

“A Perfect Job in an Imperfect Place”

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http://www.myclassicyrics.com/artist_biographies/Robin_Hood_Biography_2.gif

Preface

This PowerPoint began some years ago as an attempt to understand why, as director of a group and as the only PhD Social Scientist researcher to become a “tenured” Senior Scientist, I was unhappy with my Center.

I wanted to understand how I had created a perfect job in an imperfect place, my Center. Scientists were nice as a fellow employee with a different “soft science” (so they would say) background. Interactions with others at the Center ranged from disinterest in the social use of their research to curiosity about how their findings might benefit society. Most conversations occurred at lunch time. I chose different tables to sit at, as scientists tended to cluster by their research activity: modelers, chemists, ocean-related and social impacts researchers. The managers sat together, separated from the staff.

I had the support of some colleagues, including senior mentors and a few managers who believed that NCAR, and its parent organization, UCAR, had a responsibility to identify societal benefits of the Center’s research. They kept my scientific knowledge correct and provided encouragement: Bob White, Walt Roberts and Bernard Haurwitz deserve special mention. Others colleagues still at NCAR deserve special thanks.

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Section 1.

Introduction

Basic Facts:

Déjà vu all over again

- In July 1974, I joined NCAR's ESIG (Environmental and Social Impacts Group) as a senior postdoctoral fellow.
- ESIG, like other programs at NCAR, was reviewed in 1976 and every so often thereafter. During each review, the committee of scientists each time asked if NCAR should be “doing” social science aspects of the atmospheric sciences.
- Although the “spirit of the times” for multidisciplinary research has progressed since the mid-1970s, NCAR's culture apparently has not.
- 32 years after the first ESIG review, scientists again raised the same question.
- While the rest of the world has moved on with regard to the value of multidisciplinary research related to climate, water and weather, UCAR and NCAR apparently have not.
- Center managers see their work as “core” and that of other disciplines as peripheral. Ironically, the National Science Foundation has the same view about the Center itself.
- Other agencies – NOAA, NASA, DOE – have, however, embraced the social science aspects of their respective missions and have flourished.

What follows is a retrospective of my perceptions about my time at NCAR, an NSF based/funded science research center.

I began to prepare this retrospective in around 2005, in an attempt to better understand my mixed feelings about such a perfect job in such an imperfect setting.

I worked at NCAR for more than 34 years, first as a senior postdoctoral fellow and later as a researcher. I was promoted through the ranks (Scientist I, Scientist II, Scientist III) and, finally, became a tenured Senior Scientist after ____ years.

Having been fired (the Center's Human Resources wanted me to say 'terminated') in August 2008 by a newly hired director, I was fortunate to receive financial support by late September of that same year from the Rockefeller Foundation and as a Clinton Global Initiative Commitment. This good fortune was the result of a New York Times article about my firing and the dissolution of my group.

My group, the Consortium for Capacity Building (CCB), was invited to continue its work at the University of Colorado by INSTAAR (the Institute for Arctic and Alpine Research).

If there were no NCAR today, would NSF create one?

- **Every organization is created to perform specific functions; however, society's needs change over time. Shouldn't the functions of an organization change as well?**
- **Organizations should ask themselves this question every few years or so. UCAR and NCAR and even the NSF must review their institution's raison d'être periodically.**
- **NCAR's science plans, like those of many organizations, have been "rolling plans", extended one year at a time based on the activities of the preceding year; In other words, its plans encourage a "business as usual" approach.**
- **In 2010, NCAR becomes 50 years old. Today, however, its services are similar to those of other research centers. Is it time to revisit its relevance in the 21st century? Is it time to "refunction"?**



“It was the best of times; it was the worst of times.”

- **The bromide “Every rose has its thorn” applies to jobs and bureaucracies.**
- **NSF (National Science Foundation) and NCAR (National Center for Atmospheric Research) are not exempt.**
- **There are good things about working deep inside a bureaucracy; there are bad things as well.**
- **Skill and luck are needed to survive – let alone thrive – in a bureaucratic setting. Apparently, I had both working for me.**

What I think helps to make a place perfect

- Honest leaders with vision
- Enlightened management
- Respect for leaders and their vision
- Support for one's activities
- Time to pursue new ideas
- Colleagues as mentors



**A place can be perfect by design or by accident.
Most of the time it is the latter.**

The following slides provide personal insights I gained as a Social Scientist in a physical science research institution. Preparing them helped me to understand my past 35 years of work. They also provided thoughts on how to make a national research center a better, more productive work environment.

This presentation provides insights on mentoring, management, institutional setting, and how to make an adhocracy within the belly of a scientific bureaucracy.

The comments represent my view – advice, you might say – for young researchers and science managers to think about. Points made herein are based on real situations.

SECTION 2.
About Management:
Lessons identified

Usable generalizations

Better late than never ... for institutional support?

- **Except for Walter Orr Roberts, NCAR's founder, I had limited support from managers for my societal impacts activities. Roberts' vision was for science to be in the service of society.**
- **Most of the moral support for my writings and workshop activities came from my network outside NCAR.**
- **Once an activity of mine or my group finished (like societal aspects of El Nino forecasts), it received belated mention at my Center.**
- **Occasionally, activities were highlighted as being a contribution of the Center to society!**



National Center for Atmospheric Research (NCAR)



Dr. Walter Orr Roberts. NCAR's founding director

And you think Okapis have some real identity issues?

- **NCAR has been in search of an identity.**
 - **Is NCAR like a university, like a corporation, or both?**
 - **Does NCAR foster science or science application?**
 - **Is NCAR a service center for universities or a self-contained research center?**
 - **It appears that NCAR is still searching.**

An okapi



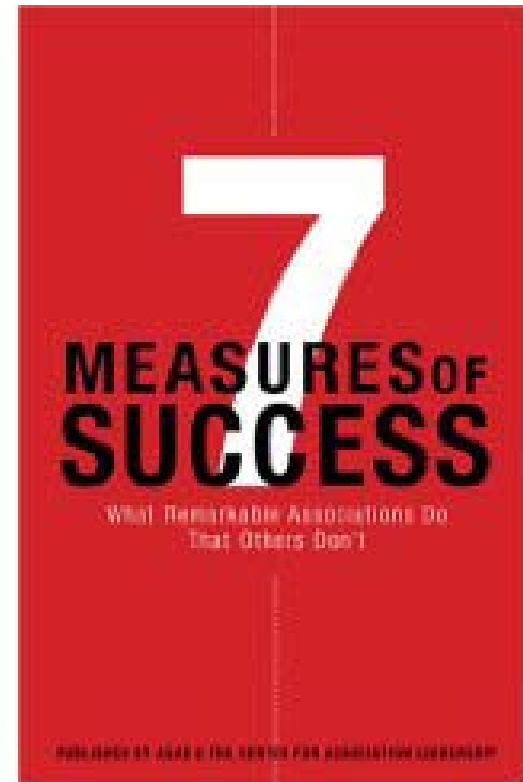
www.sas.com/okapis

The problem with ‘owning’ an institution is also having to ‘own’ its repairs!

- **CEOs revel in the honors that accrue with their leadership during their tenure in office. They claim all the benefits, accolades and bonuses.**
- **But CEOs also own their institution’s problems, so they must also take responsibility for adversities and for identifying solutions.**
- **When things go wrong, there can be no finger-pointing at underlings or claims of “I did not know”**
- **The buck stops with a CEO and the management team.**

Are scientific organizations badly in need of a definition of success?

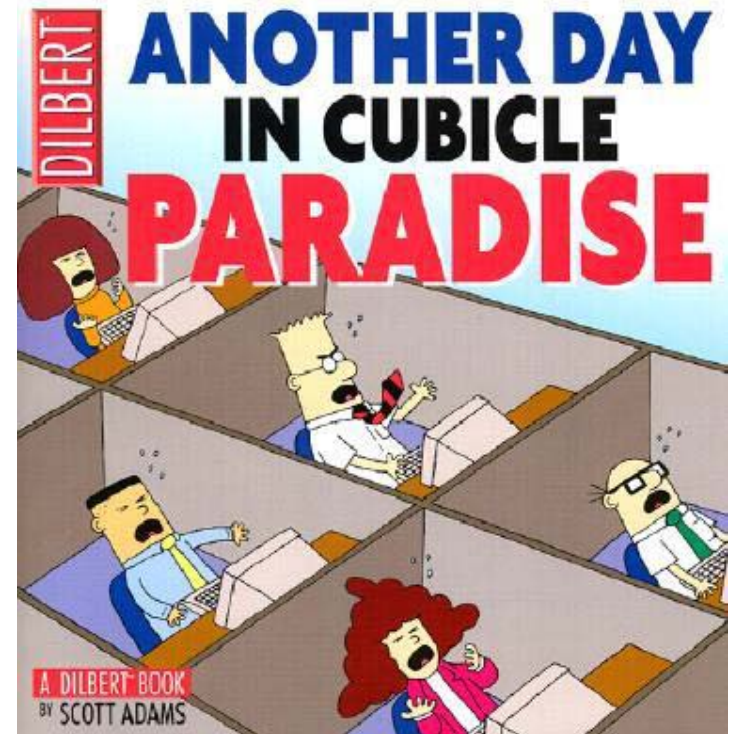
- The climate research world, broadly defined, has changed. It has broadened to a climate-related research world. Are centers keeping up with this change?
- When created 50 years ago, NCAR (and UCAR) provided universities with access to a large-scale computing facility and research aircraft. Today, several super-computing facilities exist, and some universities have their own research aircraft.
- Can a Center survive on the basis of its past achievements? Or does it need to reinvent itself to remain relevant to changes in societal needs?



Integrate your cubicles. Not mine!

(“Do as I say, not as I do”)

- Social and physical scientists and their bureaucracies are called on to think in integrated ways about environment-related issues.
- This is the right approach because “Everything is connected to everything else,” as ecologist Barry Commoner noted.
- However, scientists are working in centers, universities and agencies that tend to foster narrow disciplinary and sectoral interests.
- Doing so, they have built an invisible wall that inhibits synergistic, integrated cooperation.



Going hybrid?

Can a science center ever become truly multidisciplinary in practice?

- Under Walter Orr Roberts, NCAR was involved in the NHRE (National Hail Research Experiment) to evaluate the costs and benefits of hail suppression.
- Roberts developed the Environmental and Societal Impacts Group (ESIG) to study the economic and legal aspects of NHRE's cloud seeding activities.
- The debate about the need for social science seemed to have ended, but in mid-2008 NCAR (with NSF support) surprisingly claimed that societal research was not a part of its core mission.
- Today, scientific research centers worldwide are rapidly integrating the social sciences into their missions.



Science informing ⇒ **Decision-making informing** ⇒ **Science**

- **A common perception is that scientific information flows to decision makers – full stop. Scientists produce. Decision makers consume. This has been called an “end to end” process, and it is not correct.**
- **It is really an “end to end to end” process: feedback flows back to scientists about the information that users need for better informed decision making.**
- **Perceptions about the information flow between the scientific community and society must change from that of “a rider and a horse” to that of “equals partners”.**

Science in the lip-service of society?

- **Walter Orr Roberts saw NCAR's mission as one of "Science in the service of society."**
- **While the Center uses phrases to highlight NCAR's direct benefits to society – and there are some to be sure – there is little evidence in the Center's structure or function to justify such statements.**



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The Peter Principle

(and the Glantz corollary)

- **The Peter Principle:**
 - **Individuals tend to rise within an organization to his or her level of incompetence.**
 - **As a result, competent workers on one level tend to be promoted to become managers, positions for which they were not trained.**
- **The Glantz Corollary to the Peter Principle:**
 - **As unfair as it may seem, not everyone will be able to rise to his or her level of incompetence within an organization, because those positions are filled!**

When ‘speaking truth to power’ be sure those in power can handle the truth.

- **Some managers like to have people agree with them. Those who question their decisions run the risk of being labeled as recalcitrant. Or, even worse, the enemy. First impressions by bosses are hard to overcome.**
- **Pick your “battles” carefully.**
- **Before you set out to speak truth to power, make sure you know that they can handle it. There are many ways to deliver opposing views and sometimes it is better to use a velvet glove as opposed to a metal one.**

Sixth Sense:

They blame dead people

“The Sixth Sense” is a Bruce Willis movie in which a child sees dead people. This comment applies to the general issue of “blame” by managers for failures that occur on their watch.

High level managers in my Center once blamed a former director who had recently passed away for allowing a poor manager to stay in place, even though those same high level managers had in fact hired that ineffective manager in the first place.

The take-home lesson to managers: if it doesn't work out, blame dead (or retired or fired) people.



Management's perspective

- **Top directors at my Center now and again referred to the organization's scientists and other staff – even administrative support staff – as whiners.**
- **In their view, scientists take everything from the Center (funds and equipment), but don't want to be told by managers what to research or do.**
- **For their part, scientists believe in general that Center managers don't listen, believing that research needs are not being met even as the Center's administrative staff continued to expand.**
- **Yet those perceived whiners often had good reasons to complain and should have been heard by managers – 'Even a stopped clock is right twice a day.'**

Who's the “loose cannon?”

- **Management from time to time acted in a way analogous to a loose cannon, that is, often making seemingly whimsical and arbitrary decisions.**
- **There is a need on the part of management to be transparent in their decision making so that staff better understands the rationale for policy changes.**

What to think when a crocodile smiles

- **When a crocodile opens its mouth, is it smiling or getting ready to eat you?**
- **Managers sometimes share this feature of a crocodile; they need to be approached with caution.**
- **They hold the future of those who work for them in their hands.**
- **Managers are friendly up to a point, but most workers do not know where that tipping point is.**
- **Managers are behind you, as long as they do not have to make budget cut decisions about programs and subordinates.**



They hear, but do they listen?

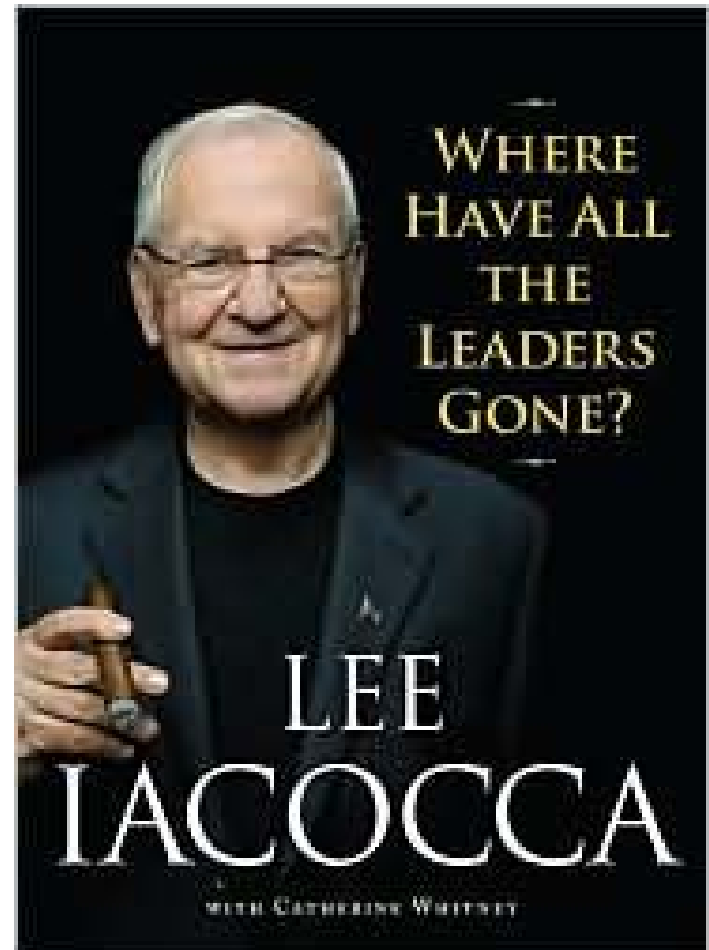
- Top managers have held “open” sessions with senior staff, but usually not about serious management issues.
- They address the staff but not as their equals.
- They may hear what staff has to say, but most of the time they are not listening.



“If a tree falls in the forest and no one is there to hear it, does it make a sound?”

Leadership characteristics

- In his book “Where have all the leaders gone?” Lee Iacocca identified nine leadership qualifications.
- The 9C’s are : curious, creative, can communicate, has character, courage, charisma, conviction, is competent and has common sense.
- Most “C’s” can be faked, except one ... ‘common sense’.



How does a Center's managers stack up to the 9 Cs?

- **The directors of any science center should be evaluated using the 9Cs.**
- **A Director's Deputy should have qualities and qualifications similar to those of the Director because sometimes they have to serve as director.**

“a new broom sweeps clean”

- **New directors and managers want to put their personal stamp on an organization, so they change things at first by replacing changes made by their immediate predecessor. They reorganize.**
- **They tend to sweep the good out with the bad, while making changes for the sake of change.**
- **This may be human nature, but it is not good management.**

Riding the budget-variability curve

- Working in an environment where the budget is constantly fluctuating is a challenge. Managers as well workers have to live with this variability but in different ways.
- All places face budget uncertainties, seasonally and annually. Working in such an environment is do-able, but not fun.
- A Center's management can view the budget in different ways:
 - as a peak with occasional dips, or
 - as mostly low with a few spikes or
 - a third option is be cautious and operate at a “safe” level in between them. This allows for less problems with a dip but also forgoes some benefits in the name of precaution.

My Center's managers believe that budgets in the following year will be favorable and they spend money accordingly.

Each time they did so, they had to face foreseeable budget cuts, forcing them to cope with budget problems that in essence they had created. They did not deal effectively with intra- and inter-annual budget uncertainties.

Lack of funds is often used as a “red herring” excuse for inaction

- **Success of a science Center must not be based only on how much money it brings in from other agencies.**
- **Base funding enables one to pursue ideas not considered important by others at a given point in time.**
- **Base funding, however, for new ideas and disciplines at a science Center should be made available in the name of creativity and innovation.**

(red HER-ing)

noun A misleading clue; something used to divert attention from the real issue.

Etymology:

From the former practice of drawing a smoked herring across the track to teach hounds not to be distracted from other scents.

Things that make a place imperfect (using my experience as an example)

- Uneven management capabilities over time
- Poor decision making at the top
- Unspoken limits on what one can say to the public about various science issues (e.g., subject to political influences)
- Lack of understanding by physical scientists of social science and its potential contributions to the Center's science mission
- NSF's inability or reluctance to provide serious guidance to get the Center to change directions when necessary
- Nepotism
- Lack of understanding by management of multidisciplinary work or its importance
- General lack of interest of physical science staff in the social aspects of their work
- Poor formulation of the Center's vision
- Lack of operational pathways to fulfill the Center's "vision" called "the vision thing."
- Focus on outputs and not on outcomes. Outputs are easy to measure; outcomes are not.

Muddling through: management by default

- **The failure to deal with a problem is a form of decision making, as non-intervention is a form of intervention.**
- **Management is often reluctant to be decisive because it hopes the problem will resolve itself or just go away.**
- **When it comes to removing a manager (though all may agree), decisions are usually delayed or not made when needed.**
- **Management takes credit for the eventual decision, but seldom comments on why it took so long to decide.**

“First you say you will, and then you don’t” (you = management)

- Management often promises lots of things, but they seldom deliver on many of them.
- Be surprised if they give you what they say they will give you. Do not be surprised if they don’t.
- My Center talked a lot about diversity issues and about the importance of minority hires.
- After 50 years of the Center, its diversity hiring level merits scrutiny.

THE CHEQUE I SIN THE MAIL
IT WASN'T ME SHE IS ONLY A F
RIE ND ONE SIZE FITS ALL I
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OW WITH A SAMIND OF ITS OWN

http://mocoloco.com/art/archives/string_of_lies_jun_05

No shoes dropping: awaiting decisions that never come

- **Rumors ran rampant at my Center, like in many workplaces.**
- **Rumors abound about budget deficits and strategic goals when management fails to communicate with staff. Lots of speculation follows about which 'bad new' shoe will drop.**
- **Rumors affect morale negatively: they are often inaccurate reflections of reality and they expose a disconnect in the communications network of a Center.**

Was the IPCC 4th Assessment a ‘wake up’ call to focus on climate impacts? It doesn’t seem that way!

- **The 4th IPCC scientific assessment in 2007 & Gore’s movie “An Inconvenient Truth” won the Nobel Peace Prize.**
- **It was a ‘wake up’ to many scientific establishments and even to policymakers and corporate executives, both of whom began to shift their attention from concern about the physical science aspects of climate change to the impacts and how to deal with them.**
- **Has the Center’s management seen a shift in this concern? Will it continue to believe that its future rests on providing more science about climate change?**

When preparing for the 21st century, “circling the wagons” shouldn’t be an option

- **Physical scientist managers at my Center may eventually win their war to keep out meaningful non-physical sciences as a component of their programs because they seem to have a “we-they” view towards other disciplines.**
- **However, other climate research centers now include social science units, as they seek to develop 21st century structures and functions to address 21st century problems.**
- **It is now clear that regarding climate change atmospheric sciences can no longer “go it alone”.**
- **The original reason for NCAR’s founding – “science in the service of society” – seems to have simply become science in the service of science.**

Do as I say, not as I do!

- **Management at both UCAR and NSF believes that NCAR's staff is too old and too heavily tenured. Hence, they have sought to bring in younger people while getting older people out of the Center.**
- **Willie Sutton, a famous American bank robber, when asked why he robbed banks replied "because that's where the money is." Centers seem to share that philosophy when it comes to terminating scientists.**
- **Yet science management in many organizations, like my Center and NSF, are also older and super-"tenured."**

Once you find yourself in a hole, stop digging

- **Management in the past has made bad decisions about picking people to run programs, projects, divisions and institutes.**
- **Even though it knew it had made a bad choice, it did not rise to the occasion:**
 - **To admit it**
 - **To make necessary changes**
 - **To continue a search to identify the right person for the job**
 - **To accept that good scientists do not necessarily make good science managers**

A Manager's Option: Move on and say ... you did a good job

It seems that leaders tend to ...

- Spin their successes
- Hide their failures

So, it is necessary to read between the lines and question their stated records of achievement.

The sound of silence

- The sound of silence can be destructive for an organization's level of productivity.
- Bad management decisions also affect morale.
- Criticism of management is not tolerated; in some cases, it is outright punished.
- Good managers seek out honest feedback from their staff and don't just rely on other managers to fill them in on staff issues and concerns.
- Bad managers view silence about their performance as tacit support for their decisions. They do not know how to read the meaning of silence.

- **A LESSON FOR MANAGERS:** the sound of silence is eventually heard and acted upon.



<http://www.amiright.com/album-covers/simon-garfunkel-sounds-of-silence-parodies/>

Benign neglect of Social Science

- **Physical scientists at the Center viewed a social science presence as its “social scientist burden.”**
- **It was used, however, with the hope of showing off the value to society of atmospheric science research.**
- **That was not what social scientists at the Center thought they were hired to do. Instead, they wanted the Atmospheric Science community to address societal needs.**
- **Because of the benign neglect of social scientists, there were very few chances to share ideas at NCAR with the various students (e.g. grads, undergrads, postdocs).**

“How-to” management books: Horoscopes for managers

- **When people read horoscopes, they tend to believe that they apply to their lives. 80% of their prediction, however, are so general that they could apply to many situations.**
- **The same is true for the hundreds of management books that have been written by former executives.**
- **There is no “silver bullet” formula for managing a group or institution. Management requires, besides vision, common sense.**

“Budget cuts are the last resort of scoundrels”

- **In the name of budget cuts, managers gain a lot of leeway with rules and regulations.**
- **Using cloudy budget situations, they can move to lay off or fire staff that they do not like.**
- **This is not conjecture. This is fact.**

“Success has many fathers; failure is an orphan”.

- **This is allegedly a JFK quote and for the most part it is correct. But, it should have a corollary:**

“success can also be an orphan”.

- **How, you ask? Sometimes people you work with or for do not want you to appear more productive than they are. So, they dismiss and trivialize your contributions.**
- **Don't let it deter you from being creative or productive. The alternative is to slow down and be like them – not a very satisfying alternative.**

“For want of a nail, the kingdom was lost”

- **NCAR needs all disciplinary aspects in place to produce scientific outputs considered “usable” by society.**
- **Its competitors (other physical science research centers) are becoming multidisciplinary.**
- **It must integrate the social sciences and humanities into its strategic plans. Failing to do so, it runs the risk of remaining second rate.**

Qualitative vs Quantitative Methods

(quals vs. quants)

- **Science favors quantification. I am a “qual”.**
- **Yet various societal issues do not lend themselves to quantification. They rely on stories, case studies, perceptions of reality, intuition and “ordinary knowledge.”**
- **Lindblom and Cohen suggested the following about this conflict over research methodologies:**

“Despite the professional development of specialized investigative techniques, especially quantitative, most practitioners of professional social inquiry... inevitably rely heavily on the same ordinary techniques of speculation, definition, conceptualization, hypothesis formulation and verification as are practiced by persons who are not social scientists or professional investigators of any kind.”

Hiding behind complexity and uncertainty

- **When dealing with the public and with policymakers, scientists play up uncertainty and complexity. That's the nature of science.**
- **These concepts put off the public from challenging scientists about their work and their findings.**
- **Science has been placed on a pedestal, unchallenged and unquestioned about what it does and what it spends its money on since at least the early decades of the 20th century.**
- **Is there a way for science to come down from the pedestal and deal with civil society at eye level?**

Which comes first, form or function?

An institutional chicken-and-egg problem

Function (what gets done) is the first consideration and form (how what gets done gets done) follows – not vice versa.

- **When a new organization is created, it is done for a purpose. NCAR, for example, had a designated function (e.g., it had the centralized computer and a community research airplane for universities to use).**
- **As it expanded its activities, its mission also expanded (this process is called “mission creep”).**
- **As its base NSF budget increased over time, it also continued to increase soft money to supplement the base.**
- **It was less important where the money came from as long as it carried overhead.**
- **To meet alleged space needs, UCAR bought buildings and has gone from one to four campuses.**
- **It bought buildings which it then had to fill with staff or with renters. Form had overtaken function as a high priority. Buying buildings became more important than what would be done inside them.**

Re-functioning

- NCAR restructured about 7 years ago and again a year ago. Two questions arise:

1) Was a comprehensive (as opposed to anecdotal) review done to identify pro's and con's of restructuring?

2) Was any consideration given to Center "re-functioning", rethinking the center's purpose?

- The likely answer to the both questions is ... No.
- Restructuring an organization without 're-functioning' is like trying to clap using only one hand.
- Is the notion of re-functioning also useful to the IPCC process?



When should initiatives become “finish-atives”

- **Initiatives are new ideas that merit a chance to prove their value.**
 - **If successful, they often become programs.**
 - **When the programs achieve their objectives, they are reprogrammed with new objectives ... and so it goes.**
- **So, what’s the problem?**
- **Programs are difficult to close down, even after they have accomplished their mission.**

“We don’t know how we’d get along without you, but ...”

- When you join an organization, employers may promise you the moon, as the expression goes.
- Keep in mind that an organization has no permanent friends, only permanent interests.
- Your productivity and loyalty, however measured, are no match for the perceived interests of an organization’s leaders.



“... starting Monday we’re going to try”

- **People have been fired precipitously without notice, without a hearing and, often, without a legitimate cause.**
- **The Center’s Human Resources is often the executioner.**
- **There is an old joke about a man being fired from his job. His employer informed him in the following way:
“I don’t know how we would get along without you in our organization, but starting Monday we are going to try!”**

Department of Human Resources (HR) is a misnomer

- Organizations use their workers as resources (like natural resources) and as social capital. HR departments are a full partner with the management.
- They cannot serve two masters and, because management pays for HR, it gets to call the tunes.
- When push comes to shove, HR protects management's interests, even if it believes that the workers interests are being violated.



Will HR ever again represent the workers?

“First you say you do, and then you don’t. Then you say you will, but then you won’t”

- **In terms of social science at NCAR, the science managers tolerated it, did not know how to manage it, and were reluctant to hand it over to those who could.**
- **They then complained about social science shortcomings, after having hobbled the potential growth and development of their few social scientists.**
- **There are so few social scientists because the managers only tolerate (not embrace) social aspects of the atmospheric sciences.**
- **Management promises a lot but often fails to deliver on most promises.**
- **They raise expectations, only to fail to meet them.**

“You have to spend money to make money”

- **This is a common notion among risk-taking entrepreneurial types.**
- **What is missing is that you have to have money in order to make money in order to spend money.**

Same garbage...Only the flies change!

Often, when a new manager appears on the scene, hopes for improvement are widespread. After a while it seems that not much has changed.



9 Lessons for management

1. **Have an identity: university-like or corporate-like? Hierarchical or collegial? Whose business model?**
2. **Management positions are not positions for life. There are many Center examples of mismanagement by people who stayed too long as managers.**
3. **The Center needs an ombudsperson.**
4. **Managers need to listen to and respect opposing views.**
5. **They need to use merit criteria, which are talked about but seldom used.**
6. **Family ties within an institution often cause problems; real and perceived nepotism must be avoided.**
7. **High level managers need to better select mid-level managers.**
8. **Managers make the decisions based hopefully on vision and wisdom.**
9. **Micro-management is irritating but sometimes necessary. There are ways it could be undertaken in a way that is acceptable to staff.**

Section 3. personal



**It's all about me.
It's also about you.**

From Here to Nirvana: Perception matches reality

- The truth is that I did have a perfect job at NCAR ... and now I do at the University of Colorado.
- People tell me that every so often, not just friends but strangers too.
- Some say I am lucky. Others say that I made my own way. Both are right, but for different reasons.
- It is a win-win situation: I win and those I work for also win.
- So, what is this story about?

Having a perfect job also has a downside.

Things making my job perfect

- **Autonomy**
- **Base funding (e.g. a salary)**
- **Funding for travel**
- **Ability to select topics and activities**
- **Opportunity to brainstorm**
- **Topics that make a difference**
- **People to interact with**
- **Ability to choose people to work with**
- **Study problems worldwide**
- **Minimal involvement with higher management**
- **Occasional recognition, outside the organization if not from within it**

But “perfect” means different things to different people

A perfect job also means:

- **Having a boss you respect**
- **Working with good people**
- **Having a sense of contribution to the globe, to friends and to associates**
- **Ability to mentor next generations of students**
- **Freedom to choose research issues that benefit institution and self**
- **Perennial on-the-job-training**
- **Allowed to multi-task**
- **Budget that allowed some flexibility**
- **Excellent small support staff**

Where my ideas come from

- **New ideas usually came to me away from the office**
 - **The Center became a place to carry out my ideas**
 - **And a place to upgrade my science knowledge**
- **But inspiration came to me away from the Center**
 - **Philly Junction Diner**
 - **Starbucks**
 - **Airports**
 - **Airplane flights**
 - **TV**

Tilting at windmills? Into the breach with eyes wide open

Was I wasting my time trying to convince the Center's physical science managers to accept the social sciences as an integral part of the Center's mission?

- This was a concern of mine during my 34 years at NCAR

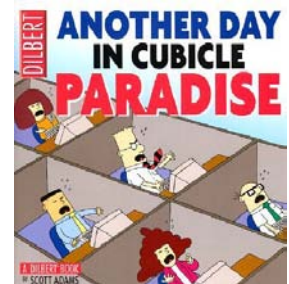
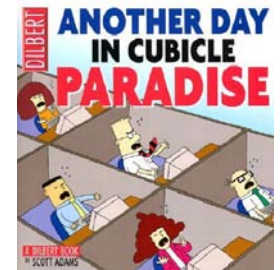
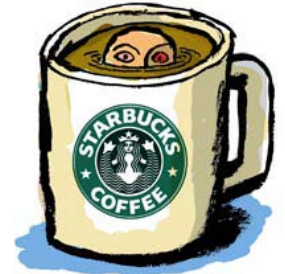


Frustrations in a Center can come from many directions

- **Lots of negative ‘strokes’, sprinkled with a few positive ones.**
- **Lack of mentors at all management levels and over time.**
- **Social science ideas generally viewed as second choice for internal funding and for Center-funded colloquia.**
- **Lack of insight on how to develop the societal area of activity.**
- **Rejected ideas were later accepted, when proven successful elsewhere.**
- **Poor funding for societal activities.**
- **Management’s perception of staff as whiners.**
- **Staff that felt disconnected from managers of the center.**
- **Lip service to social aspects, not backed up with support.**
- **No institutional incentives to encourage science co-workers to work across disciplinary boundaries.**
- **Abysmal diversity hiring record.**
- **Management has a “we-they” view of staff.**
- **Apparent lack of NSF influence on management shortcomings**

A “professional migrant”

- The notion of a “professional migrant” was coined by Eric Hoffer. He was a migrant worker in California during the Depression in the mid-1930s who later became a philosopher.
- The notion made me think about my jobs since graduation in 1961. Because I had jobs that allowed me flexibility within broad guidelines of employment, I was a professional migrant. Even within the confines of one job, as an NCAR researcher ...
 - I was able to pick topics to work on (thanks to benign neglect)
 - I could work anywhere on the globe that had a weather or climate related problem (I was encouraged to do so, as studies in the US produced results unfavorable to the atmospheric sciences)
 - I acquired autonomy by default because scientific managers did not know what to ask of me. They still don't.
 - This was possible because of base funding of salary and some travel
- I was doing climate impact studies early on and was able to work in new areas in agriculture, irrigation, forecasting, fisheries, arid lands, rangelands, orchards, environmental disasters, droughts, early warning, famines, and so forth.
- Because they did not understand the workings of social science, scientific managers did not interfere in the topics I chose.
- Within the first 18 years at NCAR, I had about 20 different offices, from windowless cubicles to spacious rooms with a view (This reconfirmed the second class nature of social science to the Center's and NSF's physical science bias).



“Crowded Hours”

- **“Crowded Hours”, written in 1933, is the title of an autobiography by Alice Roosevelt Longworth, Teddy Roosevelt’s only daughter.**
- **Crowded hours is the way I view my life, working late and waking early to work, not the 9 to 5 job.**
- **This is my attempt to squeeze two lifetimes of action into one.**
- **Being hyperactive combined with a short attention span, I had to work on more than one thing at a time: Some viewed this as “being spread too thin,” while others saw it as “being productive”.**

What's a guy like you doing in a place like this?

- I started out as an engineer and went on to study (and visit) violent Portuguese colonial revolutions and then ended up studying deadly droughts in sub-Saharan Africa. That got me by accident to NCAR and to Walter Orr Roberts, then the recently deposed head of UCAR.
- I got there by accident, and I got to stay there by accident.
- I was embedded in a sea of physical scientists, arriving at NCAR in July 1974 as the only Social Scientist at the time. In 1983, I was elevated to Senior Social Scientist.
- In NCAR's 50-year history, I was the only Senior Social Scientist – what does that say about UCAR's, NCAR's and NSF's commitment to the social sciences?



“of” or “from”:

what a difference a small word makes

- One day before I was fired from NCAR, I got to thinking about my relationship with the Center.
- The question that came to me: am I “of” NCAR or am I “from” NCAR? After much thought, I came down on the side of “from”.
- This meant that I did not feel that I was been accepted by my Center. I am not “of” NCAR or of the Atmospheric Sciences” and treated as a distant relative.
 - This view was reinforced 34+ years later, when NSF in an alleged budget crunch supported my firing, noting that NCAR had to protect its core program – even though the Center was allowed to have a token social science group since 1970.
- So, when away from the Center, I was “from” NCAR: representing its interests and also the interests and needs of societies worldwide.

Creating an “adhocracy” in the belly of a bureaucracy

- **Robert Waterman, author of “In Search of Excellence”, also wrote “Adhocracy” in 1990.**
 - He defined adhocracy as “any form of organization that cuts across normal bureaucratic lines to capture opportunities, solve problems and get results.”
 - He was quoted as noting that “in an age of accelerating change, organizations such as these, with their ability to adapt and adjust, were the most likely to succeed”
(Russell-Walling, nd,p.7. “50 management ideas”)
- **Adhocracy seems to describe the situation I accidentally created in the belly of the NCAR bureaucracy. My goal: do what was good for the country and the organization, even though NCAR management did not know what it wanted to do with the societal aspects of its mission.**
- **It paid off in outcomes outside NCAR, but was constantly challenged as a sign of recalcitrance within the organization.**

A detectable legacy?

(or, do you feel that your life's work mattered?)

- **Do I have a detectable legacy at NCAR?**
 - Clearly, the answer is No.
- **Do I have a legacy in research, application, outreach and outcomes outside NCAR?**
 - Possibly, the answer is Yes.

A happy taste of the future

- **Forced to end decades of research at NCAR generated concern about what life might be like in the future.**
- **It has had a definite positive side:**
 - **Taking control of your ideas and pursuing them as you choose, not as a boss chooses.**
 - **No longer having to answer to people you don't respect**
 - **No longer being treated with “benign neglect.”**
 - **No longer having to defend social science to physical scientists with tunnel vision.**
 - **No longer having to defend multidisciplinary work in both good and bad budget times.**

Section 4.

About Mentoring

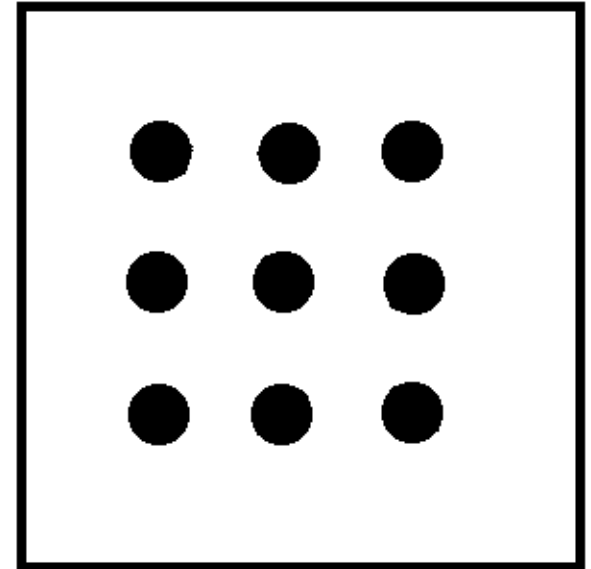
Isn't mentoring a form of life coaching? Yes.
*Can you be a mentor to someone without ever
having met each other? Yes.*

Being multidisciplinary at a discipline-oriented research Center meant “fighting a rear guard action”

- **As a social scientist at NCAR, one had to continually engage in a defense against physical (not biological) scientists who considered that money given to the social sciences was a waste of physical science funding.**
- **So, while expected to do our work as social scientists, we also had to keep an eye on a rear view mirror to keep an eye on “the proverbial wolves” after our relatively small funds.**
- **This was not a very efficient way to run a research Center whose goal allegedly is “science in the service of society.”**

It's good to think out of the box ... but not too far out

- **There is a problem with thinking too far out of the box. To your managers your ideas may appear unrealistic or unimportant and are, therefore, dismissed.**
- **Out of the box ideas should be treated as stretch goals and kept alive, even if on the proverbial backburner... waiting for the right time to expose them.**
- **I was told in the late 1970s not to work on El Nino because “it had little to do with the atmospheric sciences”. A former postdoc colleague and I pursued it anyway.**



Seven possible lessons for newcomers

1. Do what is good for your organization but also what is good for your career.
2. Read about multidisciplinary implications of your research/work interest regardless of your basic academic or professional training.
3. Beware of falling into a rut by doing just one thing. It can leave you vulnerable to changing budgets and changing center plans.
4. Read management books (at least skim them). Tipping Point and Blink, for example, by Gladwell have been used by scientists in global warming discussions. Books such as these can generate ideas about how to deal with peers, managers, support staff, funding agents, & difficult colleagues.

My use of the notion of “Forecasting by analogy” was also borrowed from J. Martino on management in engineering. Management books can provide insights into methods and approaches to getting things done effectively and efficiently.

5. Do not hesitate to ask others for advice. Most will be pleased to be asked about science or about career issues.
6. Do not be afraid to talk to the media. There are books and articles on how to do this. It will enhance your career among other benefits.
7. Convert your science papers into plain English. Write about it for the public and policy people.

Plain English = de-jargonize

- Write a “shadow” version of your research activity so that a 7th grader can understand it.
- For each use of scientific jargon, find a phrase to replace it.
- This makes your science “usable” in a practical sense, and not just useful in an abstract way.

Be careful of what you wish for.

- When you present your next year's goals, do not put down your entire wish list of accomplishments. Why?

because that list will be used the following year as a yardstick against which your actual accomplishments will be measured.

- Work on them all, but several may not be finished by the time your next review takes place.
- In other words, set your own measure for accomplishments not based on your hopes or desires to impress a boss but on reality.

If you do more than you listed, you'll be praised for it.



An outside strategy for networking a lifeline toward a perfect career

PICTURE THIS ...

- **An inside networking strategy ties you to an organization.**
- **An outside networking strategy broadens your experience ... and options. And it benefits your organization.**

Blending these strategies is a necessity

There are rewards for working in an imperfect place

YOU CAN ...

1. Create a network that includes all kinds of disciplines, cultures, people
2. Fix those parts of the organization that appear to be 'broken'
3. Influence through mentoring, networking, researching, writing, and traveling
4. Apply passion selectively to your topics

For most people, an organization “owns” you from 8am to 5pm and not necessarily from 5pm to 8am...and weekends. Thus, there is no need to be discouraged if the ‘higher ups’ don’t like one of your ideas. You have time to do it in your free time.

Challenges of working in an imperfect place

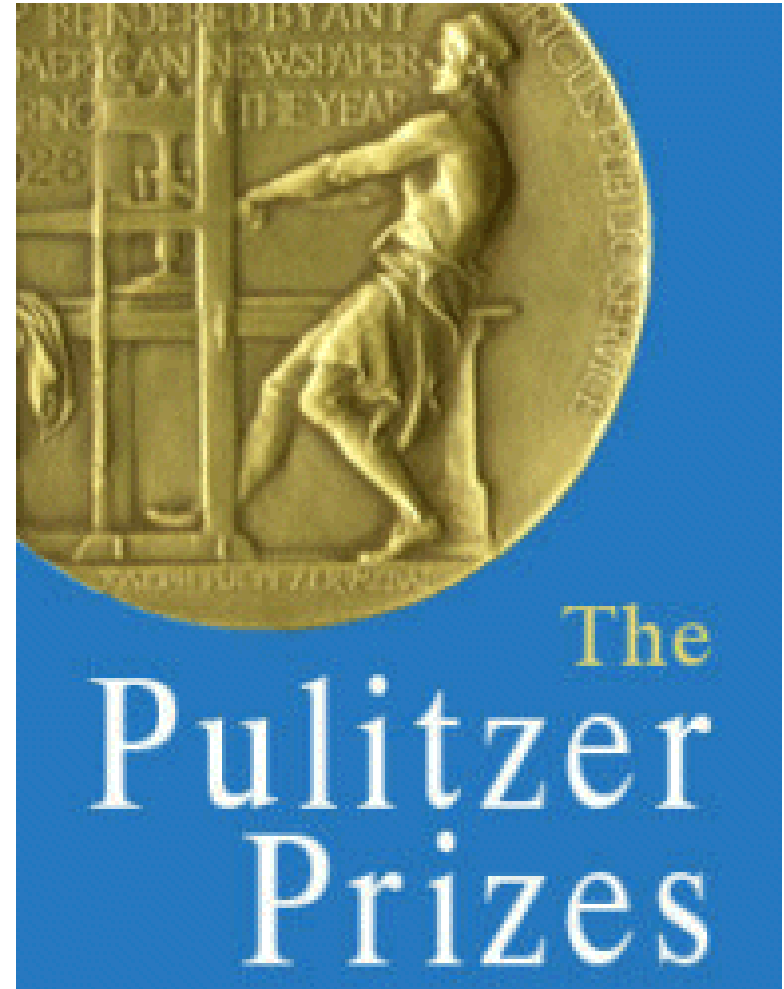
- **Walking a fine line between outspoken honesty and coming across as insulting**
- **Getting the attention of managers that matter**
- **Keeping a positive attitude towards the organization**
- **Continuing to think globally (institutionally) while acting locally (your own activities).**

Reading the tea leaves

- **You need to read the proverbial tea leaves to identify when to go higher in the management food chain ... and when not to.**
- **Who to chat with about problems or ideas to make it a better place: Your immediate boss or leapfrog over him/her to higher levels of management?**
- **Often the higher levels lead you to believe they are open to friendly chats. Often, however, they are not. They say one thing but mean it only on their terms.**
- **They have a modified open door policy: “my door is always open but don’t come in”. Their door is open, but you can only enter when they allow it.**

Write to meet the customer's needs, not just your personal needs

- I was taught to write for academic journals; wordy, lots of context, jargon, footnotes, references, etc.
- It requires a drive for perfection in writing to show you are an expert.
- Consulting jobs require reports or other writings that call for information and are not necessarily subjected to peer scrutiny. They do not require the same level of perfection that an academic paper does.
- Keep in mind that when you are writing a report you are not writing to win a Pulitzer Prize. You are writing to share information.
- In other words, know the needs of your target audience.

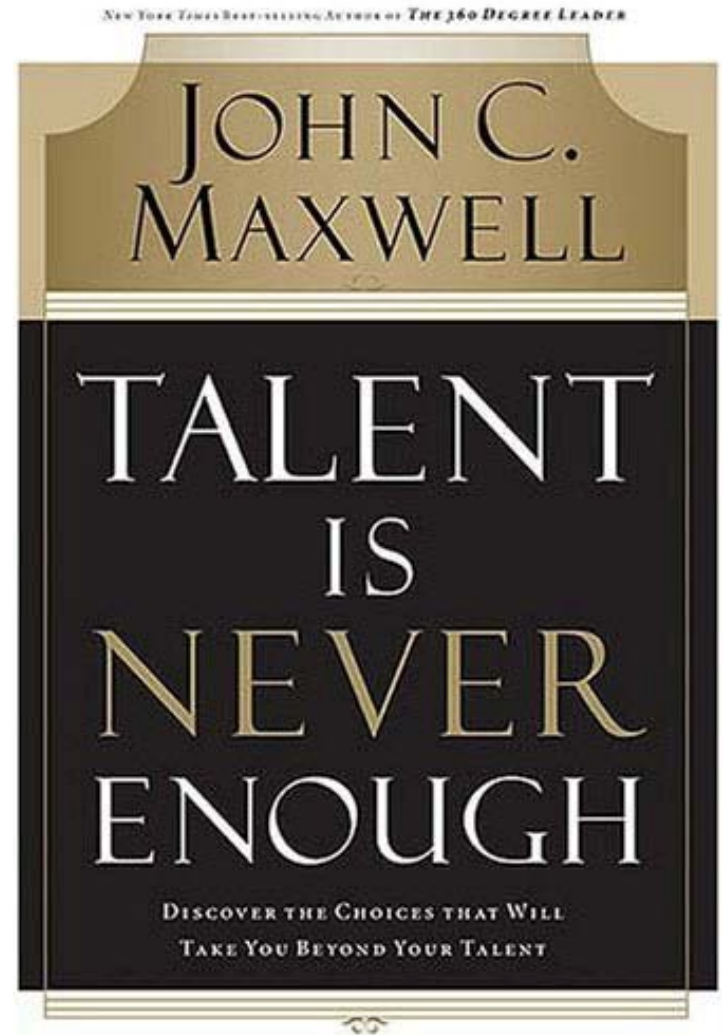


The Connect Effect: building networks, one person at a time

- **At a meeting's coffee breaks, we often tend to cluster with those we know. Get over it.**
- **We need to meet others to find out about their work successes and shortcomings and to tell them about ours.**
- **Meet new people. Treat conversations as seminars about a new topic being given by a new contact.**
- **Don't waste time at coffee breaks at conferences, workshops and other meetings. Meet people. You never know when your paths will cross again.**
- **At the end of your career you will realize that your network was your most valuable asset. It provided you with mentors, colleagues, collaborators, sounding boards and, equally important, people you could mentor or help.**

Talent is never enough

- You can be the smartest person in the workplace, the best researcher, the sharpest tech whiz, but your talent, taken alone, is never enough to please the string of bosses in the hierarchy above you.
- You've got to have passion, compassion, common sense and contacts.
- You've got to care about others you work with by, for example, taking time away from your own work to learn about what those around you are working on and are interested in.
- If you want to be a manager, then consider strengthening your "9Cs" that Iacocca identified as key to a manager's success.



Do not live by research alone :

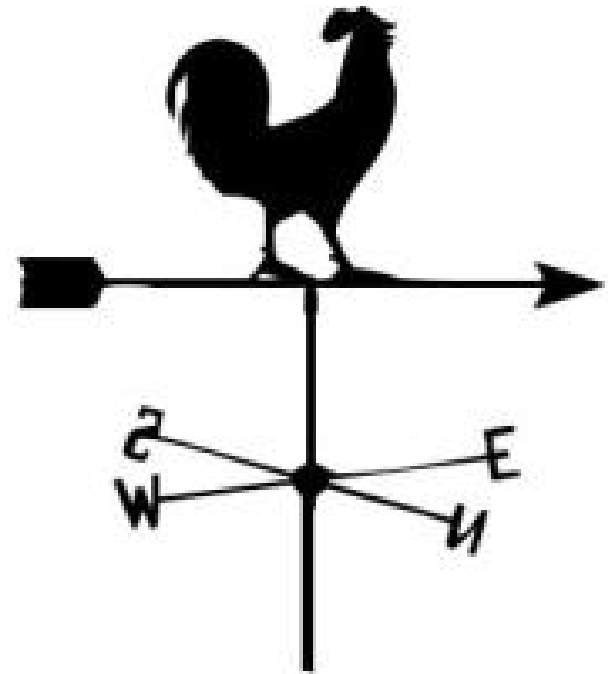
Pay attention to the rest of your life including ... your finances

- Each year employees are reviewed by management in order to evaluate their performance and give them raises.
 - In many academic environments those raises are somewhere around the level of inflation plus a percentage point or two. Salary increases seldom meet expectations.
 - I did this for decades. I paid no attention to my real assets. Now, I wish I had listened to those who told me to spend time “taking care of financial affairs”.
 - Being young was probably a flaw; not caring about decades down the road. You must Care!
 - Set aside time to evaluate assets: pension plans, investments, insurances and other financial programs in which you have some funds, however small the amount.
 - A better understanding of money and assets can greatly outpace gains from annual salary increases.
 - The problem is we do not take the time to do that. It is boring; we are not accountants or bookkeepers. We think we have lots of time to think about finances.
-
- **Get Over It! Take time to track you finances early in your career.**
 - **The small sums you accrue early are compounded over the years.**



“You don’t need to be a weatherman to know which way the wind is blowing”

- It is true that “ordinary knowledge” let’s one know which way the wind is blowing. And you don’t have to be a weatherman to know the kinds of weather questions society wants answered.
- For technical aspects about wind, it would help to be a weatherman.
- In the same vein, you do not have to be a scientist to manage a scientific organization.
- You need to understand at some level about the physical processes, but you would not be expected to model those processes.



Bragging Rights

- **Kids are taught early in life not to brag. If they do, they are labeled “braggers”.**
- **Yet people who are reluctant to take any explicit credit for what they do run the risk of being invisible.**
- **While some people like to boast, others like to act with “an invisible hand.”**
- **The trick is how to brand your work with these two extremes in mind.**

“Branding” your work

- **Branding an idea can be as important to an individual as branding a product is to a corporation.**
- **Branding links you to your idea and your work.**
- **If the idea has merit, you will be linked to it.**
- **A few ideas that, in retrospect, have become associated with me are the following: climate affairs, forecasting by analogy, creeping environmental problems, drought follows the plow, spare time university, etc.**

Management books



- Management books and horoscopes have some things in common such as ...
 - Many people read them religiously and believe what they say.
 - Yet, like horoscopes, a management book is read by people with opposing views, each of whom thinks the book supports their particular view.
- In other words, management books can mean all things to all people. They are worth checking out; at least their tables of contents can spark new perspectives about your own situation.

Conceiving the future

- **“Business as usual” managers are taking the easy way out. They are in essence “backing into the future” by basing decisions on persistence of outcomes of the past.**
- **Managers have a higher chance of success when they conceive the future they want (e.g. their vision) and make decisions that could lead to the desired end.**
- **A risk of failure exists because people may not want to change; their comfort zone is what they know, and they are often afraid of taking a chance with the future.**



Getting to yes ... on the vision thing

To improve the chance of “GETTING TO YES” ...

- Explain pathways towards fulfilling the Center’s vision.
- Find ways to measure and reward outcomes ... not just outputs.
- Indicators of outcomes are not the same as for outputs.
- Oh yeah, have term limits for all managers in the organization.
- In my Center, directors treated “vision” as a joke by calling it “the vision thing”.

Bad advice, given with the best of intentions, is still bad advice

- **Scientists and managers need to improve their understanding of the needs and interests of young researchers, many of whom want to be “green” and more multidisciplinary.**
- **They are blocked from doing so, advised that they should get their science down first and then, when they are established somewhere with tenure, think about other career goals.**
- **Wrong. This advice continues to create an army of frustrated researchers.**
- **A researcher can be multidisciplinary without having to give up his or her career in science.**

The “not invented here” problem

- The scientific community likes to be in control of scientific research.
- As a result, it does not listen well to “outsiders.”
- On climate forecast issues, for example, researchers feel that they are responsible for serious hypotheses and tend to reject ideas from other disciplines.
- The scientific community seems to believe it knows best and is best trained to deal even with the social issues.
- Sometimes, years after a research idea had been suggested by ‘outsiders’ and rejected by scientists, a scientist will suggest the same issue in the future. Geo-engineering of the global climate system is a good example. There are many others.

“Just because I don’t care does not mean I’m not listening.”

A graduating senior at the University of Colorado in May 2009 took notes from my commencement talk on the bottom of her shoe. She did not have any paper to write on and improvised.

**Always be ready
to take notes:
Carry a Pad !**



Jack of all trade. Master of some.

- I began to study climate impacts in the early 1970s, after having been a practicing engineer and a college professor. Not many were focused on the societal aspects of climate.
- Studies existed at the time on climate and its impacts on agriculture, water, food, health, public safety and even on the rise and fall of civilizations.
- I was able to decide which aspects of society to research: fisheries, livestock, arid lands, rainforests, and oceans.
- I was able to be multidisciplinary.
- In a sense, I became a master of some topics in different ecosystems and political and geographic settings. I was able to look for generalities from these cases and regions.

To me, these personal experiences underscore the capacity of anyone who wishes to become a master of more than one trade.



Brainstorming works because “we are smarter than me”

- **Not many people can see all sides of an issue objectively, and then take appropriate action.**
- **Brainstorming enables people to think out loud and to stimulate the thinking of others.**
- **While some people are great at coming up with new ideas but have trouble implementing them, others are better at implementing ideas than at coming up with them.**
- **Brainstorming encourages individuals with these two seemingly opposing talents to identify one other and blend their talents for a common purpose.**

Avoid being a “yes” person

- **In the old days, workers who provided negative comments were considered malcontents and were usually forced out of the organization.**
- **It was later determined that those malcontents were valuable to improving operations, despite their constant complaints.**
- **Good managers welcome any feedback – positive, negative or neutral.**
- **Unfortunately, those who dare to provide negative comments to management are still isolated in their organization, if not fired from it.**

Loyal to a fault

- **While employees can easily become loyal to an organization or to the director of an organization, that organization, most likely, will not have the same level of loyalty towards those employees.**
- **Avoid unconditional loyalty to your organization or the manager for whom you work.**

“Kites rise highest against the wind – not with it.” (Winston Churchill)

- **This inspirational comment by Winston Churchill summarizes my time at NCAR.**
- **Throughout my 35 years at NCAR, I had to consistently defend my task of showing society the value of meteorological information as well as how to use that information.**
- **The passive opposition day in and day out to social scientific aspects of the atmospheric sciences did not dissuade me from trying to link our disciplines.**
- **Although social science has been decimated at the Center, I believe the experience strengthened my resolve to address difficult issues and to confront difficult managers and other co-workers.**

Section 5.

The Age Thing

Ahhh. The age card. It can be played for good ... and for evil. You choose.

“I see old people”

- Older workers are more valuable to fostering a corporate culture than management realizes.
- Yet management does not know how to evaluate the “worth” of older employees, especially if it relies only on traditional indicators of output.
- Older workers are the carriers of corporate cultural history. They possess the memory of decades of earlier publications that are unknown to younger scientists.
- Older workers are an organization’s proverbial bridge to younger researchers entering the workplace.
- They provide guidance to younger staff on workplace survival tactics and strategies based on the knowledge of corporate culture and cultural change that they have witnessed over decades of employment.



For some reason, these new birds didn't seem as interested in William's bird seed.

“No company for old men”: its time to overcome age bias

- **Whenever there is a budget cut, management looks at older staff members to figure out how to get them to leave. Sometimes it uses persuasion; other times it uses coercion. Sometimes it makes up rules ‘on the fly’.**
- **Quality of work is not a consideration. Age is. Older people are more expensive than younger ones.**
- **What managers don’t seem to realize: the older employees and the retired (“employees”) are mentors to newcomers, gradually passing on corporate culture.**
- **The problem is that management has not developed a way to use older employees in different modes other than the technical expertise for which they were originally hired.**

This is a shortcoming of the managers, not the employees.

Things young people don't want to hear from old guys

- History is important. Read the old (original) articles.
- Do what is good for the 'company' and the company will be good to you!
- You can work here for the next 30 years. Your retirement date is 2040!!
- Be nice to people on the way up in your profession because you may see them on your way down!
- Do it my way, or it's the highway!

Possible lessons for old timers

- **Take time to mentor, tutor and explain to others as part of the job.**
- **Use short internal sabbaticals to expand research interests and horizons, rather than to go deeper into your own traditional topics.**
- **There may be a time to sunset a favored activity. Multi-tasking makes sunsetting easier.**
- **Managers need to develop a different set of indicators for evaluation for researchers who have been in an organization for a long time.**

Everybody gets older!

Just wait.



The Beatles, Abbey Road Album



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Section 6.

Concluding thoughts

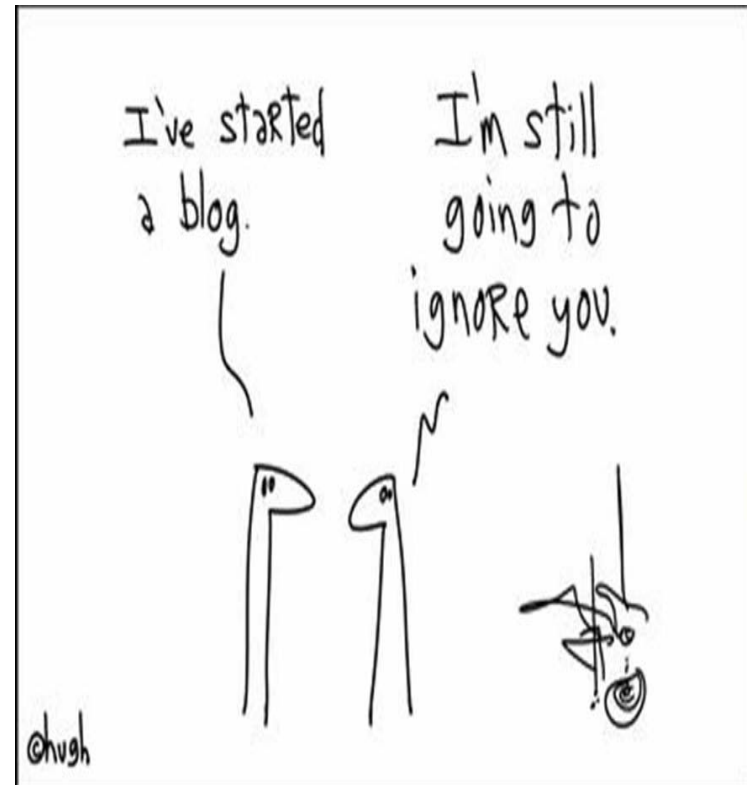
Who should be chosen to run science-based organizations?

**Is the management of a science
organization too important to be
only in the hands of scientists?**

If not a scientist, then who?

Coping with the “ignore-ance” of science

- Preventing “ignore-ance” is not possible.
- Mitigating “ignore-ance” is possible, but requires skill at working with people’s egos.
- Many bureaucracies cause their workers to leave creativity and spontaneity at the corporate reception desk.



The “Iron Law of Unintended Consequences”

- Like Barry Commoner’s “4 Laws of Ecology”, every action has its ripple effects.
- Commoner’s law of specific interest is the one that states that “you cannot do just one thing.”
- Usually, considerable effort goes into identifying possible impacts of a decision or an activity. Side effects (collateral damage), however, are often not taken into account.

“Dare to be competent”

- In a hierarchical structure as well as in a collegial setting, there are risks associated with being **too** competent.
- At NCAR, for example, because a social scientist produces several papers in a given year, scientists view social science work as easy and shallow – “ did you write a book this weekend” is one comment I remember.
- Physical scientists need to take the time to understand their counterparts in the social sciences and humanities.
- The hidden message from a Center to social or physical scientists who want to go “multidisciplinary” is dare to be competent, but not too competent (!), lest you raise the eyebrows of other scientists who are less active.

Teachable moments: An education & training “movable feast”

- **As students change from one year to the next and generations shift from one to the next, it is important to update lessons to keep the information timely and relevant.**
- **For impacts assessments, new disasters must replace older ones as teaching devices.**
- **Today, students do not know about Hurricane Andrew (1992). They know about Hurricane Katrina (2005). It's 2010, however, and even Hurricane Katrina has faded considerably as a teachable moment.**
- **Each such case study can be mined for insights relevant to students' interests.**
- **For example, the 1972-73 El Nino and its impacts was a defining moment in my career. Today, it is of no interest to students. But the 1997-98 El Nino has perhaps more relevance. But that too has lost its interest, even though it may have been the biggest one in a century.**

“Some see more than others”

- **All workers do not have equal ambitions.**
- **Some are happy to work from 9 am to 5 pm.**
- **Others put no time limits on their work.**
- **Where some see barriers, others see opportunities.**
- **And they all may be content.**

Do “Sweat the small stuff”

- The “big picture” is made up of small stuff.
- Case studies provide the building blocks for theories – and they can serve to prove or disprove hypotheses.
- Global warming is important, but policymakers want to know regional and local detail.

Lots of initiatives; few “finish-atives”

- **Many scientists work to achieve perfection, even when the information that one needs to know has been uncovered.**
- **Scientists want to reduce uncertainty, and it seems in the sciences that there will always be uncertainty.**
- **Closing down a research project is never easy for the persons involved in it.**

“Run with the bulls, without getting trampled”

- **This is the title of a management book. It applies to social science at NCAR.**
- **It is not easy to survive in a research center that is focused on one academic discipline when you are from another discipline. I managed to do it but others haven't.**
- **Do what is good for your career and then make sure it is also valuable to the organization. Do not do it the other way around.**
- **You cannot create a career position by sucking up to management because management changes.**



Understanding **the bureaucratic *modus operandi***

- **There are very few organizations that allow for unbridled thinking.**
- **Not only don't they allow for it, they actually stifle it with formalistic rules and regulations, rigidly applied.**
- **Science organizations are no exception.**