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INTRODUCTION

THIS MORNING I WOULD LIKE TO DISCUSS UNIVERSITY/INDUSTRY RESEARCH RELATIONS FROM A VANTAGE POINT WITHIN THE UNIVERSITY. TO START, LET ME BRIEFLY RELATE A TALE OF UNIVERSITY SCIENTISTS SUDDENLY FACED WITH A SITUATION OUTSIDE THE RANGE OF THEIR PREVIOUS EXPERIENCE, A SITUATION WHICH INVOLVED A HOST OF PROBLEMS WHICH MAY NOT, AT FIRST GLANCE, BE READILY APPARENT.

UNIVERSITY SERVICES

A FEW WEEKS AGO I WAS ASKED BY TWO MEDICAL RESEARCHERS TO GIVE THEM SOME ASSISTANCE. FOR YEARS THEY HAVE BEEN WORKING ON MEANS TO CONTROL A MAJOR DISEASE UNDER GRANT SUPPORT FROM THE NATIONAL INSTITUTES OF HEALTH. A NEARBY INDUSTRIAL FIRM HAS DEVELOPED A NEW PROPRIETARY PROCESS WHICH SEEMS TO PROVIDE A SIGNIFICANT BREAKTHROUGH FOR THESE RESEARCHERS. THE COMPANY HAS PROPOSED A COOPERATIVE RESEARCH ARRANGEMENT WHEREBY THE COMPANY WOULD FUND ACCELERATED ANIMAL AND HUMAN TRIALS AND WOULD RECEIVE EXCLUSIVE RIGHTS TO MARKET THE RESEARCH PRODUCT, WHICH IS PROBABLY NOT PATENTABLE. THE COMPANY HAS OFFERED TO PAY ROYALTIES BASED ON ITS PROFITS FROM THE NEW PRODUCT. THE RESEARCHERS WOULD HAVE TO AGREE NOT TO WORK WITH ANY OTHER COMPANY ON A COMPETING PRODUCT. HOWEVER, THEY ALREADY HAVE A CONFLICTING CONTRACT FOR PERSONAL CONSULTING SERVICES WITH A MAJOR PHARMACEUTICAL COMPANY WHICH WON'T EXPIRE FOR ANOTHER NINE MONTHS. THIS IS FAR FROM A UNIQUE EXAMPLE OF FACULTY MEMBERS IN NEED OF ASSISTANCE IN THEIR RELATIONS WITH INDUSTRY.

WITH THE ADVENT OF INCREASED RESEARCH INTERACTIONS

BETWEEN UNIVERSITIES AND COMPANIES, FACULTY RESEARCHERS HAVE FOUND THAT THEY NEED ADMINISTRATIVE HELP ON A WIDE RANGE OF MATTERS THAT DO NOT ARISE IN THEIR RESEARCH RELATIONS WITH GOVERNMENT SPONSORS. THESE MATTERS STEM FROM THE OPERATIONAL NEEDS OF COMPANIES IN A COMPETITIVE COMMERCIAL ENVIRONMENT, ESPECIALLY THEIR NEED TO SECURE EXCLUSIVE RIGHTS TO INTELLECTUAL PROPERTY -- PATENTS, COPYRIGHTS, AND TECHNICAL KNOW-HOW.

THUS, AS THE FACULTY SCIENTIST APPROACHES THE POINT OF INVOLVEMENT WITH A COMPANY RESEARCH SPONSOR, HE REQUIRES THE ASSISTANCE OF AN INDIVIDUAL WHO IS KNOWLEDGEABLE IN THE WAYS OF THE UNIVERSITY, PRIVATE INDUSTRY, AND THE PATENT SYSTEM. BUT, HE NEEDS MORE THAN ADVICE; HE NEEDS SOMEONE TO DO WHATEVER MAY BE NECESSARY TO ESTABLISH A MUTUALLY BENEFICIAL RESEARCH ARRANGEMENT WITH A PROSPECTIVE COMPANY SPONSOR.

THE CAPABILITY TO PROVIDE SUCH ASSISTANCE IS SLOWLY DEVELOPING IN UNIVERSITIES USUALLY AS PART OF THE RESEARCH OFFICE FUNCTION. UNIVERSITY ATTORNEYS ARE ALSO TAKING A GREATER INTEREST IN THIS AREA. AS A RESULT, RESEARCH ADMINISTRATORS AND UNIVERSITY ATTORNEYS ARE THE INDIVIDUALS TO LOOK TO FOR ADVICE AND ASSISTANCE ON ANY MATTER WHICH INVOLVES:

1. THE FUNCTIONING OF COMPANIES, HOW THEIR INTERNAL DECISIONS ARE MADE ESPECIALLY AS THEY RELATE TO R&D INVESTMENTS AND NEW PRODUCT COMMITMENTS, AND HOW TO DETERMINE WHICH COMPANIES MIGHT BE INTERESTED IN A PROPOSED PROJECT.
2. THE PROTECTION OF INTELLECTUAL PROPERTY BY PATENTS, COPYRIGHTS, AND TRADE SECRET LAW.

3. THE DRAFTING AND NEGOTIATION OF CONTRACT AGREEMENTS FOR RESEARCH SERVICES AND LICENSING OF INTELLECTUAL PROPERTY.
4. THE INTERPRETATION OF REGULATIONS OF GOVERNMENT AGENCIES AND OTHER RESEARCH SPONSORS AS THEY RELATE TO PATENTABLE INVENTIONS, COPYRIGHTS, SOFTWARE, AND RIGHTS IN TECHNICAL DATA.
5. THE INTERPRETATION OF UNIVERSITY POLICIES AND PRACTICES RELATED TO THE OWNERSHIP AND LICENSING OF INTELLECTUAL PROPERTY, THE SHARING OF ROYALTY INCOME, FACULTY CONSULTING, CONTROLLING CONFLICTS OF INTEREST, ACADEMIC FREEDOM, PROPRIETARY AND CLASSIFIED RESEARCH, AND ASSOCIATED MATTERS.

WITH ADEQUATE ADMINISTRATIVE ASSISTANCE IN THESE AREAS UNIVERSITY SCIENTISTS ARE WELL PREPARED TO ENGAGE IN INDUSTRIAL RESEARCH ARRANGEMENTS OF ALL KINDS, LIMITED ONLY BY THEIR INITIATIVE AND THE QUALITY OF THEIR PROPOSALS.

UNIVERSITY POLICIES AND PROCEDURES

LET ME PASS TO ANOTHER MATTER OF IMPORTANCE IN DEALING WITH COMPANIES, THE INTERNAL POLICIES AND PRACTICES OF THE UNIVERSITY. THE ESTABLISHMENT OF CLEAR GUIDELINES AS TO WHAT IS AND IS NOT ACCEPTABLE WITHIN THE UNIVERSITY IS EXTREMELY HELPFUL. SUCH GUIDELINES LET COMPANIES KNOW WHAT THEY CAN AND CANNOT EXPECT FROM THE UNIVERSITY AND ITS FACULTY AND PROVIDE A RATIONAL AND CONSISTENT BASIS FOR UNIVERSITY RESEARCH AND LICENSING COMMITMENTS TO COMPANIES.

OF GREATEST INTEREST ARE POLICIES DEALING WITH PROPRIETARY

RESEARCH, ACADEMIC FREEDOM, OWNERSHIP AND ASSIGNMENT OF RIGHTS TO PATENTABLE INVENTIONS, CONTRACTING FOR RESEARCH SERVICES, AND CONTROLLING CONFLICTS OF INTEREST. WHILE SUCH POLICIES MAY MAKE A LOT OF SENSE TO UNIVERSITY PERSONNEL, THE RATIONALE UNDERLYING SOME OF THEM MAY NOT BE INSTANTLY APPRECIATED BY COMPANY PERSONNEL NOT FAMILIAR WITH ACADEMIC TRADITION. OFTEN, WE IN UNIVERSITIES DO NOT STOP TO CONSIDER THE SHARP CONTRAST IN MANAGEMENT AND EMPLOYMENT PRACTICES BETWEEN PRIVATE INDUSTRY AND THE ACADEMIC COMMUNITY AND HOW FAILURE TO RECOGNIZE THESE DIFFERENCES CAN LEAD TO MISUNDERSTANDINGS ON THE PART OF BOTH PARTIES. IT IS IMPORTANT FOR COMPANY PERSONNEL TO UNDERSTAND THAT THE UNIVERSITY'S EXTREME DECENTRALIZATION OF AUTHORITY AND THE PERSONAL FREEDOM OF ACTION ENJOYED BY INDIVIDUAL FACULTY MEMBERS ARE PRIMARY ELEMENTS CONTRIBUTING TO THE UNIVERSITY'S CREATIVE ENVIRONMENT.

THE PURPOSE OF UNIVERSITY POLICIES ON CLASSIFIED AND PROPRIETARY RESEARCH IS TO PROTECT THE FACULTY'S FREEDOM TO PUBLISH RESULTS OF THEIR RESEARCH AND TO ENCOURAGE AN OPEN AND FREE EXCHANGE IN THE ACADEMIC COMMUNITY, WORLDWIDE. WHILE THERE ARE A FEW INSTITUTIONS WHICH WILL AGREE TO SECRECY IN RESEARCH ARRANGEMENTS, MOST WILL FORMALLY ACCEPT LITTLE MORE THAN A BRIEF DELAY IN PUBLICATION OF RESEARCH RESULTS TO ALLOW THE PROMPT FILING OF PATENT APPLICATIONS.

ALTHOUGH SUCH MINIMUM RESTRICTIONS APPEAR TO BE GENERALLY ACCEPTABLE TO MOST INDUSTRIAL FIRMS, INITIALLY A COMPANY MAY NOT FEEL THIS PROVIDES ADEQUATE PROTECTION OF THE COMMERCIALLY VALUABLE RESEARCH RESULTS IT SEEKS.

WHAT IS NOT WELL UNDERSTOOD IS THAT THE MINIMAL RESTRICTIONS

ON PUBLICATION SET FORTH IN INDUSTRIAL RESEARCH AGREEMENTS REPRESENT A LIMIT BEYOND WHICH THE UNIVERSITY CORPORATION CANNOT GO REGARDLESS OF THE WILLINGNESS OF INDIVIDUAL FACULTY RESEARCHERS. LEFT UNSTATED IS THE FACT THAT FACULTY MEMBERS HAVE ALWAYS CONTROLLED AND BEEN SELECTIVE CONCERNING WHAT RESEARCH DATA THEY RELEASE, WHEN AND TO WHOM.

WHEN THEY DO CHOOSE TO PUBLISH, ALL OF THEIR RESEARCH RESULTS ARE NOT NECESSARILY EXPOSED TO PUBLIC VIEW, ESPECIALLY SPECIFIC PRACTICAL APPLICATIONS WHICH MAY BE OF COMMERCIAL VALUE BUT OF LITTLE OR NO INTEREST TO A SCHOLARLY JOURNAL. SO, IN THE END THE FACULTY RESEARCHER USES HIS BEST JUDGMENT, CAREFULLY WEIGHING THE IMPORTANCE OF IMMEDIATELY PUBLISHING HIS RESEARCH RESULTS VERSUS THE COMPANY SPONSOR'S NEED TO ACHIEVE ADVANTAGE IN THE MARKETPLACE.

BUT A NOTE OF CAUTION ABOUT A RISK, THAT OF UNDUE INFLUENCE ON OTHERS WHO MAY HAVE AN ABSOLUTE NEED TO PUBLISH. WHERE AN INDUSTRIAL RESEARCH PROJECT INVOLVES SEVERAL FACULTY MEMBERS AND/OR POST DOCS, AND/OR GRADUATE STUDENTS, THE PRINCIPAL INVESTIGATOR HAS A PERSONAL OBLIGATION TO PROTECT THE INTERESTS OF THE REST OF THE PROJECT STAFF. FOR EXAMPLE, THE FREEDOM OF GRADUATE STUDENTS TO OPENLY REPORT AND DEFEND A THESIS OR DISSERTATION DEVELOPED WITH PROJECT SUPPORT, OR TO FREELY DESCRIBE RESEARCH ACCOMPLISHMENTS TO PROSPECTIVE EMPLOYERS, POSSIBLY EVEN COMPETITORS OF THE SPONSORING COMPANY, MUST BE RESPECTED.

ANOTHER AREA IN WHICH THE UNIVERSITY NEEDS TO HAVE A WELL UNDERSTOOD AND ACCEPTED POLICY IS ON THE MATTER OF WHO MAY CONTRACT WITH OUTSIDE ORGANIZATIONS FOR THE PERFORMANCE OF

RESEARCH. MOST RESEARCH UNIVERSITIES TRY TO DRAW A CLEAR DISTINCTION BETWEEN THE PRIVILEGE OF FACULTY MEMBERS TO ENGAGE IN PERSONAL CONSULTING ACTIVITIES, AND THE REQUIREMENT THAT RESEARCH ACTIVITIES WITHIN THE UNIVERSITY BE UNDERTAKEN ONLY UNDER CONTRACTS NEGOTIATED ON BEHALF OF THE UNIVERSITY CORPORATION. THE POTENTIAL FOR LEGAL, FINANCIAL, AND OTHER ADVERSE CONSEQUENCES WHEN CONTRACTING FOR RESEARCH SERVICES WITH OUTSIDE ORGANIZATIONS REQUIRES SPECIALIZED KNOWLEDGE OF THESE MATTERS CONSISTENTLY APPLIED FOR THE PROTECTION OF THE FACULTY, THE UNIVERSITY, AND THE SPONSOR.

A POLICY AREA OF INTEREST TO THE FACULTY AS WELL AS TO A SPONSORING COMPANY IS THE OWNERSHIP OF PATENTABLE INVENTIONS, COPYRIGHTABLE MATERIALS, AND OTHER INTELLECTUAL PROPERTY WHETHER PROTECTABLE UNDER LAW OR NOT. THERE ARE A WIDE VARIETY OF PRACTICES AMONG UNIVERSITIES COVERING THE DIFFERENT TYPES OF INTELLECTUAL PROPERTY RANGING FROM REQUIRING THAT TITLE TO ALL OR AT LEAST SOME FORMS BE ASSIGNED TO THE INSTITUTION, TO THE OTHER EXTREME OF LEAVING OWNERSHIP OF EVERYTHING WITH THE PERSON OR PERSONS WHO CREATE IT. ANY PRACTICE YOU CAN THINK OF CAN BE JUSTIFIED ON SOME BASIS, BUT IN THE CONTEXT OF THIS DISCUSSION, THE ESSENTIAL FACT IS, THAT THE UNIVERSITY MUST BE EMPOWERED TO DELIVER THE RIGHT TO USE INTELLECTUAL PROPERTY WHICH, BY THE RESEARCH AGREEMENT, IT HAS PROMISED TO THE SPONSORING COMPANY. IF THE INSTITUTION HOLDS TITLE TO EVERYTHING THE MATTER IS RELATIVELY SIMPLE. IF NOT, IT MAY HAVE TO HAVE SPECIFIC PERSONAL AGREEMENTS ON A PROJECT BY PROJECT BASIS WITH ALL PARTICIPANTS, AND EVEN THEN PROBLEMS SUCH AS CO-INVENTORS WHO ARE NOT PROJECT PARTICIPANTS MAY POP UP AND CREATE DUPLICATE SITUATIONS.

POLICY AREA IN WHICH MANY UNIVERSITIES HAVE DEVELOPED SPECIAL PROBLEM -- FACULTY CONFLICT OF INTEREST PROBLEMS. THESE CONFLICT SITUATIONS THREATEN A UNIVERSITY'S ABILITY TO UNDERTAKE AND TO MAINTAIN PRODUCTI RESEARCH RELATIONS WITH INDUSTRY. SINCE THE DAWNING OF THE ERA OF BIOTECHNOLOGY, CONTROVERSY HAS RAGED OVER REAL AND IMAGINED PROBLEMS OF CONFLICT OF INTEREST STEMMING FROM FACULTY RELATIONS WITH COMMERCI ENTERPRISES. BUT CONFLICT PROBLEMS ARE NOT CONFINED TO THE FACULTY. PRESIDENT BOK OF HARVARD HAS DEFINED A GENERAL SITUATION WHERE THE UNIVERSITY ITSELF MIGHT INADVISEDLY GET INVOLVED IN A CONFLICT OF INTEREST SITUATION. AND IT IS ALSO BECOMING CLEAR THAT A SPONSORING COMPANY MIGHT ENGAGE IN ACTIVITIES IN CONFLICT WITH ITS IMPLIED OBLIGATIONS TO UNIVERSITY INVESTIGATORS TO WHOM IT IS PROVIDING RESEARCH SUPPORT.

HOWEVER, THERE IS NO QUESTION THAT THE SPOTLIGHT OF THE CONFLICT ISSUE HAS BEEN FOCUSED PRIMARILY ON THE FACULTY RESEARCHER AND HIS INVOLVEMENT WITH OUTSIDE COMMERCIAL INTERESTS. OBVIOUSLY, WE ARE IN NEED OF BETTER GUIDELINES FOR THE CONDUCT OF ALL PARTIES IF THE GROWTH OF SUSPICION AND COMPROMISING SITUATIONS IS TO BE AVOIDED. THE ACADEMIC COMMUNITY IS ALREADY LABORING WITH A FEW EXAGGERATED BUT REAL PROBLEMS OF FRAUD AND ABUSE IN RESEARCH. THE NEED IS EVIDENT AND PRESSING FOR THE UNIVERSITY AND ITS FACULTY TO DEVELOP EFFECTIVE POLICIES DEALING WITH CONFLICT OF INTEREST, IF THEY DESIRE TO MINIMIZE INTERNAL STRESS AND ASSURE CONTINUED PUBLIC SUPPORT.

PRACTICALLY ALL INDIVIDUALS AND ORGANIZATIONS CONSTANTLY HAVE TO MANAGE CONFLICTING INTERESTS OF ONE KIND OR ANOTHER. THE FACULTY MEMBER MUST USE GOOD JUDGMENT TO MANAGE HIS COMPETING PERSONAL INTERESTS AND OBLIGATIONS. HE IS TEACHER, ADVISOR, RESEARCHER, COLLABORATOR, COMMITTEE MEMBER, CONSULTANT, HUSBAND (OR W[illegible]), LOVER, PARENT, CITIZEN, AND MORE. SUCH

RESPONSIBILITIES CONSTANTLY IMPOSE CONFLICTING DEMANDS FOR Personal ~~HIS~~ TIME AND ATTENTION. IN THIS CASE, UNIVERSITY AUTHORITIES PROVIDE SOME RELIEF BY SPECIFYING A ROUGH DISTRIBUTION OF THE EFFORT HE/~~IS~~ She EXPECTED TO DEVOTE TO TEACHING, RESEARCH, AND ADMINISTRATIVE DUTIES. TO KEEP ~~HIM~~ the Professor FROM GETTING TOO ENAMOURED WITH THE CORPORATE WORLD, THE UNIVERSITY ALSO PLACES AN UPPER LIMIT ON TIME ALLOWED FOR PERSONAL CONSULTING, THEREBY ESTABLISHING A STANDARD OF ACCEPTABILITY, BUT WITH AN ADDED CAVEAT THAT CONSULTING SHOULD NOT INTERFERE WITH PRIMARY ON-CAMPUS RESPONSIBILITIES.

WHILE THESE COMPETING DEMANDS ILLUSTRATE THE CHALLENGE OF MANAGING PERSONAL CONFLICT, THEY DO NOT REPRESENT THE AREA OF CONCERN WHICH WE COMMONLY LABEL "CONFLICT OF INTEREST". RATHER, OUR CONCERN IS WITH SITUATIONS WHERE PERSONAL INTERESTS INFLUENCE A FACULTY MEMBER TO IMPROPERLY USE HIS POSITION WITHIN THE UNIVERSITY, OR WHEN OUTSIDE PERSONAL INTERESTS DETRACT SERIOUSLY FROM HIS PERFORMANCE OF UNIVERSITY RESPONSIBILITIES. BUT OUR CONCERN IS NOT LIMITED TO THESE SITUATIONS. IMPROPRIETY OR NEGLECT OF RESPONSIBILITIES BY A FACULTY MEMBER NEED NOT ACTUALLY OCCUR TO CREATE PROBLEMS WITHIN THE UNIVERSITY, FOR THE EXISTENCE OF JUST AN APPARENT CONFLICT SITUATION CAN RAISE DOUBTS ABOUT ~~HIS~~ their PRIMARY LOYALTY, WHICH MAY JEOPARDIZE ~~HIS~~ her ABILITY TO EFFECTIVELY PERFORM UNIVERSITY OBLIGATIONS.

UNTIL RECENTLY I WAS CONVINCED THAT CONFLICT OF INTEREST SITUATIONS COULD AND SHOULD BE MANAGED ON A VOLUNTARY BASIS BY THE FACULTY MEMBER AND IT WAS NOT NECESSARY TO PROHIBIT ACTIVITIES IF INDIVIDUALS MANAGED THEIR PERSONAL AFFAIRS IN

A RESPONSIBLE MANNER. I NOW HAVE REASON TO QUESTION WHETHER I WASN'T EXTREMELY NAIVE IN CONCLUDING THAT SELF-DISCIPLINE IS AN EFFECTIVE SOLUTION TO PROBLEMS CAUSED BY THE PURSUIT OF SELF INTEREST. LET ME OFFER AN EXAMPLE WHICH HAS BEEN BROUGHT TO MY ATTENTION.

A FACULTY MEMBER DECIDED TO SET UP HIS OWN COMPANY TO PRODUCE AND SELL A SPECIAL PURPOSE ELECTRONIC DEVICE INCLUDING APPLICATION SOFTWARE. HE HAD BEEN INVOLVED IN THE DEVELOPMENT OF THE DEVICE, ALONG WITH OTHER UNIVERSITY INVESTIGATORS, UNDER A GOVERNMENT GRANT WHICH WAS CONTINUING. THE DEVICE WAS NOT PATENTED, AND PLANS AND SUPPORTING SOFTWARE WERE IN THE PUBLIC DOMAIN READILY AVAILABLE TO ANYONE. IN THE BEGINNING OPERATION OF THE COMPANY APPEARED TO BE A SIMPLE TASK. HOWEVER, BEFORE LONG THE FACULTY ENTREPRENEUR FOUND THAT EVERYTHING POSSIBLE WAS GOING WRONG. HE ALSO FOUND HE NEEDED TO HAVE ADDITIONAL SOFTWARE DEVELOPED BY UNIVERSITY COLLEAGUES. THE COMPANY HAD BECOME A TIGER HE WAS HOLDING BY THE TAIL. HE HAD TOO MUCH INVESTED TO BACK OUT.

IT IS NOW OBVIOUS THAT THE COMPANY BUSINESS HAS SERIOUSLY DISTRACTED THIS TENURED FACULTY MEMBER, WHO IS A BRILLIANT SCIENTIST, FROM HIS UNIVERSITY TEACHING AND RESEARCH. HIS INTERACTIONS WITH SCIENTIFIC COLLEAGUES AND STUDENTS HAVE LESSENED GREATLY. HIS CONTRIBUTIONS TO THE LITERATURE HAVE DECLINED. WHEN HIS COMPANY PROBLEMS DEMAND IMMEDIATE ATTENTION, HE PUTS EVERYTHING ELSE ASIDE. AND ADMINISTRATORS AND OTHER FACULTY MEMBERS HAVE FOUND IT IMPOSSIBLE TO CONDUCT BUSINESS WITH THE COMPANY ON A NORMAL ARMS LENGTH BASIS. AT THE BEGINNING IT WAS FELT THAT THIS WAS A WORTHWHILE EXPERIMENT

IN TRANSFERRING TECHNOLOGY OUT OF THE UNIVERSITY. IT NOW APPEARS THAT THE COST TO THE UNIVERSITY COMMUNITY OF THIS TYPE OF ACTIVITY MAY BE UNACCEPTABLY HIGH. IT HAS ALSO BECOME OBVIOUS THAT A POLICY WHICH REQUIRES VOLUNTARY RELINQUISHMENT OF TENURE IN FAVOR OF POSSIBLE PART TIME ADJUNCT FACULTY STATUS IN SUCH CASES, HAS BEEN IGNORED.

MORE AND MORE I QUESTION THE ABILITY OF THE AVERAGE PERSON TO ANTICIPATE WHEN THE PURSUIT OF PERSONAL INTERESTS MIGHT DRAW THEM INTO A FUTURE CONFLICT SITUATION; NOR AM I CONVINCED THAT THE AVERAGE PERSON HAS THE SELF-DISCIPLINE TO EITHER ABSTAIN OR WITHDRAW VOLUNTARILY FROM SUCH AN ACTIVITY ONCE HE DOES RECOGNIZE A REAL OR POTENTIAL CONFLICT. ONCE UNDERWAY THE PERSONAL COST OF WITHDRAWING FROM AN ACTIVITY CAN BE UNACCEPTABLY HIGH. THERE ARE ENOUGH DOCUMENTED HORROR STORIES WHICH ILLUSTRATE THIS NAIVETE SUCH AS THE ONE WHERE A FACULTY ADVISOR REVEALED THE RESEARCH PLAN OF A GRAD STUDENT TO R&D PERSONNEL OF A COMPANY IN WHICH THE ADVISOR HAD A MAJOR FINANCIAL INTEREST. THE COMPANY THEN QUICKLY UNDERTOOK THE RESEARCH IN ITS OWN LABS FOR ITS OWN BENEFIT WITHOUT THE STUDENT'S KNOWLEDGE. LATER, HAVING INVESTED CONSIDERABLE TIME AND RESEARCH EFFORT, THE STUDENT WAS FORCED TO ABORT HIS RESEARCH WHEN HE DISCOVERED HIS WORK HAD BEEN PREEMPTED BY HIS ADVISOR'S COMPANY.

BEFORE MATTERS GET WORSE AND FACULTY MEMBERS EVERYWHERE GET BRANDED AS IRRESPONSIBLE BECAUSE OF THE SINS OF A FEW, UNIVERSITIES SHOULD REEXAMINE THEIR POLICIES ON PREVENTING CONFLICT OF INTEREST. CLEAR, COMPREHENSIVE AND SPECIFIC CRITERIA ARE NEEDED TO PREVENT THE PURSUIT OF PERSONAL INTERESTS WHICH

MIGHT REASONABLY BE EXPECTED TO PRODUCE ANY OF THE FOLLOWING RESULTS:

1. SIGNIFICANT DISTRACTION FROM UNIVERSITY DUTIES;
2. SIGNIFICANT REDUCTION OF RESPONSIVENESS TO THE NEEDS OF COLLEAGUES, STUDENTS AND OTHERS IN THE UNIVERSITY COMMUNITY;
3. USE OF AUTHORITY OR INFLUENCE DERIVED FROM UNIVERSITY EMPLOYMENT FOR OTHER THAN THE BENEFIT OF THE UNIVERSITY;
4. SIGNIFICANT USE OF THE RESOURCES, FACULTY, STAFF OR STUDENTS OF THE UNIVERSITY FOR OTHER THAN UNIVERSITY BUSINESS;
5. USE OF THE IDEAS OR WORK OF OTHERS WITHOUT AUTHORIZATION OR IN A MANNER NOT IN ACCORDANCE WITH PROFESSIONAL STANDARDS OF CONDUCT AND COURTESY.

PERSONAL ACTIVITY WHICH COULD REASONABLY BE ANTICIPATED TO PRODUCE ANY OF THESE RESULTS SHOULD EITHER BE PROHIBITED OR UNDERTAKEN ONLY WITH ADEQUATE SAFEGUARDS. INVOLVEMENT IN ANY SUBSTANTIAL OUTSIDE PERSONAL ACTIVITIES SUCH AS BUSINESSES, OR CONSULTING, OR ANY OTHER ACTIVITY WHICH TAKES A FACULTY MEMBER AWAY FROM UNIVERSITY DUTIES FOR A SIGNIFICANT AMOUNT OF TIME, SHOULD BE A MATTER OF FORMAL RECORD WITH HIS SUPERIOR AS WELL AS WITH A DESIGNATED, DISINTERESTED SENIOR UNIVERSITY OFFICIAL. LONG TERM COMMITMENTS SHOULD BE REEXAMINED PERIODICALLY. IF CALLED UPON, THE BURDEN OF DEMONSTRATING THAT PLANNED OR CONTINUING PERSONAL ACTIVITIES POSE NO THREAT TO ANY UNIVERSITY INTEREST SHOULD REST WITH THE INDIVIDUAL.

BEFORE LEAVING THE SUBJECT OF CONFLICT OF INTEREST,

LET'S BRIEFLY LOOK AT THE POTENTIAL FOR CONFLICT ON THE PART OF COMPANY PERSONNEL WHO INTERACT WITH FACULTY INVESTIGATORS. I BELIEVE THIS IS A LIMITED BUT REAL PROBLEM; BUT FOR THAT MATTER SO IS FACULTY CONFLICT. THE PROBLEM IN COMPANIES ARISES FROM A CONFLICT BETWEEN THE COMPANY'S DESIRE TO AGGRESSIVELY PURSUE ITS R&D OBJECTIVES AND ITS OBLIGATION TO RESPECT THE UNIVERSITY RESEARCHER'S NEED FOR PROFESSIONAL ACCOMPLISHMENT AND RECOGNITION. UNDER CONSULTING CONTRACTS AND NON-UNIVERSITY RESEARCH CONTRACTS, A COMPANY PAYS THE BILLS AND NORMALLY HAS AN ACKNOWLEDGED RIGHT TO USE THE INFORMATION SO DERIVED IN ANY WAY IT DEEMS DESIRABLE. BUT, WHEN A COMPANY SUPPORTS A UNIVERSITY RESEARCH PROJECT, SUDDENLY IT INCURS WHAT OFTEN IS AN UNSTATED OBLIGATION TO BE SENSITIVE TO THE PROFESSIONAL NEEDS OF THE FACULTY RESEARCHER.

IN A CLOSE, COOPERATIVE, COMPANY SPONSORED PROJECT THE FACULTY RESEARCHER IS NORMALLY ENCOURAGED AND EXPECTED TO MAKE A COMPLETE DISCLOSURE TO COMPANY R&D PERSONNEL OF HIS IDEAS, RESEARCH PLANS, AND INTERMEDIATE RESEARCH RESULTS. THIS CREATES TWO POTENTIAL RISKS WHICH THE COMPANY SHOULD CONTROL. THE FIRST IS TO PREVENT THE RESEARCHER'S UNPUBLISHED INFORMATION FROM BEING TRANSMITTED, DIRECTLY OR INDIRECTLY, TO OTHER SCIENTISTS WITH WHOM HE COMPETES FOR SCIENTIFIC DISCOVERY AND RECOGNITION. SINCE THE COMPANY MAY USE SEVERAL SCIENTIFIC CONSULTANTS IN A GIVEN FIELD AND MAY EVEN SIMULTANEOUSLY SPONSOR RESEARCH PROJECTS IN THAT FIELD AT MORE THAN ONE UNIVERSITY, COMPANY PERSONNEL ARE CAST IN THE ROLE OF TRUSTED CUSTODIANS OF PRIVILEGED INFORMATION FROM COMPETING SCIENTISTS. UNLESS THESE SCIENTISTS HAVE AGREED TO COLLABORATE WITH EACH OTHER AND TO EXCHANGE, OR PERMIT THE

COMPANY TO EXCHANGE THEIR RESEARCH DATA, THEY HAVE A DEFINITE EXPECTATION OF AND NEED FOR PRIVACY.

THE SECOND DANGER IS THAT THE RESEARCH PLANS AND IDEAS OF THE UNIVERSITY SCIENTISTS MAY BE USED IMPROPERLY BY COMPANY R&D PERSONNEL. IF A COMPANY'S R&D DEPARTMENT HAS SIMILAR OR IDENTICAL RESEARCH OBJECTIVES TO THOSE OF THE FACULTY SCIENTIST, ITS PERSONNEL MIGHT BE TEMPTED TO PURSUE THE SAME LINE OF RESEARCH, AND THEY MAY BE ABLE TO COMPLETE THE RESEARCH FASTER THAN IT CAN BE DONE IN THE UNIVERSITY. SHOULD THIS OCCUR THE UNIVERSITY SCIENTIST RISKS LOSS OF THE OPPORTUNITY TO BE THE FIRST TO DISCOVER AND PUBLISH IN ADDITION TO HIS RIGHT TO BE RECOGNIZED AS THE SOLE INVENTOR OF ANY RESULTING PATENTABLE INVENTION.

ONCE A COMPANY RECOGNIZES THESE RISKS AND BECOMES SENSITIVE TO THEM, THE PROBLEM IS FAIRLY EASY TO ADDRESS. SINCE IT WOULD BE COUNTERPRODUCTIVE FOR A UNIVERSITY INVESTIGATOR TO WITHHOLD INFORMATION FROM A COMPANY SPONSOR OR TO DECLINE TO COOPERATE WITH SCIENTIFIC LIAISON PERSONNEL FROM THE COMPANY, THERE IS BUT ONE PRACTICAL SOLUTION. AS NECESSARY IN THE CIRCUMSTANCES THE COMPANY SHOULD DISCLOSE POTENTIAL CONFLICTING ARRANGEMENTS WITH OTHER SCIENTISTS AND SHOULD AGREE TO CONTROL THE TIMELY DISSEMINATION AND IN-HOUSE USE OF IDEAS, RESEARCH PLANS, AND INTERMEDIATE RESULTS OF UNIVERSITY SCIENTISTS.

MODEL CONTRACT AGREEMENTS AND NECESSARY CLAUSES

PREVIOUSLY, I COMMENTED ON THE ADMINISTRATIVE CAPABILITIES AVAILABLE FOR SUPPORT OF RESEARCH RELATIONS WITH INDUSTRY, AS WELL AS ON INTERNAL UNIVERSITY POLICIES ON WHICH PRODUCTIVE

RELATIONS RELY. LET ME NOW BRIEFLY COMMENT ON PRIMARY PROVISIONS OF THE RESEARCH AGREEMENT, ESPECIALLY AS THEY ~~IMPACT~~ affect THE UNIVERSITY AND ITS RESEARCH FACULTY.

UNIVERSITY/INDUSTRY RESEARCH AGREEMENTS ARE OFTEN DEPICTED AS TECHNICAL, LEGAL DOCUMENTS, NEGOTIATED IN NUMEROUS, LONG, GIVE-AND-TAKE SESSIONS, WHICH WHEN FINALLY SIGNED, ARE FILED AND NEVER AGAIN REFERRED TO. IF AN AGREEMENT IS GOOD, AND BY "GOOD" I MEAN MUTUALLY BENEFICIAL, SUCH A DESCRIPTION IS NOT FAR FROM THE TRUTH. FOR, THE PRIMARY PURPOSE OF THE NEGOTIATIONS SHOULD NOT BE TO GAIN ADVANTAGE IN AN ADVERSARIAL SENSE -- ONE PARTY WINNING AT THE EXPENSE OF THE OTHER, BUT TO DEVELOP EQUITABLE PROVISIONS WHICH BOTH PARTIES CAN VOLUNTARILY ACCEPT AND COMFORTABLY LIVE WITH.

ALTHOUGH THERE IS DEFINITELY A BASIC STRUCTURE COMMON TO ALMOST ALL UNIVERSITY/INDUSTRY RESEARCH AGREEMENTS, STILL EACH ONE IS UNIQUE. A PARTICULAR AGREEMENT MUST DEAL WITH SPECIFIC PURPOSES, CIRCUMSTANCES, INSTITUTIONAL POLICIES AND PRACTICES, AND OF COURSE MUST GIVE VENT TO THE LITERARY STYLES AND PARANOID TENDENCIES OF THE NEGOTIATORS.

THE MOST PREVALENT TYPE OF RESEARCH AGREEMENT IS ONE WHICH COVERS A SINGLE PROJECT CONDUCTED EITHER BY A LONE INVESTIGATOR OR BY A SMALL SET OF COLLABORATING INVESTIGATORS. RECENTLY, INCREASED USE OF UMBRELLA TYPE AGREEMENTS HAS BECOME APPARENT, AGREEMENTS WHICH ESTABLISH A COMPANY SPONSORED RESEARCH PROGRAM INVOLVING MULTIPLE INDEPENDENT PROJECTS IN A PARTICULAR FIELD, SUCH AS RESEARCH ON HYBRIDOMAS, COMPUTER APPLICATIONS, OR MATERIALS SCIENCE. NORMALLY SUCH AN UMBRELLA RESEARCH PROGRAM EXTENDS OVER SEVERAL YEARS AND IS CONTINUOUSLY

OPEN TO NEW RESEARCH PROPOSALS FROM ANY FACULTY MEMBER DOING RESEARCH IN THE FIELD OF INTEREST. THE PROGRAM IS ADMINISTERED BY A SMALL GROUP OF SCIENTISTS DRAWN BOTH FROM THE COMPANY AND THE UNIVERSITY. THIS GROUP PERFORMS THE PEER REVIEW FUNCTION, SELECTING THE MOST PROMISING PROPOSALS, AND PROVIDING FINANCIAL SUPPORT FROM A FUND SET UP BY THE SPONSORING COMPANY. THE UMBRELLA CONCEPT APPEARS TO BE AN ESPECIALLY PRODUCTIVE WAY FOR A COMPANY TO CONTINUOUSLY TAP A WIDE VARIETY OF FACULTY IDEAS IN BROAD AREAS OF APPLIED SCIENCE AND TECHNOLOGY, UNDER AN OPERATING CONCEPT WHICH ASSURES EFFECTIVE COMMUNICATIONS AND CLOSE COOPERATION BETWEEN UNIVERSITY AND COMPANY SCIENTISTS.

BUT, WHETHER AN AGREEMENT BE OF THE SINGLE OR MULTIPLE PROJECT TYPE, CERTAIN PROVISIONS ARE NECESSARY TO ESTABLISH AN UNEQUIVOCAL UNDERSTANDING BETWEEN THE SPONSORING COMPANY, THE UNIVERSITY ADMINISTRATION, AND THE PARTICIPATING UNIVERSITY SCIENTISTS. LET ME TOUCH ON THE MOST IMPORTANT OF THESE PROVISIONS.

1. "SCOPE OF WORK" PROVISIONS: These SEEK TO DEFINE, AS BEST AS CAN BE DONE IN ADVANCE, THE RESEARCH TO BE UNDERTAKEN, USUALLY IN TERMS OF THE ANTICIPATED END RESULT. IT IS IMPORTANT TO ESTABLISH WHETHER THE UNIVERSITY IS COMMITTED TO ACTUALLY ACHIEVE THE END RESULT OR ONLY TO USE ITS BEST EFFORTS TO THIS END. DUE TO THE INHERENT UNCERTAINTY OF RESEARCH, THE LATTER IS USUALLY THE ONLY REALISTIC COMMITMENT THAT CAN BE MADE.

   THIS SECTION OF AN AGREEMENT SHOULD ALSO DEFINE THE GENERAL RELATIONSHIP BETWEEN THE RESEARCH BEING

SPONSORED BY THE COMPANY AND OTHER SPONSORED AND UNSPONSORED RESEARCH IN THE UNIVERSITY, BOTH PRESENT AND FUTURE, IN THE SCIENTIFIC FIELD OF INTEREST. ESSENTIALLY THE PARTIES NEED A CLEAR UNDERSTANDING THAT SPONSORSHIP BY THE COMPANY WILL NOT PLACE RESTRICTIONS OR IMPOSE OBLIGATIONS ON OTHER THAN THE SPECIFIC PROJECT PARTICIPANTS.

2. KEY PERSONNEL: THE PRINCIPAL UNIVERSITY PARTICIPANTS IN THE PROJECT SHOULD BE IDENTIFIED AND THEIR LEVEL OF EFFORT SPECIFIED. IT IS WELL TO STATE ANY PERSONAL RESTRICTIONS THAT APPLY TO THESE PARTICIPANTS, SUCH AS LIMITATIONS ON THEIR FREEDOM TO ENGAGE IN CLOSELY RELATED RESEARCH FOR OTHER COMPANIES OR GOVERNMENT AGENCIES, AS WELL AS LIMITATIONS ON THEIR PERSONAL CONSULTING ACTIVITIES WITH INDUSTRIAL FIRMS.

3. REPORTS: GOOD COMMUNICATIONS WITH A COMPANY SPONSOR ARE USUALLY ESSENTIAL TO SUSTAIN THE SPONSOR'S INTEREST AND SUPPORT AND, IN MANY CASES, TO ENCOURAGE SCIENTIFIC COOPERATION AND COLLABORATION. MUTUALLY INTERESTING INTERACTIONS HELP TO BUILD LONG TERM RELATIONSHIPS. WHILE NO ONE ENJOYS WRITING REPORTS, AT LEAST PERIODIC BRIEF ONES ARE USUALLY REQUIRED AND ARE DESIRABLE TO DOCUMENT PROGRESS AND PROBLEMS. ORAL BRIEFINGS OF COMPANY PERSONNEL CAN BE ESPECIALLY PRODUCTIVE IN THAT THEY ENCOURAGE A FRANK AND COMPREHENSIVE ACCOUNT OF PROGRESS, THEY ALLOW DISCUSSION, AND THEY OFTEN STIMULATE CLOSER SCIENTIFIC COOPERATION.

4. THE TERM, OR PROJECT PERIOD: The project period OF AN AGREEMENT AND

CONDITIONS UNDER WHICH IT CAN BE TERMINATED SHOULD BE DESIGNED TO PROTECT BOTH PARTIES. THE UNIVERSITY INVESTIGATOR WANTS ASSURANCE THAT SUPPORT WILL BE MAINTAINED FOR A PERIOD SUFFICIENT FOR THE ACCOMPLISHMENT OF RESEARCH RESULTS AS WELL AS FOR THE ATTRACTION AND RETENTION OF ESSENTIAL UNIVERSITY COLLABORATORS, GRADUATE RESEARCH ASSISTANTS, AND SUPPORTING STAFF. THE COMPANY WANTS A COMMITMENT THAT THE RESEARCH WILL BE DILIGENTLY PURSUED AND AN OPPORTUNITY TO TERMINATE FUNDING IF PROGRESS OR RESULTS ARE DISAPPOINTING. DEPENDING ON THE PROSPECTS FOR SUCCESS, THE COMPANY MAY AGREE TO FUND THE PROJECT FOR SEVERAL YEARS OR ONLY ON A YEAR-TO-YEAR BASIS, WITH CONTINUATION DEPENDING ON INTERIM RESULTS, OR OTHER FACTORS. IN ADDITION, INEVITABLY EACH PARTY RESERVES THE RIGHT TO TERMINATE IF THE OTHER PARTY COMMITS ANY SUBSTANTIAL BREACH OF THE TERMS OF THE AGREEMENT. ADEQUATE WARNING AND OPPORTUNITY TO REMEDY PROBLEMS ARE ALWAYS PROVIDED.

5. FUNDING ARRANGEMENTS: INDUSTRIAL CONCERNS ARE USUALLY MORE FLEXIBLE THAN GOVERNMENT AGENCIES, ALTHOUGH I WOULD BE QUICK TO COMPLIMENT NSF FOR THEIR RECENT MOVES IN THIS DIRECTION. FINANCIAL RELATIONS WITH INDUSTRY SEEM TO INVOLVE A HIGH DEGREE OF TRUST AND DISCRETION AS TO HOW FUNDS SHOULD BE BE USED. INDUSTRY IS NOT NORMALLY CONCERNED WITH BUDGET ITEM COST CONTROL, BUT INSTEAD IS MORE BOTTOM LINE ORIENTED.
6. PUBLICATION: I HAVE PREVIOUSLY COMMENTED ON THE CONFLICTING NEEDS OF UNIVERSITY SCIENTISTS TO PUBLISH

THE RESULTS OF THEIR RESEARCH VERSUS INDUSTRY'S NEED TO PROTECT NEWLY ACQUIRED TECHNOLOGY. IF A COMPANY EXPECTS THAT ITS NEW, UNIVERSITY PRODUCED TECHNOLOGY WILL BE PATENTABLE, THEN IT IS USUALLY SATISFIED WITH A SHORT DELAY IN PUBLICATION TO ALLOW THE FILING OF PATENT APPLICATIONS. HOWEVER, EVEN WITH PATENTABLE INVENTIONS THERE ARE VARIOUS PRACTICAL SITUATIONS WHICH DON'T FIT THIS MODEL. ALTHOUGH SOLUTIONS HAVE BEEN FOUND FOR A FEW, SUCH AS HYBRIDOMAS, PROBLEMS REMAIN. IN FORMAL RESEARCH AGREEMENTS MOST UNIVERSITIES CAN DO LITTLE TO ADDRESS SUCH PROBLEMS, SINCE THEY MUST TAKE A STANCE PROTECTIVE OF THE FACULTY'S FREEDOM TO PUBLISH. THUS, FOR NOW, INFORMAL ACCOMMODATIONS BETWEEN FACULTY INVESTIGATORS AND COMPANIES MAY REPRESENT THE ONLY PRACTICAL POSSIBILITY FOR RELIEF. BUT FRANKLY, IT IS NOT CLEAR HOW MUCH OF A PROBLEM REALLY EXISTS.

7. CONFIDENTIALITY OF INFORMATION: This area REPRESENTS ANOTHER SUBJECT WHICH AGREEMENTS MAY ADDRESS IN A SEEMINGLY UNUSUAL MANNER. IF COMPANY PROPRIETARY INFORMATION IS TO BE USED BY UNIVERSITY INVESTIGATORS, EVEN AS BACKGROUND INFORMATION, THE COMPANY WANTS IT SAFEGUARDED. UNLIKE A COMPANY, THE UNIVERSITY HAS NO SECURITY SYSTEM, LACKS EFFECTIVE CONTROL OF ITS FACULTY, AND COULD NEVER TAKE A FACULTY MEMBER TO COURT TO ENFORCE PROTECTION OF COMPANY INFORMATION. ONE PREVALENT SOLUTION IS SIMPLY TO SPECIFY THAT THE COMPANY MUST GET PERSONAL CONFIDENTIAL AGREEMENTS DIRECTLY WITH THOSE INVESTIGATORS WHO WILL HAVE ACCESS TO COMPANY PROPRIETARY INFORMATION.

LOOKING AT THE OTHER SIDE OF THIS COIN, A COMPANY IS IN A POSITION TO PROTECT UNIVERSITY PROPRIETARY INFORMATION. SUCH PROTECTION IS NECESSARY TO PRESERVE THE RIGHTS OF UNIVERSITY INVESTIGATORS TO PRIVACY FROM INQUISITIVE SCIENTIFIC COMPETITORS AND TO BE THE FIRST TO PUBLISH THEIR RESEARCH RESULTS. MOST COMPANIES HAVE LITTLE DIFFICULTY ACCEPTING RESPONSIBILITY TO SAFEGUARD UNIVERSITY INFORMATION.

8. AGREEMENT CLAUSES DEALING WITH THE PATENTING OF INVENTIONS FROM A RESEARCH PROJECT MAY PLACE THIS RESPONSIBILITY EITHER ON THE UNIVERSITY OR THE COMPANY. MY PERSONAL PREFERENCE IN MOST CASES IS TO HAVE THE COMPANY ASSUME THE PRIMARY ROLE WITH THE UNIVERSITY RETAINING THE RIGHT TO MONITOR AND INTERVENE IF NECESSARY TO PROTECT ITS OWN INTERESTS. THUS, THE COMPANY MAY BE CHARGED WITH IDENTIFYING INVENTIONS AND THEN FILING AND PROSECUTING PATENT APPLICATIONS, BOTH DOMESTIC AND FOREIGN, AT ITS OWN EXPENSE. MOST OF THE TIME THE COMPANY CAN DO A BETTER JOB OF ESTABLISHING COMMERCIALLY VALUABLE PATENT RIGHTS AND USUALLY IS WILLING TO RELIEVE THE UNIVERSITY OF THIS FINANCIAL BURDEN. OF COURSE THE COMPANY MAY REASONABLY INSIST THAT IT HAVE AN OPPORTUNITY TO RECOVER THESE COSTS FROM FUTURE EARNED ROYALTIES.

9. PROVISIONS FOR THE LICENSING OF INVENTIONS PRODUCED BY THE RESEARCH USED TO BE A MAJOR STUMBLING BLOCK IN THE NEGOTIATION OF RESEARCH AGREEMENTS. IT IS NOW A RARE OCCURRENCE FOR A SPONSORING COMPANY TO INSIST THAT IT OWNS THE INVENTIONS BECAUSE IT PAID FOR THE

RESEARCH. TODAY THE PREVALENT PRACTICE IS TO OFFER THE COMPANY AN EXCLUSIVE LICENSE, OR AN EQUIVALENT REVOKABLE ASSIGNMENT OF PATENT RIGHTS, AT LEAST FOR AN EXTENDED PERIOD OF YEARS. SUCH LICENSES ARE ROYALTY BEARING AND SHOULD REQUIRE THE COMPANY TO BE DILIGENT IN COMMERCIALIZING INVENTIONS OR RISK LOSING ITS EXCLUSIVITY, OR IN SOME CASES RELINQUISHING THE LICENSE. ANOTHER INTERESTING TREND, WHICH INDICATES GROWING CONFIDENCE OF THE PARTIES IN EACH OTHER, IS THE SPECIFICATION IN THE RESEARCH AGREEMENT OF ONLY A FEW ESSENTIAL PROVISIONS WHICH MUST BE IN A PROSPECTIVE LICENSE, LEAVING THE REST FOR FUTURE GOOD FAITH NEGOTIATIONS.

10. ~~THE FINAL AGREEMENT PROVISION I WOULD LIKE TO MENTION IS THE~~ "DISPUTES" CLAUSE. This is the MEANS BY WHICH DIFFERENCES, ARGUMENTS, AND SUCH ARE TO BE SETTLED. OMISSION OF SUCH A CLAUSE FROM AN AGREEMENT GENERALLY INDICATES THAT THE PARTIES INTEND TO DEPEND ON LITIGATION. THE PRIMARY ALTERNATIVE TO LITIGATION IS BINDING ARBITRATION. SHOULD THE PARTIES ACTUALLY HAVE TO RESORT TO EITHER METHOD TO RESOLVE DISPUTES, IT IS LIKELY TO DESTROY ANY POSSIBILITY OF A LONG TERM COOPERATIVE RELATIONSHIP BETWEEN THEM. THE BEST INDICATION OF A SUCCESSFUL AND LASTING RELATIONSHIP, ONE BASED ON MUTUAL CONFIDENCE, TRUST AND RESPECT, IS THE DEMONSTRATED ABILITY OF THE PARTIES TO RESOLVE THEIR DIFFERENCES WITHOUT RECOURSE TO THE COURTS OR OUTSIDE ARBITRATORS.

THIS HAS BEEN A SIMPLE OVERVIEW OF AGREEMENT CLAUSES. THERE

ARE MANY OTHER MATTERS WHICH MAY NEED TO BE TREATED IN THE TERMS AND CONDITIONS OF RESEARCH AGREEMENTS DEPENDING ON PARTICULAR CIRCUMSTANCES.

IN CONCLUSION I WOULD OBSERVE THAT FOR DECADES THE ORIENTATION OF THE RESEARCH UNIVERSITY HAS BEEN ALMOST EXCLUSIVELY TOWARD GOVERNMENT. AS RESEARCH INTERACTIONS WITH COMPANIES HAVE INCREASED, WE HAVE HAD TO LEARN HOW TO DO BUSINESS WITH PRIVATE INDUSTRY. TODAY, UNIVERSITIES AND THEIR FACULTY INVESTIGATORS ARE DEALING EFFECTIVELY WITH MANY NEW AND DIFFERENT ISSUES IN WORKING OUT THESE COOPERATIVE RESEARCH ARRANGEMENTS WITH COMPANIES, AND SOON, I EXPECT THE ENTIRE PROCESS WILL BE PART OF OUR NORMAL ROUTINE.