER IN SO MANY WAYS. THERE HAS BEEN A HOSTILITY TO SCIENCE. THE GREAT EXULTATION AND EXPECTATION OF SCIENCE IN MEDICINE, WHICH WAS MANIFESTED BY THE FAITH OF THE CONGRESS IN THE FORM OF AMPLE FUNDING FOR RESEARCH, THE EXTRA-VAGANT PRAISE OF SCIENCE IN THE PRESS BY POLITICIANS AND BY THE

PUBLIC, SEEMS TO HAVE GROUND TO A HALT. IT COULD BE THAT EXPECTATIONS WERE AROUSED THAT COULD NOT BE FULFILLED. THE PERFECT PERFORMANCE EXPECTED OF PHYSICIANS AND SCIENTISTS HAS NOT BEEN DELIVERED. SMALL SIDE EFFECTS OF THE NEW TECHNOLOGY IN MEDICINE HAVE BEEN GREATLY OVERBLOWN AND EXAGGERATED.

PESSIMISM IN THIS REGARD, AS ABELSON VIEWS IT, IS REALLY A KIND OF SICKNESS THAT DEBILITATES BOTH SOCIETY AND THE INDIVIDUAL. IT LEADS NOWHERE BUT TO PARALYSIS AND DECAY. IT SEEMS TO BE A TIME TO REAFFIRM THE FAITH THAT ADVANCES IN MEDICINE SPRING FROM DISCOVERIES IN PHYSICS, CHEMISTRY AND BIOLOGY. BASIC RESEARCH IS AN ESSENTIAL TO CLINICAL DEVELOPMENT AND KNOWLEDGE. THE STRONG SOCIAL AND ECONOMIC AND POLITICAL PRESSURES WHICH HAVE BEEN DISCUSSED ARE THREATENING THE ACQUISITION OF BASIC KNOWLEDGE. ONE COULD FEEL WITH ARTHUR KORNBERG, THE NOBEL LAUREATE IN PHYSIOLOGY AND MEDICINE, THAT THE TIME HAS COME FOR REAFFIRMATION OF THE FAITH THAT SCIENTISTS MUST NOT UNDERTAKE EXCESSIVELY COMPLEX PROBLEMS, AND THEY MUST TACKLE DISCRETE AND WELL DEFINED SIMPLE AREAS. THERE MUST BE A FAITH THAT THIS PROCESS WILL ULTIMATELY LEAD TO DISCOVERY THAT IS USEFUL INSTEAD OF THE RESPONSE TO THE KIND OF BUREAUCRATIC SOCIAL STRUCTURE THAT I HAVE DESCRIBED TO YOU.

IN OVERVIEW THEN, WHAT IS THE HALLMARK OF THE THIRD AMERICAN CENTURY? ONE WOULD HOPE THAT THERE WOULD BE AHEAD OF US, ENOUGH FAITH AND COMMON SENSE AND ENOUGH INTEGRITY OR INTELLIGENCE TO BELIEVE THAT FREEDOM OF THOUGHT AND THE CONSTANT SLOW, PAINFUL ACQUISITION OF NEW KNOWLEDGE WOULD LEAD TO A BETTER LIFE FOR MORE PEOPLE WITH BETTER HEALTH AND POSSIBLY EVEN LONGEVITY. THE OPPOSING FORCES TO THESE DEVELOPMENTS, AS I VIEW IT, ARE THE INTRUSION OF UNINFORMED MINDS WHICH ARE ALMOST HYSTERICAL AT TIMES IN THE EARNEST

CONVICTION THAT THERE IS SOMEHOW A WISDOM IN IGNORANCE WHICH CAN AND SHOULD DETERMINE WHAT MEDICAL CARE AND PRACTICE WILL BE LIKE AT PRESENT AND IN THE FORTHCOMING PERIOD. IT IS MY VIEW THAT IF THE LATTER POSITION IS THE ONE THAT PREVAILS, THE AMERICAN PERIOD IS IN A DECLINE AND TRULY A PERIOD OF DECADENCE HAS SET IN. NO ONE IS WISE ENOUGH TO KNOW WHETHER OR NOT THIS IS TRUE, BUT IT IS POSSIBLE THAT THE AMERICAN ERA HAS BEGUN TO FOLLOW THE BRITISH AND IS LOOKING TO ITS SUNSET. I HAVE FAITH THAT IF ENOUGH OF US ARE CONVINCED THAT TRUE FREEDOM, TRUE INTELLECTUALITY, AND A REASONABLE AMOUNT OF CONFIDENCE IN IMAGINATION AND CREATIVITY MUST PREVAIL, THAT THE AMERICAN THIRD CENTURY COULD BE THE CROWNING GLORY OF WESTERN CIVILIZATION, WHETHER IT WILL BECOME SO DEPENDS ON WHAT PEOPLE LIKE YOU AND ME CHOOSE TO DO WITH IT - AND DO SOMETHING WE MUST.

I WANT TO CONCLUDE WITH DOROTHY PARKER'S VIEW OF OUR DESIRE TO ENJOY THIS DAY, "I REALLY BELIEVE THAT ALL GENERATIONS BITCH. THE SEASONS CHANGE AND WE CHANGE AND MORES CHANGE, AND LIFE WOULD BE A BORE WITHOUT THIS CHANGE, AND CHANGE IS CONSTANT. THANK HEAVEN OR ELSE WE WOULD NOT HAVE NAIL POLISH".