

## Caltech

### Particular challenges before Caltech:

1. Most dangerous challenge is a successful past...  
Are you convinced that you have the right formula...  
The right intellectual balance...  
Indeed, do you believe you even have a process which can ask the critical questions of what you are?...and what you want to be?...and how to get there?
2. Caltech may be the best kept secret outside of California  
When the public thinks of science and technology, they think of MIT and Stanford...not Caltech...  
WHY???  
I suspect this is not simply PR...
3. Some balance questions...
  - i) Quality vs. breadth vs. scale
  - ii) What is your more valuable product?  
Intellectual or human resource development?
  - iii) Basic science vs. applied science vs. engineering?  
Note imbalance in student interest and staffing...  
Is Caltech adequately positioned to respond to national thrusts?
4. Nature of a "Caltech education"  
Myth: Caltech educational philosophy is benign neglect...  
"Just put bright students in the vicinity of outstanding scientists performing research, and they will pick up what they need to know by osmosis..."

Question:

Are you really providing the value-added that students  
of this caliber deserve?

Is the Caltech education too narrow to produce leaders  
of

America?

Do you have a rich enough environment?

Intellectual diversity?

Cultural, social, athletic, political?

Student activism?

NOTE: National concern about undergraduate  
education...

Carnegie Foundation (Ernie Boyer...)

MIT...

Do you really know what happens to your graduates?

Do you care?...

5. How adequate is your quality control of faculty?

Degree of inbreeding?

Recruiting and tenure decision process?

Note: Engineering and Applied Science Division

How insular are you?

6. Breadth issues

Caltech is the model of institutional focus in higher  
education...

You traditionally have done only what you believe you  
can do

the best...

And, of course, you have indeed achieved enormous  
success!

BUT...

Have you focused too much for the future into which we are moving?

Are you only attracting faculty and students willing to put up with the

"research institute" environment? (I suspect there are many faculty and students who simply will not even consider Caltech because they are seeking a far more diverse intellectual (social, cultural environment).

Do you have sufficient intellectual span to attract the critical

intellectual problems that we now face?

Do you have sufficient breath to adapt to change?

(After all, investing in a tenured professor commits you to one direction for a hell of a long time...)

### **What is the faculty looking for?**

Desired Characteristics:

Intellectual leadership?

A "prime mover", an energy source?

Some who will "perpetuate the Caltech tradition"?

Influence?

Fund-raising?

Handling the Board of Trustees?

Staying out of our hair?

Models:

Do you want a "scientific mandarin"...someone clearly regarded as one

of the scientific establishment (e.g., Frank Press, Lew Branscomb, Erich Bloch,...)?

Do you want to follow the Ivy tradition and appoint a young hotshot

to invigorate you? (E.g., Bowen-38, Bak-40, Shapiro-44, Schmitt-44)

How important are the scientific credentials of the person you select...

do you want a figurehead...a symbol...or do you want a "working president"?

Do you want someone to continue the Caltech traditions...or someone

to shake you up a bit and force you to rethink your directions?

What experience do you most value?

Leadership experience in higher education at a peer institution?

Leadership experience in research institutes and laboratories?

(E.g., Harold Brown)

Leadership experience in peer scientific programs?

(E.g., Murph Goldberger)

Understanding of the Caltech culture?

Relationship to Various Constituencies

Internal

Leadership

Executive Officers

Division Chairmen (Deans)

Faculty  
Students  
Board of Trustees

External

Alumni  
Corporate Sector  
Federal Government  
State Government?  
Other universities

Related responsibilities

JPL

Other facilities

Would you let the President play on your football team?

### **Possible desired qualifications**

Obvious and measureable:

- i) academic credibility, credentials as a scholar...  
(Peer respect...)
- ii) Strong, PROVEN, management skills
- iii) Strong, PROVEN, leadership skills
- iv) Ability to raise resources

Obvious but hard to measure:

Integrity  
Courage  
Vision  
Fair-mindedness  
Compassion  
Understanding of academic culture

Critical qualifications

1. An unrelenting passion for excellence

An unwillingness to settle for anything less!

And, of course, the ability to recognize excellence when it is

present...and admit it when it is not!

2. Impeccible "taste" in people...

Ability to indentify, attract, and lead outstanding people

Attract most outstanding talent into top leadership positions

3. Need an enery source..a prime mover...

someone who can trigger the process of critical questioning

so essential to the achievement of excellence

**Possible Candidates**

Erich Bloch

Age: 60

Neil Pings

Age: 55???

John Deutsch

Jim Gibbons

Jerry Wilson

Tom Everhart

**Basic operating principles of Caltech**

At least as I once understood them...

Key features

A passion for excellence...

and a recognition that one must focus resources to achieve this...

An enormous confidence in the ability of outstanding

people to do great things...

1. Caltech will only do what it can be the best in...  
Focus resources to achieve the best!  
No interest in messing around with mediocrity...
2. "Select the very best people, give them the very best facilities and stand aside." -- Murph Goldberger  
"Attract and retain the most outstanding students and faculty, provide them with the environment, the encouragement, the stimulus, and the opportunity to push to the limits of their abilities, and then get the hell out of their way." -- JJD
3. Seeks an entrepreneurial environment, one which stresses excellence and individual achievement...  
which removes all the constraints on people...  
which lets your most creative people "go for it"!!!
4. And, I sense that Caltech, like all great academic institutions, is run by the faculty for the faculty!!!

### **Michigan Role**

What is a "Provost"?

Michigan role:

2nd in command

Chief academic officer

Line supervision for schools, colleges, centers, institutes

University Medical Center

Chief budget officer (\$1.2 B)

Operating

Capital Facilities

Primary responsibility for people quality

Final signoff on all faculty appointments and promotions

Admission standards

External

State relations

Government relations (NSB)

Private support

Alumni

General public relations

Structure:

Associate Vice-Presidents

Budget and Planning

Academic Affairs

Minority Programs and Affirmative Action

Vice-Provosts

Information Technology

Medical Center

Deans and Directors

Schools and College

Centers and Institutes

Service Units

At Michigan:

1. Provost is the one who says "No"...  
...so the President can say yes!
2. President leads, Provost pushes...
3. President determines direction, Provost determines pace

At Michigan, the Provost, like the President, is chosen from the academic ranks.



Remember, I am first and foremost a faculty member...  
who has spent 20 years in the trenches teaching, doing  
research, serving on committees -- including  
Senate Assembly...and pushing against  
administrators

So why did I leave my comfy home in Engineering?

I do not have an unusual streak of masochism...

Nor do I have an unusually high threshold for pain

Nore was it HTS's persuasiveness alone, although that  
was certainly a factor...

Rather, I sensed the University at a stage remarkably  
similar to my own College of Engineering when I  
was sentenced to 5 years of hard labor as Dean  
in 1981.

### **JJD Operating Principles**

My view is clearly elitist: formed by Yale, Caltech, Harvard...

Places the highest premium on two characteristics:

- i) focusing resources to achieve quality
- ii) an enormous confidence in the ability of outstanding  
people to do great things

Some Basic Operating Principles

1. Academic institutions are profoundly people-dependent  
Hence, the key to excellence is attracting and  
retaining the outstanding students, faculty, and  
staff, and providing them with the environment  
and encouragement to push to the limits of their  
abilities, and then getting out of their way!
2. Strive for an entrepreneurial, change-oriented,  
risk-taking culture...

Which stresses excellence, achievement, and excitement...which removes constraints from talented people and encourages them to "go for it"!

3. I am a faculty member

Fought for 20 years in the trenches...

Convinced that faculty should run this place!

UM strength: HTS, me...

Hope that I can understand, share your values and concerns,

...and respond effectively...

4. Have to get out of blockhouse...

Sit in on Senate Assembly...

Visit schools and colleges...

E-mail...

### **Michigan Agenda**

It is a time of unusual opportunity, to be sure. But, if we are to grasp these opportunities while meeting our responsibilities, I believe we must face several important challenges.

These challenges are no so much concerned with resources state funding or physical facilities or such.

Rather they are concerned with the very nature of what we believe the University is...and what we wish it to be.

These are challenges of excellence!

1. Picking up the pace a bit...

To build a level of intensity and expectation to settle for nothing less than the best in the performance of faculty, students, and programs

The thundering herd...the hoofbeats behind us  
Excellence sets us apart...

provides the visibility to attract resources

We must shake off that extraordinary intolerance of  
extreme

excellence which seems to plague midwestern  
institutions...

and set our course for achieving the best.

2. Focusing resources to achieve excellence...

Should not try to be all things to all people...

The time of continual increases in public support ended  
more

than a decade ago.

Quality should dominate breadth and capacity...

Build "spires" of excellence

3. Highest priority: academic excellence

UM's reputation and quality will be based on its  
activities in instruction and scholarship...

Academic excellence must be our highest priority...

4. Changing intellectual currents...

Intellectual leadership...

demands pushing to the forefront of discovery

working on the exponential part of the knowledge  
curve

Shift to a change-oriented, risk-taking culture

Relish change!!!

Stress bold, new initiatives...

Defy the deification of disciplines

New knowledge created at interfaces...

At turbulent mixing, collision of disciplines

5. A sense of community, collegiality

Resist "centrifical" forces on strong disciplines...

Pull people together...

### **Strategic Planning Process**

So how do we respond to this time of opportunity,  
responsibility, and challenge?

I suggest that we do not "respond"...as we have all too  
often in the past, but that we seize the initiative by taking  
action

to determine our own destiny.

All too often in the past, we have tended to respond to  
external

pressures, opportunities, needs, rather than taking  
control

of our own destiny. We have been blown in one  
direction

or another by winds from outside. It is now time that  
we grasp

the wheel firmly to steer the University in a direction  
appropriate

for the future.

In a sense, I propose that we initiate a process of

"strategic leadership" that first addresses the question  
about "what"

we want this University to be -- what our values, goals,  
priorities,

and objectives should be.

We should approach our future "strategically" rather than  
merely position ourselves to respond.

## A Plan to Respond to the Challenge of Leadership

First phase: "what" do we want to be?

"Smaller but better"?...

"Poorer but wiser"?...

What is unique about UM -- our "market niche"?

A large, comprehensive, public, research university

A serious commitment to scholarship

Unusual breadth, rich diversity of academic disciplines,  
professional schools, social and cultural activities

Unusual degree of participation of faculty and students  
in

University decisions

AND... probably the highest quality undergraduate  
student

body of any public university in the nation...

Indeed, UM probably enrolls more outstanding  
students

than any university in the nation.

Suggestion:

Why don't we take advantage of these factors by  
choosing a

mission which links together

Teaching, research, and service

Quality, breadth, and size

Undergraduate, graduate, professional  
education

and faculty development

to provide UM with a unique role in higher  
education.

Suggestion: A mission of leadership

For the decade ahead, the UM should select as its primary goal: "Building the leadership of tomorrow on a foundation of academic excellence.

We should place primary emphasis on the development of leadership through the education of our students, the intellectual development and contributions of our faculty.

Of course, the key to success in this mission will be academic

excellence: education, scholarship, and research of the highest quality.

Such a mission would:

1) Take advantage of where we are today...

2) Enhance our impact on society in a manner consistent with

our responsibilities as a public institution

3) Lay the foundation for the long term strength and distinction

of the University through the achievement, contributions,

and influence of its graduates and faculty.

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### **JJD Strengths (and weaknesses)**

Energy level

Pace: hyperdrive...Warp Factor 7...

Very goal-oriented...

Ability to set precise goals...

Develop strategic plans to achieve these goals...

Then to attract extraordinarily talented people,...

Form them into effective teams

Get them the resources to get the job done...

and then get the hell out of their way

(i.e., to appoint the best and to delegate authority and responsibility)

To work across a broad range of constituencies...

Internal:

Faculty (17 schools and colleges)

Students

Staff

External:

Universities

Harold Shapiro, Derek Bok, Frank Rhodes, ...

State relations: Governor, Legislature, Congressional  
Delegation

Federal relations: NSB, White House, Congress,  
Agencies

Erich Bloch, Al Trivelpiece,

Industry

Roger Smith, Don Petersen, Lee Iacocca, Mike  
Blumenthal,

Paul Orifice, Bob Fuhrman, George Skurla, Si Ramo,  
Rubin

Mettler,

Alumni (340,000)

Pluses and Minuses

Tenacity

Impatience

Pace of decision making

Try to listen carefully to people

Usually draw heavily on ideas of others

General not afraid to admit mistakes

Like to gamble...but always place bets on quality of people

## **Characteristics of UM**

Overview:

University of Michigan = "mega-university"

i) Spans all intellectual disciplines and  
professional areas



- ii) Provides instruction, research, service
- iii) Attempts to conduct programs that rank among the nation's best in all areas (and succeeds...)

Parameters:

Enrollment: 34,340 (Ann Arbor) (46,725 total)

Faculty: 2,600 (14,000 employees)

Budget: \$1.1 billion (\$406 million for academic)

\$206 million State

\$166 student tuition and fees

\$495 million "auxiliary services" (hospital..)

\$192 million, federally sponsored research

\$45 million, gifts

Quality:

Students: Top 3% of high school graduates

Faculty: Recruit the best in the world

Programs: Generally all ranked in top 10 nationally

Organizational Structure

Units:

i) Schools and Colleges (17)

ii) Interdisciplinary Centers and Institutes

Research, Instruction, Service

iii) Administrative

iv) Service (University Hospitals)

Organization

Board of Regents

President, Executive Officers

Deans and Directors

Chairpersons

Faculty, staff, students

Resource allocation

Financial resources

Physical facilities

Human resources

Style

Constitutional autonomy within State

Highly decentralized

Each academic unit (school or college)  
has authority over programs, personnel,  
and resources

Faculty controls curriculum and research

Stress diversity, academic freedom

University Priorities

Personal belief

The most critical factors in determining the quality of  
an

academic institution are those intellectual disciplines  
that

derive from its undergraduate programs.

These form the cornerstone, the intellectual "soul", of a  
distinguish university.

At Michigan this "core" include LS&A, to be sure...

but it also includes other disciplines...art,  
music,...perhaps

even a dash of Engineering...

To be sure, the strength of the professional schools and  
colleges

play critical roles in determining the reputation of a  
great

university like Michigan. However over the long term, these schools will inevitably draw their strength from the core academic disciplines.

Concerns: In the ebb and flow of priorities within the University,

Over the past couple of decades, we seem to have forgotten the importance of our core academic programs.

Quite frankly we have allowed other priorities to dominate...

In the 1960s, it was the social professions...

Education, Social Work, Natural Resources...

In the 1970s, the health professions had their turn

Dentistry, Medicine, Nursing, Pharmacy, Public Health

In the early 1980s, you might say that Engineering and

Business came to the fore...

And throughout this period as well, we became preoccupied

with nonacademic matters...

...with a gigantic medical center complex

...with intercollegiate athletics

...with establishing branch campuses...

Let there be no doubt...

My first agenda is to reestablish the core academic programs

of the University as its highest priority in the years ahead.

### JJD Directions

1. Commitment first to finish the job at Michigan...
2. Then what??? Probably a university presidency...

But what type?

Top institution

Top large public institution?

Aready on top: Michigan, Wisconsin, Berkeley, Illinois???

Emerging: Minnesota, Virginia, North Carolina, Texas???

Leading private institution?

Yale, Harvard, Princeton, Stanford, Cornell, Chicago, Northwestern

Leading scientific institution?

Caltech, MIT,

Georgia Tech...NO!!!

3. Government???

Cabinet position???...Maybe...

National Laboratory???...NO!!!

4. Industry???
- NO!!!