

**UNDERSTANDING THE NEW WORLD**

***TAKE THESE TWO TABLETS***

***And call me in the morning!!***

**Presentation by**

**Dr. Suchindran “Chat” Chatterjee**

**602-421-4416 (or) Chatterjee@msn.com**

**WMSHP KICK-OFF MEETING SEMINAR 2012**

**WASHINGTON METROPOLITAN SOCIETY of HEALTH SYSTEM PHARMACISTS**

*GET TO A NEW PERSONAL LEVEL IN 2012*

# TODAY'S OBJECTIVES

- **THE HALOED HISTORY OF PHARMACOLOGY, MEDICINE AND PHARMACY (the world's second oldest profession)**
- **THE CONVERGENCE OF THE BASIC AND APPLIED SCIENCES AS APPLIED TO HEALTHCARE IN THE 21<sup>st</sup> CENTURY**
- **TO IDENTIFY THE ROLE OF HIGH TECHNOLOGY IN PHARMACY AND IT'S PRACTICE IN PRIVATE AND GOVERNMENT ORGANIZATIONS**
- **TO IDENTIFY COMMON MODALITIES BETWEEN MEDICINE, PHARMACY, and TECHNOLOGY IN OUR RAPID TECHNICAL WORLD**
- **TO CONSIDER TABLETS FOR THE MODERN PHARMACIST: iPad and Android**
- **TO FOCUS INTO LOOKING AHEAD AT TOMORROW' S TECHNOLOGIES IN TREATMENT AND CURE**

*GET TO A NEW PERSONAL LEVEL IN 2012*

My special thanks to everyone attending today,  
especially:

Today's Meeting ORGANIZERS, and  
the LEADERS of WMSHP

All the people in our Federal government  
worldwide who make the possible, and the  
impossible, happen so quietly and  
efficiently, without seeking recognition or  
applause

## Dr. Suchindran "Chat" Chatterjee's Short Bio

- **Currently: President and CEO, Kender Energy, Inc.**
- **Current elected member of the Alumni Board of Trustees of Vanderbilt University, Nashville, Tennessee**
- **Elected member of the Delta Airlines Customer Advisory Board**
- **Founder and Chairman of Synergy and 21<sup>st</sup> Century Solutions**
- **Vice-President and CIO at The Mutual of Omaha Insurance Companies and Bank of Montreal**
- **Director of I/S at The Nationwide Insurance Group of Companies**
- **Chief of Software & Oper Systems at Digital Equipment Corporation**
- **Chief Aerospace Testing Engineer, Sverdrup Aerospace, Arnold Air Force Base, Tennessee [Tested almost all ratings of Military and Civilian Aircraft, & the Space Shuttle]**
- **Is Adjunct Professor in Engineering, Computer Science, English, and Management & Member of Dean's & Technology Councils, AZ State Univ**
- **B.S. - Aeronautical Engineering & Technical Writing**
- **M.A. - Technical Communication & Linguistics**
- **M.S. - English and Higher Education Administration**
- **Ph.D. - Computer Sciences [Vanderbilt University]**
- **M.B.A. - Information Systems Management & Finance [Harvard Business School]**
- **CCIE, MCSE, CPCU, CLU**
- **Renowned in Computational Fluid Dynamics and Operating Systems**
- **Honored as Technology Executive & CIO of the Year 2003 by Computerworld Magazine**
- **Nominated for I/T Security Executive for North America for 2008 by Computer Security Institute**

## *YOUR HISTORY...*

- Ancient Egypt: the cradle of pharmacology
  - These medical sources listed over 700 different remedies for different ailments.
- First century: Dioscorides prepared *De Materia Medica*:
  - Listed and classified 600 different plants used for medicinal purposes; first time plants were ever classified
- Study of the history, sources, and physical and chemical properties of drugs
- Also looks at the ways in which drugs affect living systems
- Various subdivisions of pharmacology have evolved

# *THE REAL ME FROM YOUR EYE VIEW*



DIOVAN 80 MG

BUMETENIDE 1 MG

COREG 20 MG

SPIRONOLACTONE 25 MG

LIPITOR 20 MG

KLOR-KON 10 MEQ

NEXIUM 40 MG

ASPIRIN 325 MG

VITAMIN ONE A DAY MEN'S HEALTH

FORMULA

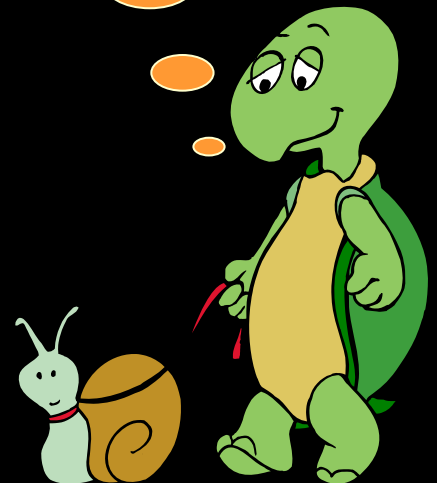
Good old lessons in teamwork  
from an age-old fable



Once upon a time a tortoise and a hare had an argument about who was faster.

I'm the fastest runner.

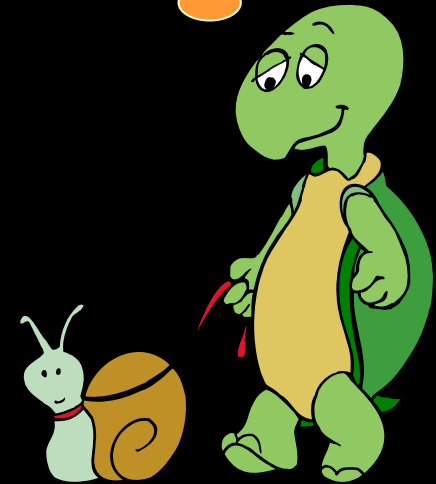
That's not true.  
The fastest runner is me!



They decided to settle the argument with a race. They agreed on a route and started off the race.

Fine!

Ok, let's have a race.



The hare shot ahead and ran briskly for some time. Then seeing that he was far ahead of the tortoise, he thought he'd sit under a tree for some time and relax before continuing the race.



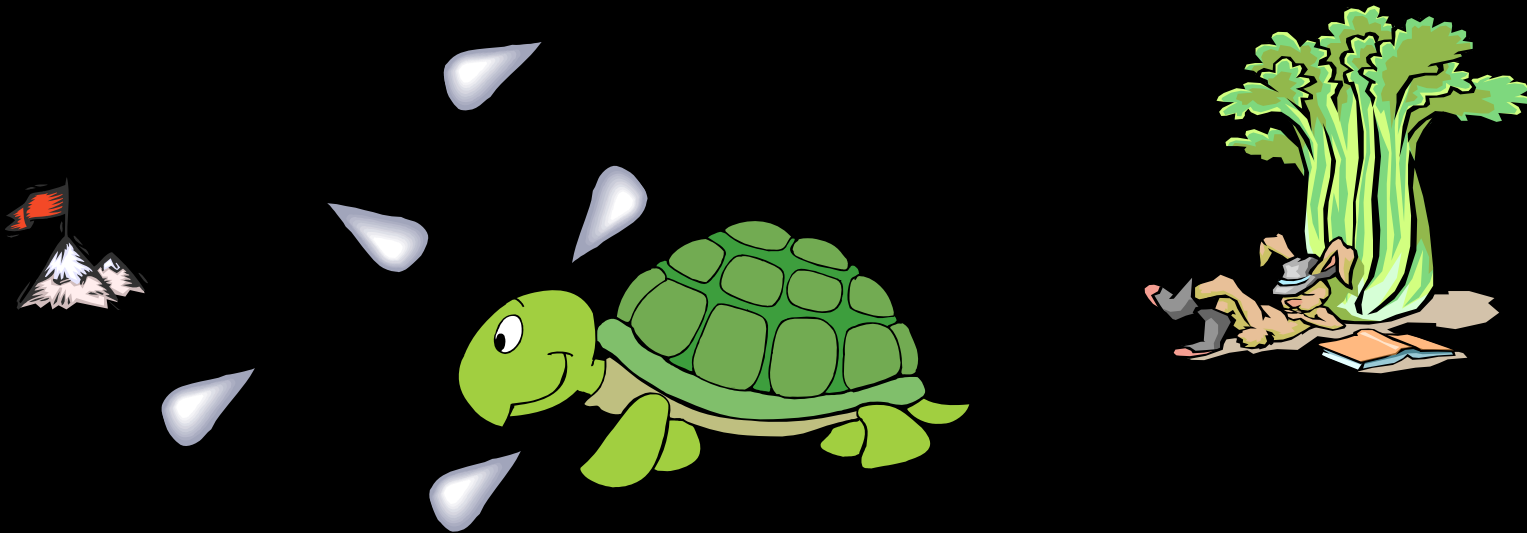
Poor guy! Even if I take a nap, he could not catch up with me.



He sat under the tree and soon fell asleep.

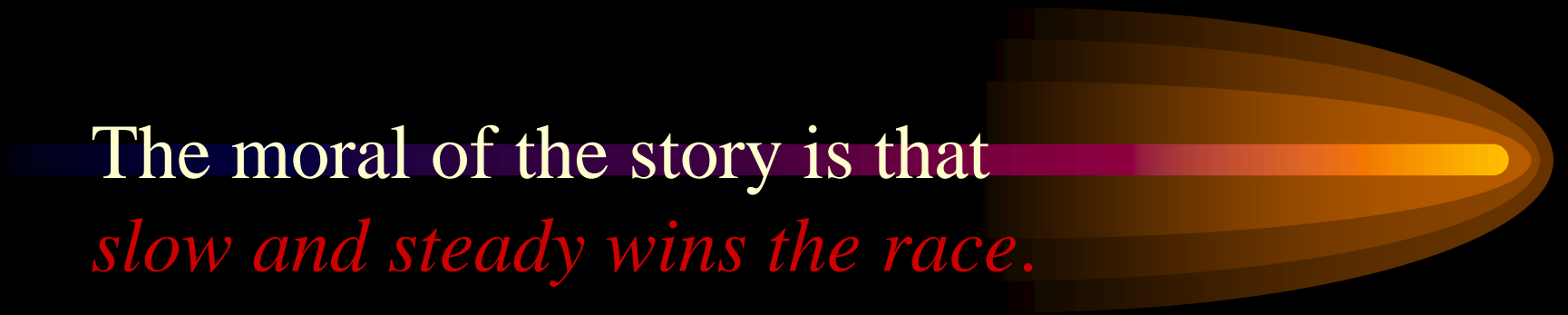


The tortoise plodding on overtook him and soon finished the race, emerging as the undisputed champ.



The hare woke up and realized that he'd lost the race.





The moral of the story is that  
*slow and steady wins the race.*

This is the version of the story that we've all  
grown up with.

*THE  
CONVERGENCE OF  
THE BASIC AND  
APPLIED  
SCIENCES...*

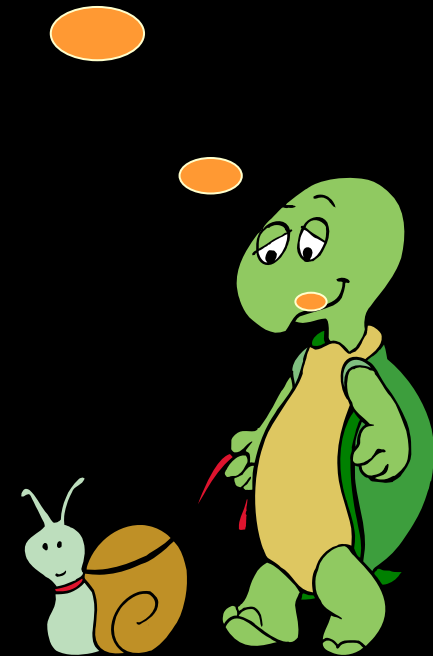
The hare was disappointed at losing the race and he did some soul-searching. He realized that he'd lost the race only because he had been overconfident, careless and lax. If he had not taken things for granted, there's no way the tortoise could have beaten him.



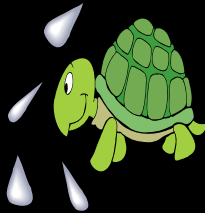
So he challenged the tortoise to another race.  
The tortoise agreed.

Ok.

Can we have another race?



This time, the hare went all out and ran without stopping from start to finish. He won by several miles.






## The moral of the story?

*Fast and consistent will always beat the slow and steady.* If you have two people in your organization, one slow, methodical and reliable, and the other fast and still reliable at what he does, the fast and reliable chap will consistently climb the organizational ladder faster than the slow, methodical chap.

*It's good to be slow and steady; but it's better to be fast and reliable.*

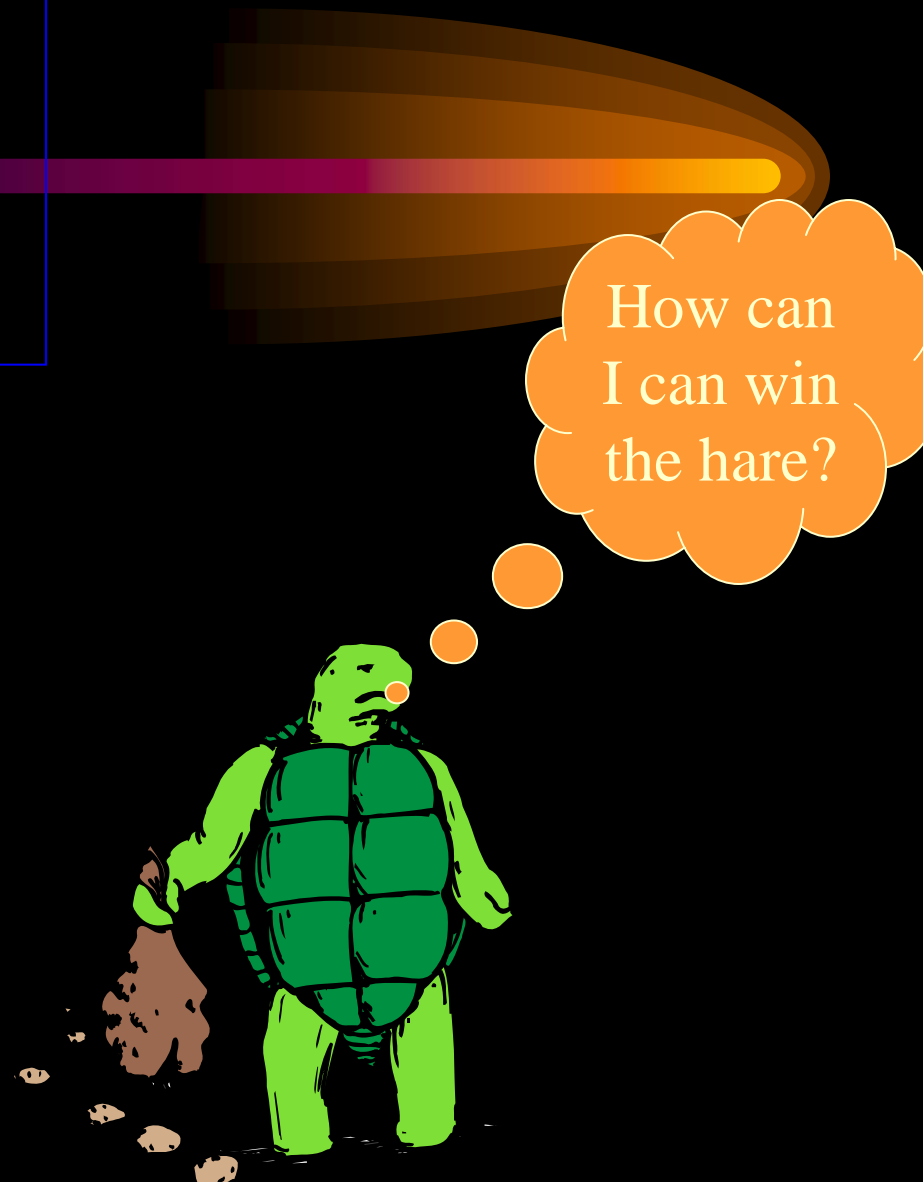


*THE ROLE OF HIGH  
TECHNOLOGY IN  
PHARMACOLOGY...*

# UNDERSTANDING THE NEW WORLD

- NPD Group survey finds that ~75% of small & midsize medical practices will buy tablets over the next year
- 73% planned to buy tablets over the next year, up from 68% last QTR
- Small medical practices tend to buy tablets at a faster pace than larger enterprises
- As far as larger medical facilities, less than 1 percent of hospitals are currently using tablets, [Kaiser Health News reports](#)
- [Medical practices](#) anticipate spending on average a cumulative total of about \$6,800 per location on tablets within the next year
- The Apple iPad is the tablet of choice for hospitals, based on a recent study by Manhattan Research. In addition, a survey by research firm Aptilon says 70 percent of doctors prefer the Apple iPad over other models. Hospitals are increasingly considering allowing patients to use their personal tablets despite security concerns

The tortoise did some thinking this time, and realized that there's no way he can beat the hare in a race the way it was currently formatted.

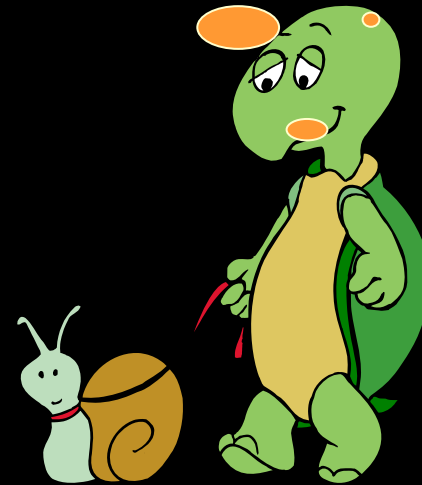


How can I can win the hare?

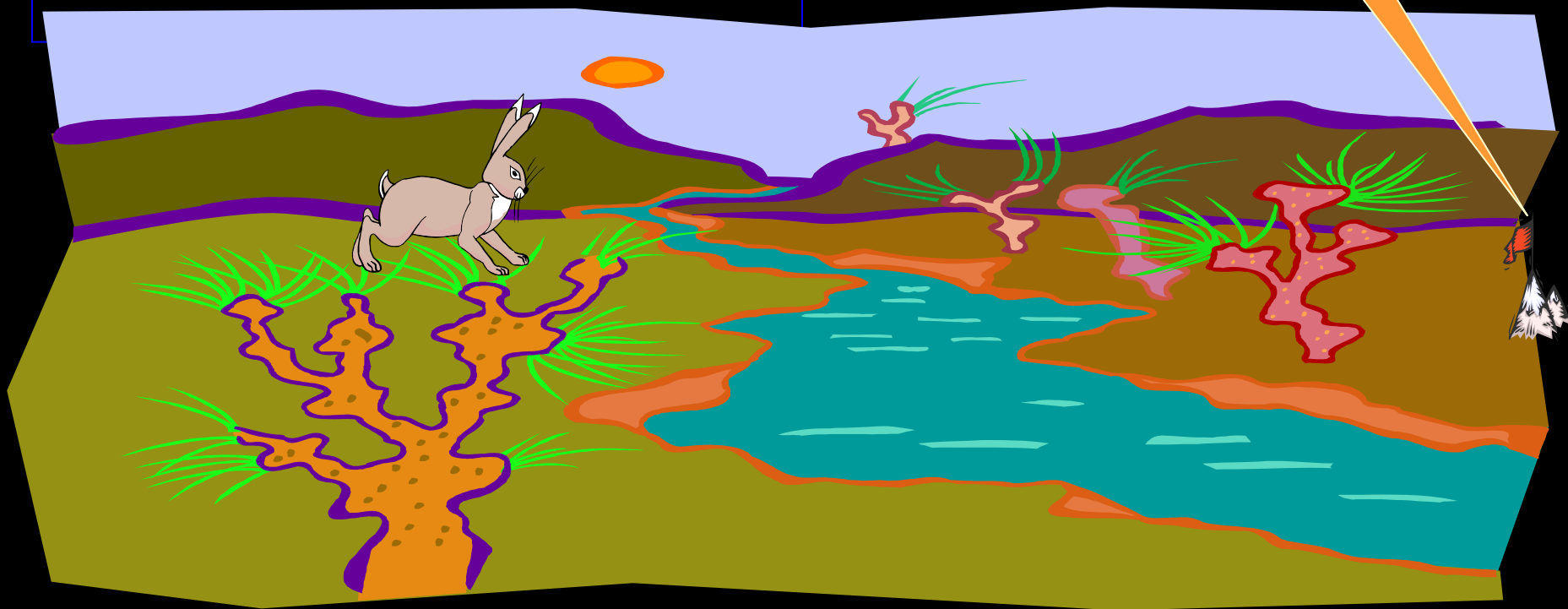
He thought for a while,  
and then challenged  
the hare to another  
race, but on a slightly  
different route.  
The hare agreed.

Can we have another race?  
This time we'll go  
through a different route.

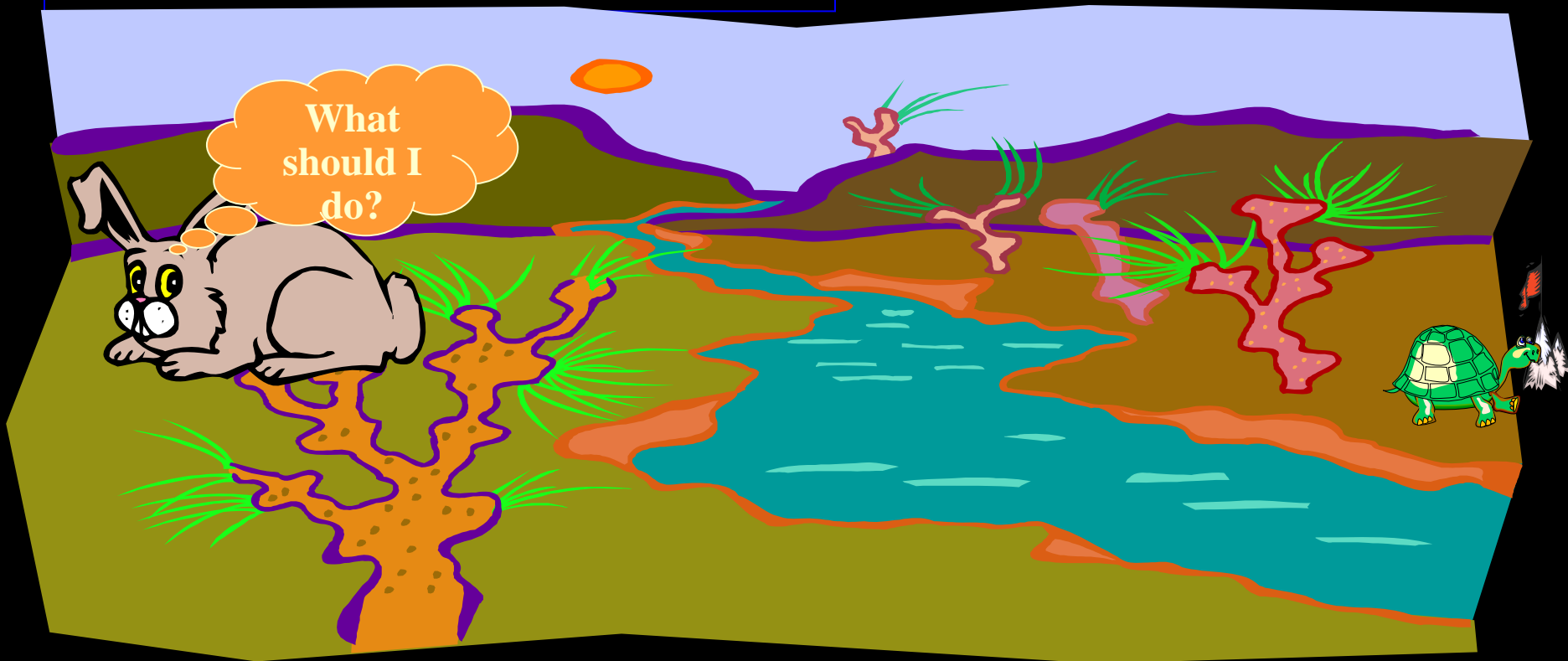
Sure!




They started off. In keeping with his self-made commitment to be consistently fast, the hare took off and ran at top speed until he came to a broad river. The finishing line was a couple of miles on the other side of the river.



The hare sat there wondering what to do. In the meantime the tortoise trundled along, got into the river, swam to the opposite bank, continued walking and finished the race.



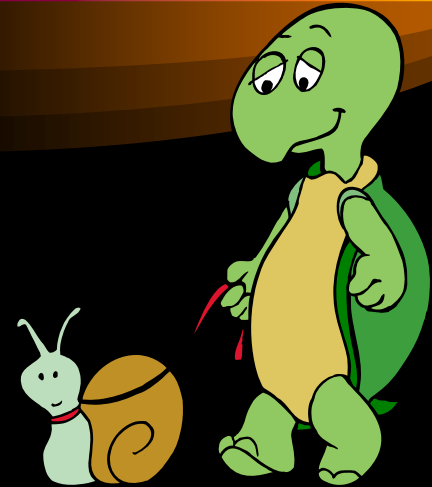
## The moral of the story?



- *First identify your core competency and then change the playing field to suit your core competency.*
- *In an organization, if you are a good speaker, make sure you create opportunities to give presentations that enable the senior management to notice you.*
- *If your strength is analysis, make sure you do some sort of research, make a report and send it upstairs.*
- *Working to your strengths will not only get you noticed, but will also create opportunities for growth and advancement.*

*THE COMMONALITY  
BETWEEN ALL OUR  
SCIENCES AND TRUE  
COLLABORATION IS  
WIN-WIN-WIN...*

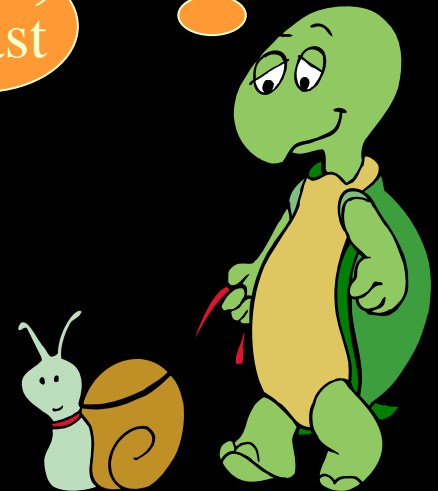
The hare and the tortoise, by this time, had become pretty good friends and they did some thinking together. Both realized that the last race could have been run much better.



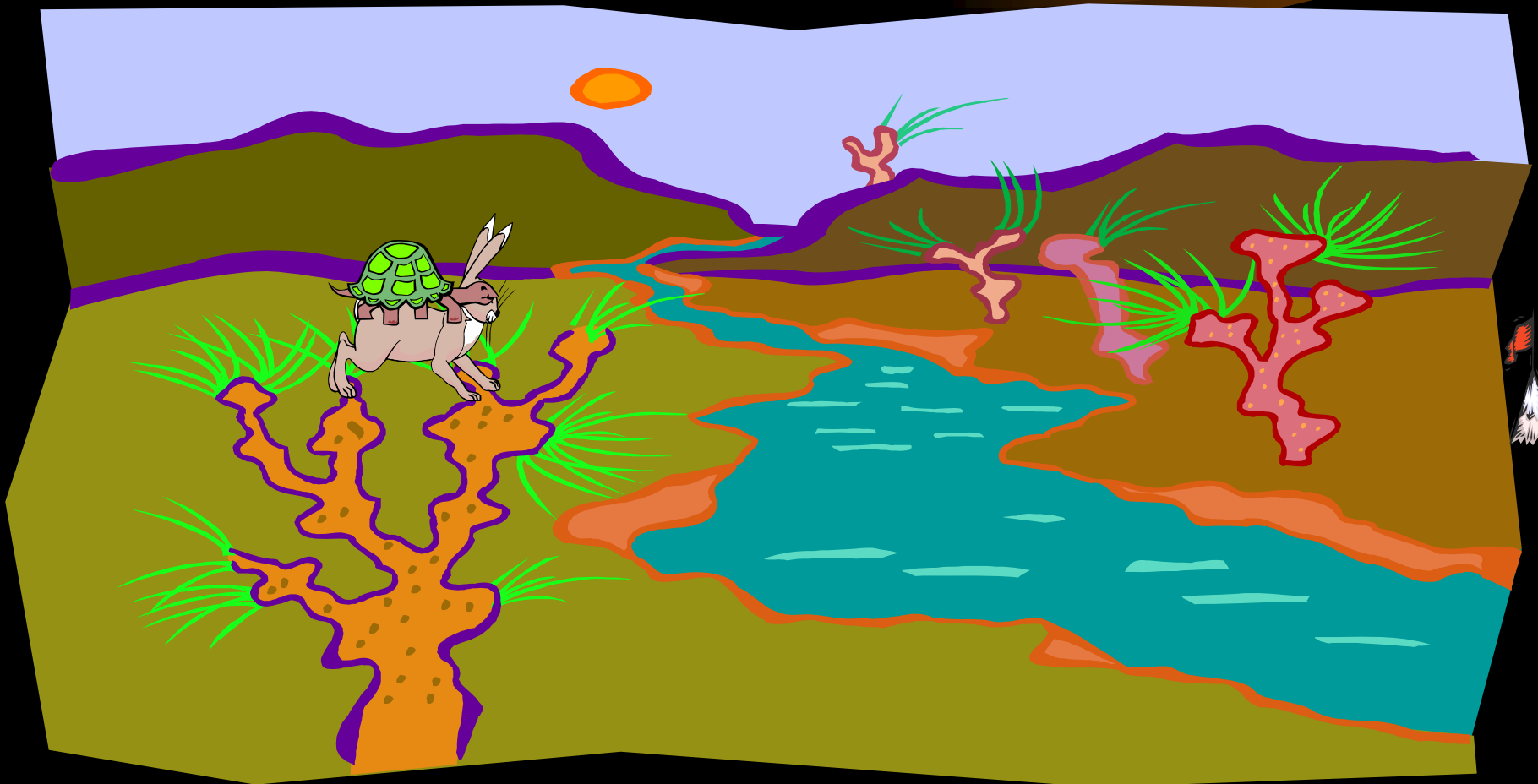
So they decided to do the last race again, but to run as a team this time.

Great! I think we could do it much better, if we two help each other.

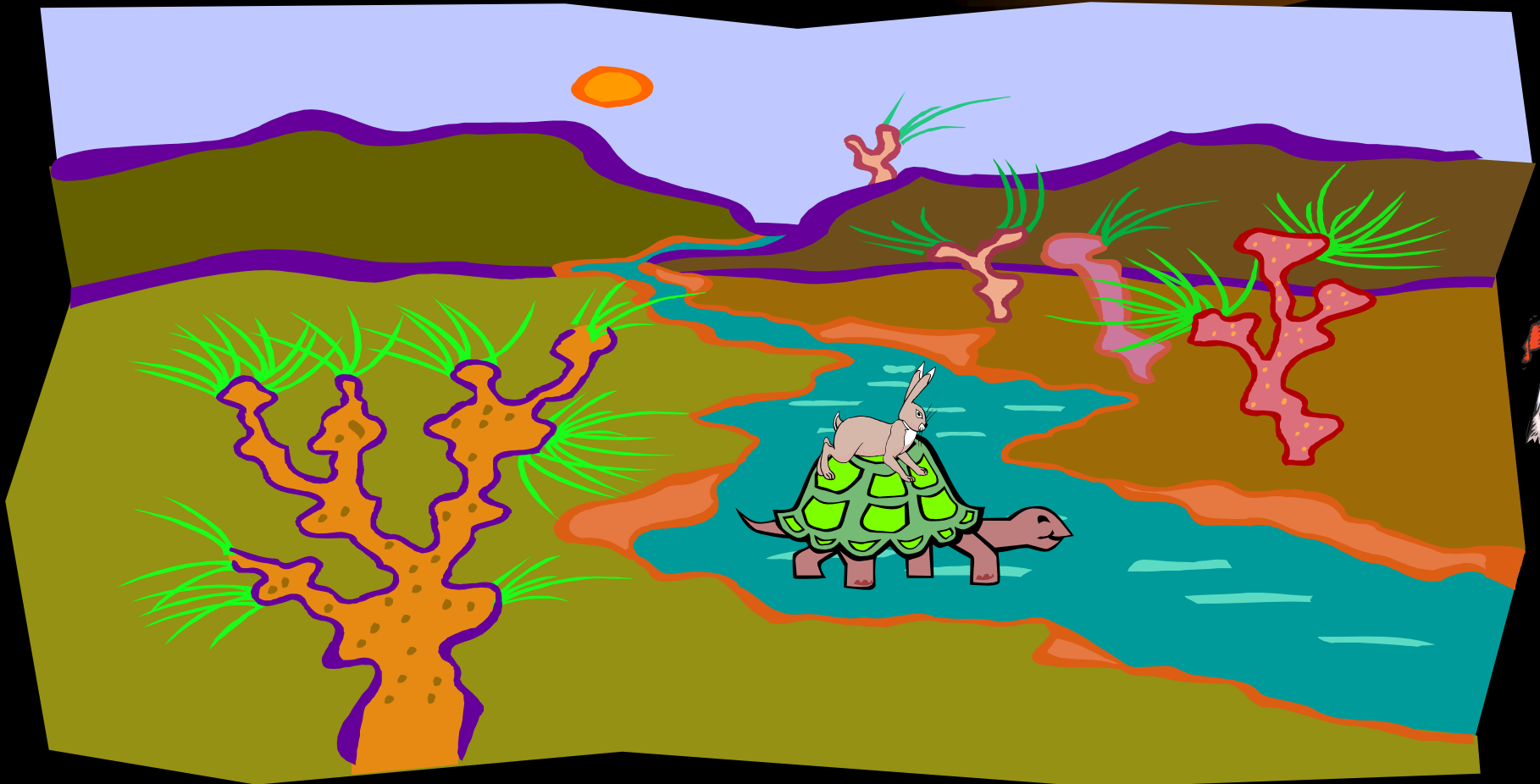
Hi, buddy. How about doing our last race again?



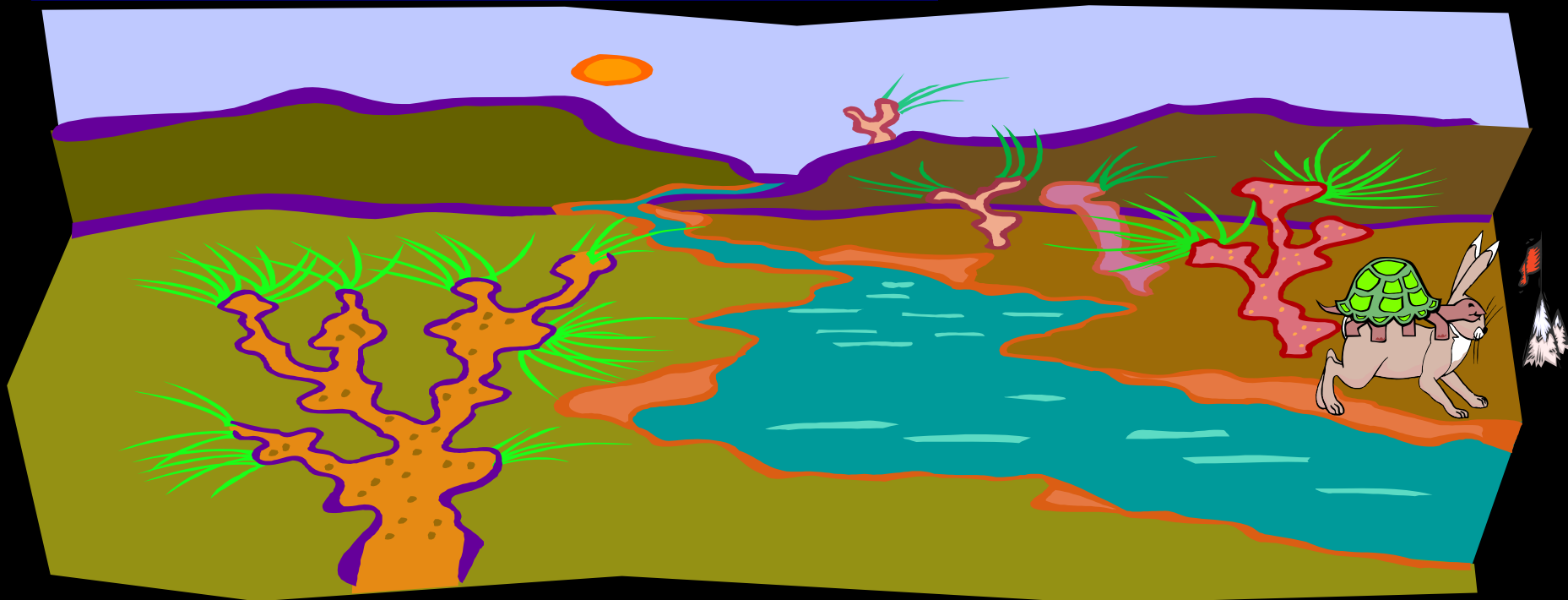
They started off, and this time the hare carried the tortoise till the riverbank.



There, the tortoise took over and swam across with the hare on his back.



On the opposite bank, the hare again carried the tortoise and they reached the finishing line together. They both felt a greater sense of satisfaction than they'd felt earlier.



## The moral of the story?



- *It's good to be individually brilliant and to have strong core competencies; but unless you're able to work in a team and harness each other's core competencies, you'll always perform below par because there will always be situations at which you'll do poorly and someone else does well.*
- *Teamwork is mainly about situational leadership, letting the person with the relevant core competency for a situation take leadership.*

There are more lessons to be learned from this story.

- Note that neither the hare nor the tortoise gave up after failures. The hare decided to work harder and put in more effort after his failure. The tortoise changed his strategy because he was already working as hard as he could.

- In life, when faced with failure, sometimes it is appropriate to work harder and put in more effort. Sometimes it is appropriate to change strategy and try something different. And sometimes it is appropriate to do both.*

- The hare and the tortoise also learned another vital lesson. *When we stop competing against a rival and start competing against the situation, we perform far better.*

To sum up, the story of the hare and tortoise teaches us many things:

- *Never give up when faced with failure*
- *Fast and consistent will always beat slow and steady*
- *Work to your competencies*
- *Compete against the situation, not against a rival.*
- *Pooling resources and working as a team will always beat individual performers*

# *The Changes: Fast (and Furious)*

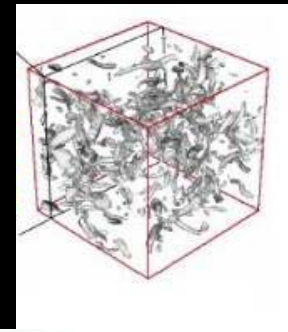
- As a great nation we have been moving forward at a very fast pace
- First in everything: design, production, services
- Biggest international consumer & collaborator
- Dominating international presence since 1945
- But we need to understand
  - Where are we running?
  - Why are we running?
- **Intersection of Technology, Sociology and Economics**

# Evolution of Science & Technology

- Thousand years ago:  
**science was empirical**  
describing natural phenomena
- Last few hundred years:  
**theoretical branch**  
using models, generalizations
- Last few decades:  
**a computational branch**  
simulating complex phenomena
- Today:  
**data exploration (eScience)**  
synthesizing theory, experiment and  
computation with advanced data  
management and statistics  
→ new algorithms!



$$\left(\frac{\dot{a}}{a}\right)^2 = \frac{4\pi G\rho}{3} - K\frac{c^2}{a^2}$$



# *Current Technical Challenges*

- **Data Acquisition, Storage, and Access:**
  - Move analysis to the data
  - Locality is the key (e.g.: Google, GPS, Power Phones)
  - If downloaded, finder's keepers.....
- **Discovery:**
  - Question Everything
  - Must read more than ONE book, THE claimed book !!!!!
- **Analysis:**
  - max  $N \log N$  algorithms possible

# *Where* are we going?

- Relatively easy to predict until 2014
  - Exponential growth will continue
  - Population shifts will continue
  - Cultural tsunami will continue
  - Technical Simulations will become the norm
- Much harder to predict beyond 2014
  - Technological predictions much harder
  - Changing funding climate
  - Changing sociology

# *The Future Choices*



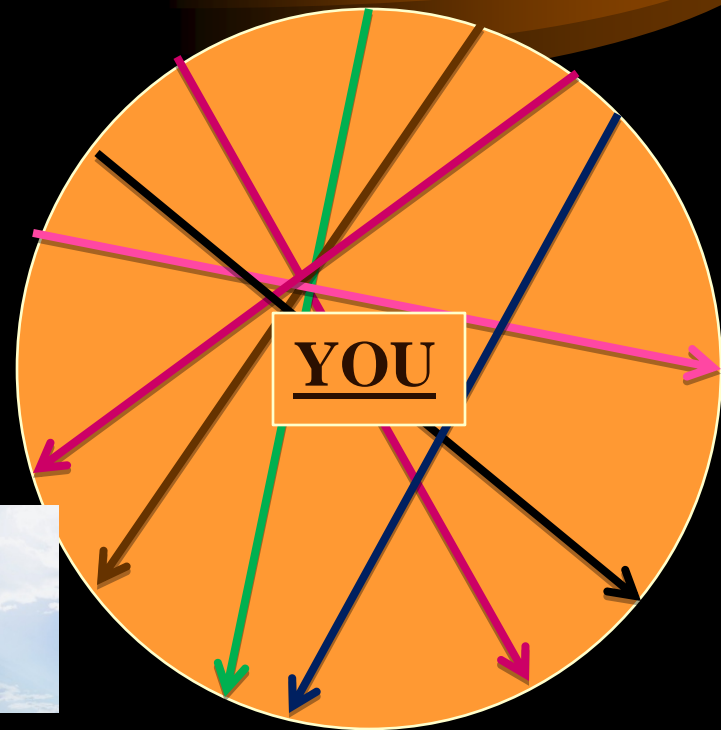
**How long does the exponential growth continue?**

- High end is always linear
- Exponential comes from technology + economics + sociology
  - ⇔ rapidly changing generations
    - I call it socio-economic plate-tectonics
- How many new generations of Moore's law applied to brains do we have left?
- Software is also an instrument
  - Can hierarchical data replication go on to infinity?
  - virtual data
  - data cloning

# *The cultural dilemma*



**OCCIDENTAL  
VIEW**



**ASIAN/AFRICAN  
VIEW**

# *The Changing Digital and Mental DNA*

- If you are not living on the edge, you are taking up too much room !!!!!!!
- Boundary conditions change, we need to change every year!
- We must change at least as fast as the outside world or we will be left behind
- We will make mistakes! We need to recognize and recover from them, step back and do it differently
- If we do not make mistakes, we are not taking enough risks
- But: we need to buffer/dampen these changes to the humane community, the circle of life !!!!!

# *Sociology: Understanding THIS leads to true success*

## **The twelve elements to be cognizant of are**



The Sociology of Politics

The General Sociology

The Sociology of Education

The Social Psychology

The Social Problems and Planning

The Social Anthropology

The Sociology of City, Village & Town

The Sociology of Culture

The History of Sociological Thought

The Methodology of Sociological Research

The Sociology of Labor and Organization

The Statistics, Demography, and Mathematical Sociology

# *Hence, the Sociological Challenges*



- How to avoid trying to be everything for everybody?
- Rapidly changing “outside world”
- Make it simple!!!
- **Each human’s personal challenge:**
  - Exponential  $\Leftrightarrow$  linear
  - Information reliability  $\Leftrightarrow$  credits and career paths

# *Technology+Sociology+Economics*

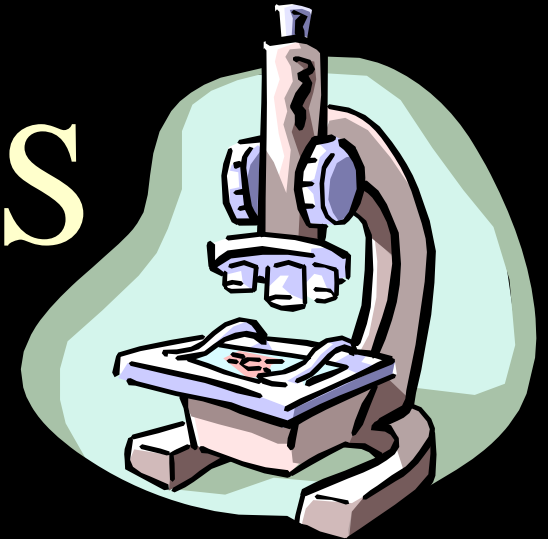


- Not one of these is enough
  - We have technology changing very rapidly
  - Google, tags, sensors, RFID, Biometrics, Moore's Law.....
  - Trends driven by changing generations of technologies
- Sociology is changing in unpredictable ways
  - In general, people will use a new technology if it:
    - Offers something entirely new,
    - Or substantially cheaper,
    - Or substantially simpler.
- Funding has grown exponentially for social and technical research and development

*GET TO A NEW PERSONAL LEVEL IN 2012*



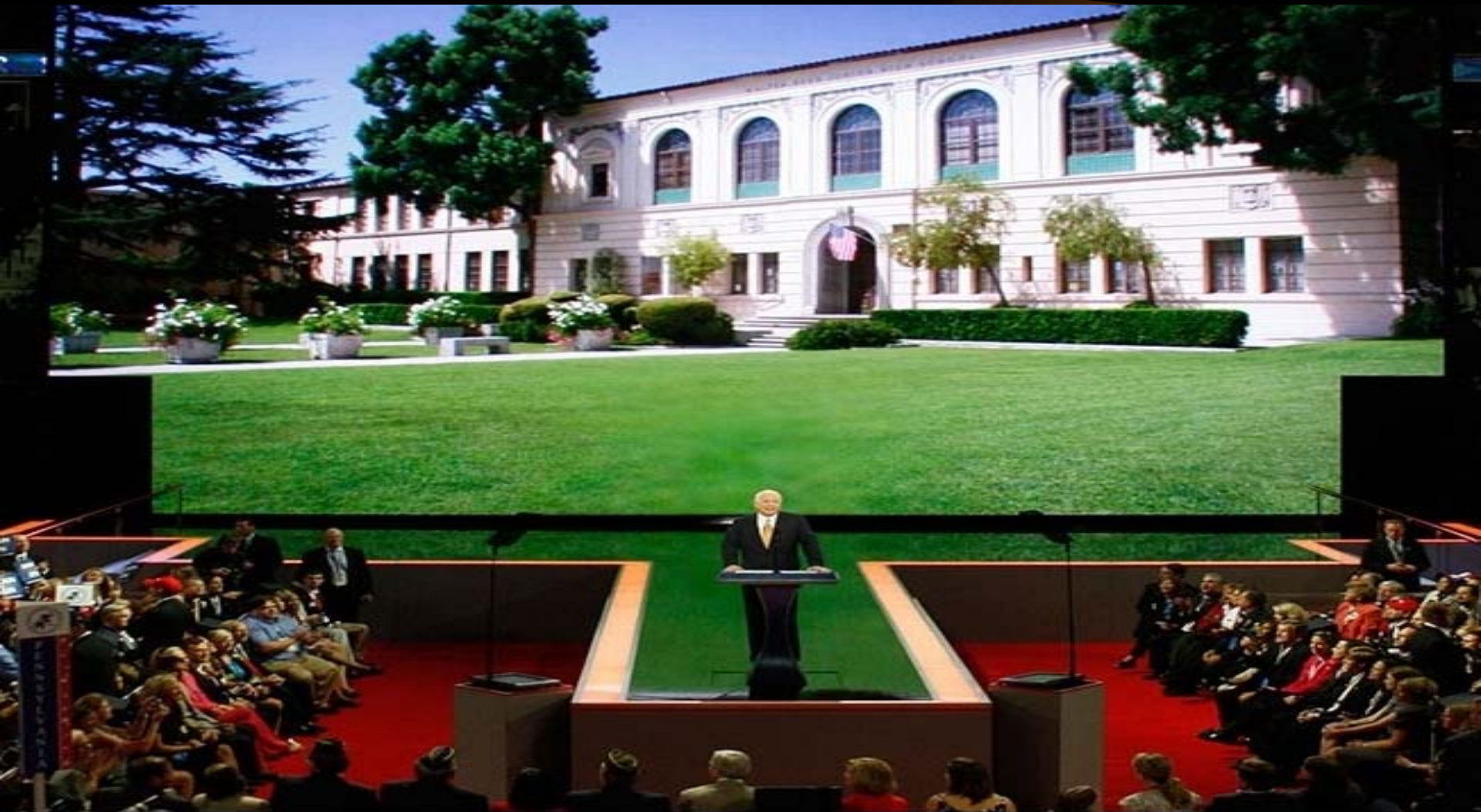
USE THE  
TECHNOLOGIES  
AT HAND



*All of you know this venerable building*



# *Guess what ignorance of technology does?*



**John McCain accepts the Republican party's nomination to be its presidential candidate at the Xcel Energy Center in St. Paul, Minnesota. Projected behind him on the 51.6 by 30 foot video wall is the Walter Reed Middle High School in North Hollywood. Was it meant to be the Walter Reed Army Medical Center in Washington, DC, which takes care of injured veterans?**

***Photo: Associated Press/Ron Edmonds***

# WHAT IS ALREADY HERE TODAY!!



- Technological  
2011
- Tablets/Smart  
phones
- Get Smart is  
here
- Star Trek is  
here and now
- Internet on  
the Road
- Instant GPS
- Flight ATC  
Tracking
- Smart  
Homes
- Privacy on  
the Web
- Shopping  
Transaction  
Options
- Language  
Barriers  
Disappear
- Cheapest  
Storage
- Program  
Managers
- Money  
Managers

# WHAT IS COMING JUST AROUND THE CORNER????

- Interactive OS
- Intuitive App Systems
- Voice Recognition
- Gesture Recognition
- AI in Reality
- WATSON
- Fuzzy Logic
- Truly Smart Cars
- Database Connectivity
- Privacy Blockers
- Convergence of Voice, Data, Video
- True Hot Spot Wireless
- Paperless Society [!!!]

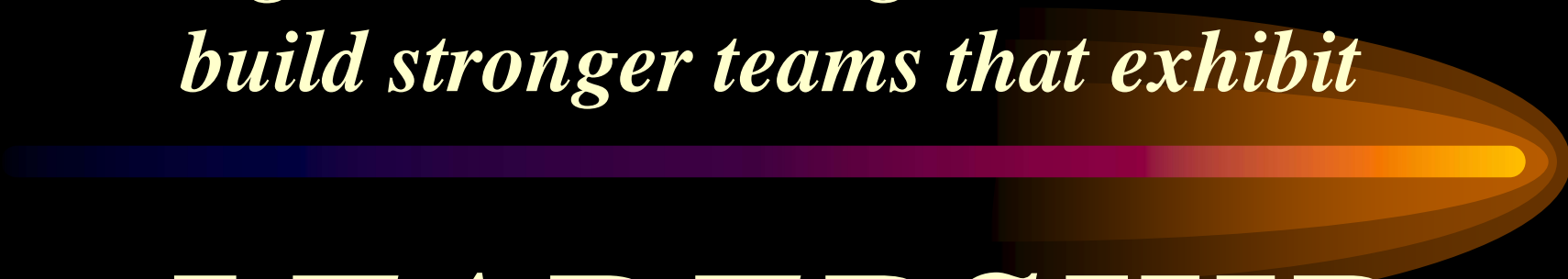


# ATTITUDE IS EVERYTHING

Change Your Attitude ...

And You Change Your Life !!!

*Let's go out into the big wide world and  
build stronger teams that exhibit*



***LEADERSHIP***

***DIVERSITY***

***HARMONY***


***KNOWLEDGE***

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# READING SUGGESTIONS

- *Moments of Truth* – Jan Carlzon, CEO of SAS
- *The God Delusion* – Prof. Richard Dawkins, Oxford
- *Zen & the Art of Computing* – Guy Kawasaki, Apple
- *Spies Amongst Us* – Ira Winkler, former NSA/DIA
- *Jack Kennedy: Elusive Hero* – Chris Matthews
- *Was God an Astronaut?* – Erich von Däniken

*GET TO A NEW PERSONAL LEVEL IN 2012*



Thanks for hosting me at your meeting today and being such a great group.....now this team can continue to go in pursuit of the possible, and achieve the impossible!!!! TOGETHER  
impossible!!!! TOGETHER  
impossible!!!! TOGETHER

*GET TO A NEW PERSONAL LEVEL IN 2012*



YOUR  
QUESTIONS

?????

**UNDERSTANDING THE NEW WORLD**

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**WMSHP KICK-OFF MEETING SEMINAR 2012**

**WASHINGTON METROPOLITAN SOCIETY of HEALTH SYSTEM PHARMACISTS**

*THE FOLLOWING SLIDES ARE  
EXTRA DETAILED DATA ON*



*THE TWELVE  
COGNIZANT  
ELEMENTS IN  
SOCIOLOGY*

# *The Sociology of Politics*



1. Analyses of legislative, executive, and local elections.
2. Transformations of political elites.
3. Role of the legislative branches and their functioning in the period of social, economic, and technical transformation.
4. Political socialization of adolescents and youth.

# *The Sociology of Education*



1. Functioning of educational systems in your community.
2. The role of educational system in the processes of socialization.
3. Analyses of civic education and its evaluation based on the experience of well-established democracies.
4. Educational inequalities in our society.
5. Political behavior of men and women in urban & rural America.

# *The Social Problems and Planning*



1. Process of definition and institutionalization of social problems and social deviation.
2. Social control and its functions in the processes of creation of social problems.
3. Process of social marginalisation.
4. Public administration and its role in solving social problems.

# *The Sociology of City, Village, and Town*



1. Urbanization processes and accompanying social phenomena.
2. Researches on various nations in transformation and how they addressed similar challenges.
3. Urbanization processes in fast growth nations, and emerging nations.
4. The First World, the Second World, and the Third World – whither the line that separates them any more ?

# *The History of Sociological Thought*



1. The history of Western sociology.
2. The history of sociological and political thought.
3. Metasociology studies.
4. Social and cultural anthropology.
5. Public opinion studies, polls, and their impact on public thought.

# *The Methodology of Sociological Research*




1. Methodical analyses of a variety of research and sociological data (surveys, qualitative research, experiments, market and public opinions polls, official data, personal documents, etc.).
2. Selected social processes in today's society such as changes in religious attitudes, separation of church and state, transformations in local communities, modes of political thinking and determinance of political involvement, elections and the rise of split thought within political parties, and the rise of independents in today's America.
3. Research on democracy and civic societal problems.

# *The Sociology of Labor and Organization*



1. Economic sociology: globalization, market reform, industrial relations, privatization, market fairness, business ethics, modernization of manufacturing processes, economic mentality, job market, unemployment, consumption, and the challenges of mass retirement.
2. Theory of social change: citizen and civil society, systemic transformation in economy, relationship between the state and economy, ways out from the dichotomy of being Sweden, civilization challenges and cultural barriers of change, forced transformation of religions against the background of other issues of modern society.
3. Organizational Behavior: Senior Management, labor unions, general staff and mid-level management, the economic mentality of teamwork.

# *Statistics, Demography and Mathematical Sociology*

- 
1. Methods of statistical and demographic data analyses.
  2. Descriptive and normative theories, formal methods.
  3. Empirical research focused on social structure, social mobility, political attitudes, distributive justice, demographic decision-making.
  4. Simulation analyses of the effects of legislative decisions, directives from elected officials to government agencies.

# *General Sociology*



1. Theoretical research: contemporary sociological theories, theories of moral development, personality and social structure, social inequalities and social structure, national identity, stereotypes and attitudes towards other nations, ethnic groups, social memory of the past, social differentiation of temporal orientations and concept of time, new institutional analyses, postmodernism, post socialism, & postcapitalism.

2. Empirical research: comparative studies of systems of values of Western and Eastern societies, immigration, jet travel and the merging of diversity as never before, attitudes of different ethnic groups, historical consciousness, social movements in the US, ad infinitum

# *Social Psychology*



1. The theory of social psychology.
2. Empirical studies on the mechanics of the identity of society.
3. The theoretical studies of the identity of family.

# *Social Anthropology*



1. Ethnic relations within the various strata of American society:  
Geographic, Economic, Demographic, and Educational.
2. The anthropology of minority groups (and everyone is in some minority group(s) !!!).
3. Quality methods of field research.
4. Social and cultural anthropology.
5. Public opinion studies.

# *The Sociology of Culture*



1. The theory of culture, the anthropology of contemporary culture, practical and diagnostic attitudes to societal and cultural problems.
2. The theory of symbolic culture and the theory of symbol, theoretical issues of dialogue, intercultural and innercultural communication issues, the axiology of social culture, the sociology of language and cultural aspects of social phenomena.
3. The identity of minority groups and cultural minorities, cultural aspects of psychological health, human ecology issues.

*GET TO A NEW PERSONAL LEVEL IN 2012*

# The Core Challenge



- *measurements* of valid behavior in cross-cultural contexts
- *understanding* underlying choice processes from an integration of disciplines (e.g. psychology, sociology, ethics, sensory, cultural, biological, economics)
- *effective interaction* through communication and public participation
- strategies to *induce behavioral change* to improve social responsibility

# *Priorities/ Key Challenges*



- Acceptance versus rejection of novelties
- Personalising information (information technology)
- Communication (education and learning)
- Theories, measures, dynamics, source for comparable data,
- Simulation environments
- Long term behavioral changes (biological, environmental, physiological, social)
- Relationship between desirability, information and availability

# *Summary: The Future*



- Learn from the past, and from your surroundings...
- We need to keep running forward
- We must take risks
- Technology driving Sociology - limited by economics
- Everything is a power law – do not make assumptions!
- Enormous potential resides within each of you (St. Thomas Aquinas)
- May be the only way to truly see ahead to year 2525