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 identify, attract, and lead outstanding people
   Attract most outstanding talent into top leadership positions

3. Need an energy 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. Nor 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 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 initiative 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.

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.

**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?
   
   Already 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!!!