



Academic globalization: Transnational Potential within Genetic Counseling

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Transnational Academic Alliance

Firstly -

- Thanks for the invitation.
- The human race is noted for self-organizing into groups/societies/chapters/clubs to share common interests and purposes.
- One aspect that drives this is self-interest.
- But there are other beneficiaries including the group, whoever or whatever the group serves, and often the public good.

Outline of Talk

- The balanced score card.
- Visiting the past - the development of information.
- The nature of global interactions.
- Examples from an active transnational academic collaboration.
- Truth in clinical practice.
- Multidisciplinary approaches.
- Visiting the future.



The balanced score card

- or working within a group

Translating the vision

- ☞ Clarifying the vision

- what is the overall purpose?

- ☞ Gaining consensus

- who are the stakeholders?

Communicating and Linking

- Communicating and educating
 - within and without the group
- Setting goals
 - need to match the vision
 - and be relevant
- Linking rewards to performance measures
 - different participants will value different rewards
 - different participants will perform differently

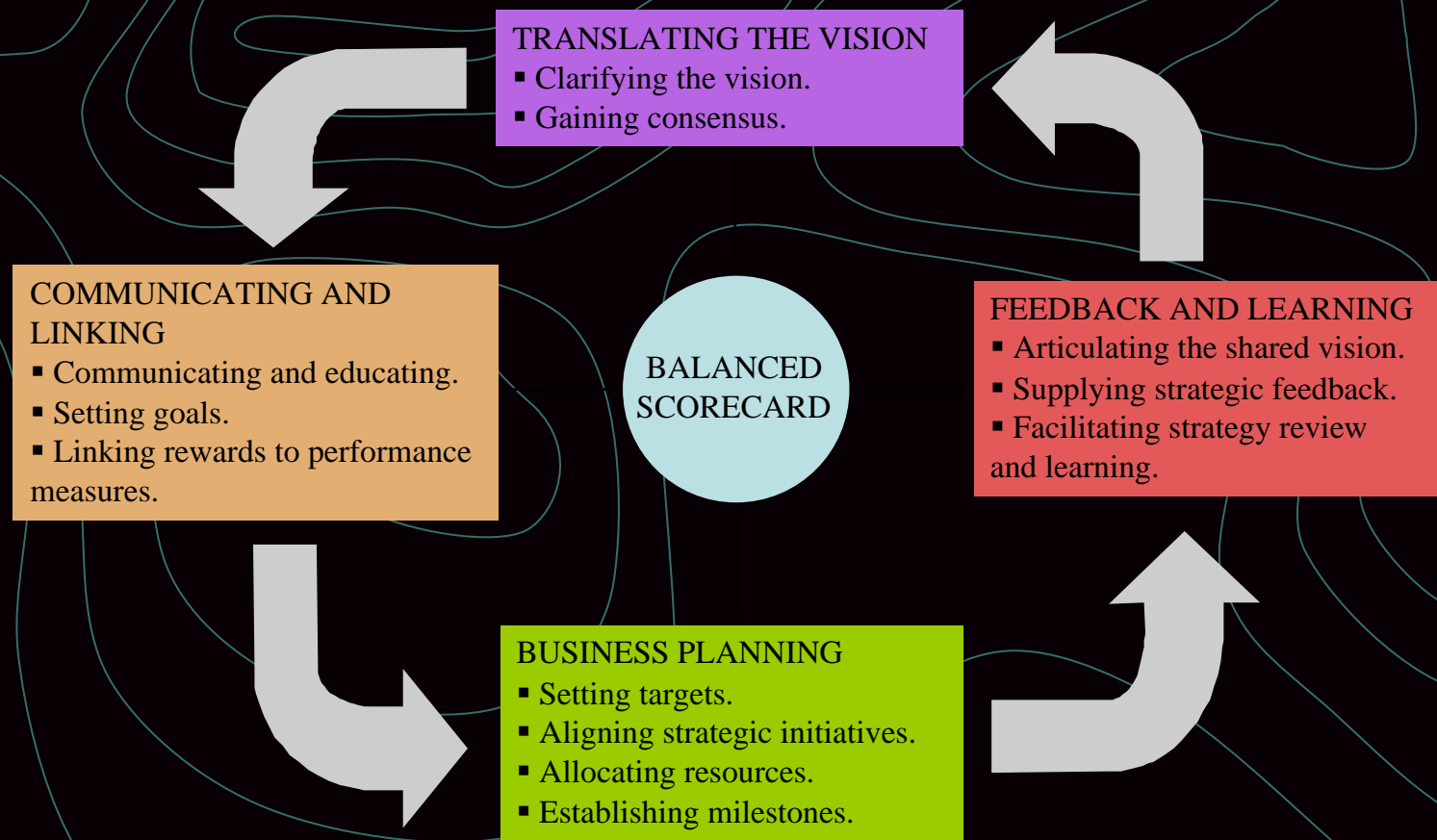
Business planning

- ⌘ Setting targets
 - make them achievable
- ⌘ Aligning strategic initiatives
 - do we all speak the same language?
- ⌘ Allocating resources
 - these can be monetary and obvious, but the most valuable resource is the people.
- ⌘ Establishing milestones
 - have a time table for things to be done by.

Feedback and Learning

- Articulating the shared vision
 - the “put it down on half a page” rule
- Supplying strategic feedback
 - lets make it better?
 - what are we missing?
 - everyone must say something!!
- Facilitating strategy review and learning
 - how will we communicate?
 - are we a democracy?

The balanced score card



Translating the vision

☞ Clarifying the vision

- what is the overall purpose?

who are our competitors?

is the purpose worth while?

☞ Gaining consensus

- who are the stakeholders?

are patients stakeholders?

who can join?

do we serve the “common good”?

how do we handle intellectual property issues?

Communicating and Linking

- Communicating and educating
 - within and without the group
 - could be big task!
 - how do we do this?
- Setting goals
 - need to match the vision
 - and be relevant
 - do we need money to do things?
- Linking rewards to performance measures
 - different participants will value different rewards
 - different participants will perform differently
 - how do we find out about strengths and weaknesses?

Business planning

⌘ Setting targets

- make them achievable

⌘ Aligning strategic initiatives

- do we all speak the same language?

one aspect could be nomenclature/definitions!

⌘ Allocating resources

- these can be monetary and obvious, but the most valuable resource is the people.

can we use our existing institutional resources, or do we want to fund raise?

⌘ Establishing milestones

- have a time table for things to be done by.

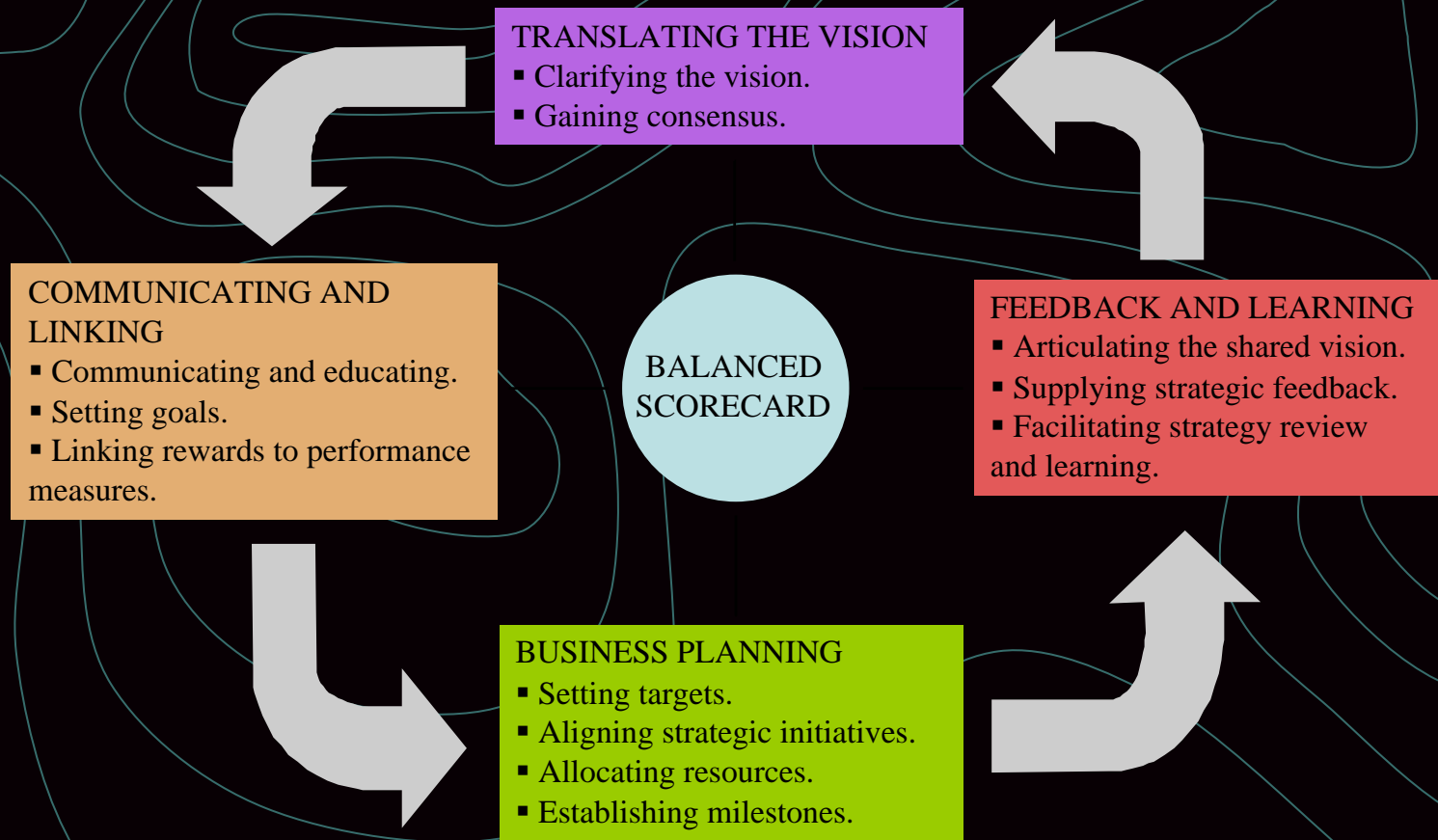
lets make sure we have achievable milestones

Feedback and Learning

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 - what are we missing?
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 - how will we communicate?
 - are we a democracy?

**do we want an independent multinational society,
or do we want a transnational organization**

The balanced score card



Visiting the past

“He who cannot draw on three thousand years is living from hand to mouth.”

Johann Goethe (1749- 1832)



The Development of Information

- ◆ The oral information revolution.
- ◆ The written information revolution.
- ◆ The printed information revolution.
- ◆ The electronic information revolution.
- ◆ The computer information revolution.

There are two components -
Information/communication and knowledge/wisdom.
And religious/political/social upheavals are expected.

The oral information revolution

- Names
- Speech
- Memory
- The need to communicate
- Early pictorial messages

The oral/written information revolution

- ◆ 3100 BC - cuneiform clay tablets Mesopotamia.
- ◆ Socrates [470-399 BC] - practiced the art of discourse - “one thing only I know, and that is that I know nothing”.
- ◆ Plato [428-347 BC] - established the Academy. And described [among other things] the Myth of the Cave.

The written information revolution

- ◆ Aristotle [384-322 BC] - recorded, developed classification systems as well as clear views on ethics and politics. Communicated well. This led into the Hellenistic period [until around 400 AD], with the library at Alexandria playing a key role in the meeting of East and West, especially for science.

Charlemange

742-814

- Established the Carolingian Renaissance in western europe.
- Established the first University - the University of Paris.
- Universities were established to provide an educated work force, leading to great disputes with the church.

The written information revolution

- ◆ 1200 -1300 - Medicine information in Europe accelerated rapidly with the translation of Greek and Arab texts, and new medical faculties sprang up. In addition, proper evaluation and certification of medical practitioners throughout Europe occurred especially in Paris, and Oxford.
- ◆ “Knowledge is power” - Francis Bacon

Commercial opportunities (always)

- ◆ *“There have always been men in our city devoted to the mathematical sciences.... And thus since goods are exported from here to nearly the entire world, what also prevents the writings of the most learned men preserved by the most excellent men from being published from here to the entire world?”*

Regiomontanus

The written/printed information revolution

- ◆ Printing Press : Guttenburg Bible 1455. But the printing press was considered not very valuable, as very few people could read, and there were not many books to print.
- ◆ The printing press was banned by many groups over the next 3 decades.



Major results-excluding the religious/political/social turmoil

- ◆ Copernicus - 1543 - published “On the Revolutions of the Celestial Spheres”
- ◆ Shakespeare - around 1600 wrote his greatest plays.
- ◆ Descartes 1596-1650 - “I think, therefore I am”
- ◆ Newton - 1642-1727 - Universal Law of Gravitation. Weapons.
- ◆ Everything was considered explained.

The electronic information revolution

- ◆ Telegraphy - around 1840's.
- ◆ Telephone - Bell; and then developed in the late 1800's
- ◆ Wireless - 1920 - First licensed stations.
- ◆ Fax machines - commercially available since 1926. Not used till recently
- ◆ Television – 1939 - introduced to revolutionize education. Color TV - 1950

The computer information revolution

- ◆ Mid 1830's - Babbage started to develop the first mechanical digital computer - the Analytical Engine. Programs were developed for this by Augusta Ada Byron [daughter of Lord Byron].
- ◆ 1940's : people employed as computers.

The computer information revolution

- ◆ 1941 - Zuse [in Germany] developed the first fully functional program controlled, electro-mechanical digital computer. Based on the binary system.
- ◆ 1942 - Atanasoff [Iowa State] developed an electronic digital computer.
- ◆ 1943 - Turing & Newman [in England] developed the Colossus - an all-electric digital computer using vacuum tubes instead of electro-mechanic relays.
- ◆ 1945 - von Neuman [Princeton] devised an electrical method for storing programs.

Concepts

- Expect very significant religious, political and social upheaval.
- Expect science and medicine to be significantly altered.
- And expect that the proponents of the information revolution will exaggerate the utility, and attempt to fit current practices into the new model.
- But the computer informational revolution, with efficiencies in communication and data management greatly enables transnational relationships.

Concepts

“What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention, and a need to allocate that attention efficiently among the over-abundance of information sources that might consume it.”

Herbert Simon

Common factors to all of the Informational

Nevertheless it is important to
be aware of these changes that flow
from the current
Informational revolution -
and to take advantage of them.

Inform
com

Wa

on
ge

tion of
humanity

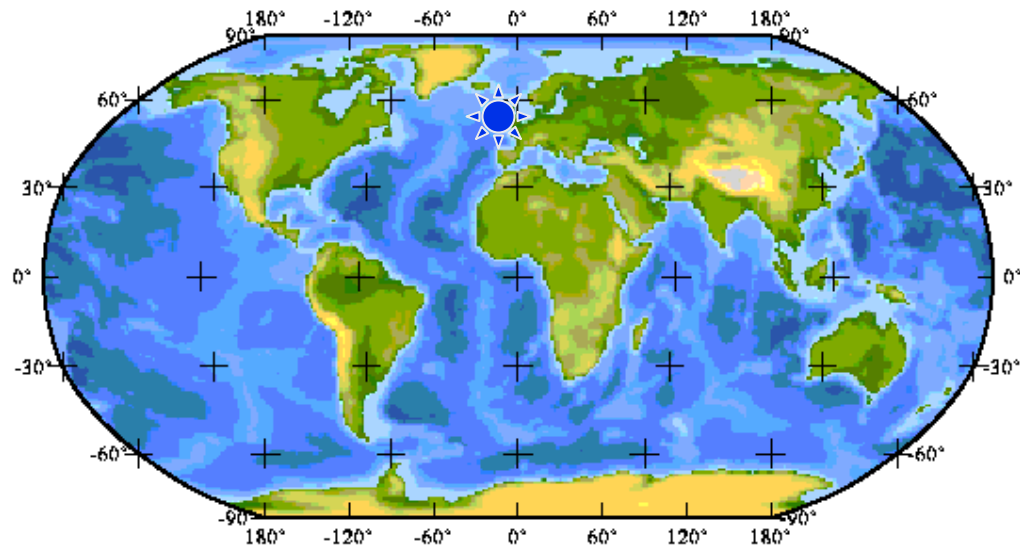
The Nature of Global Interactions



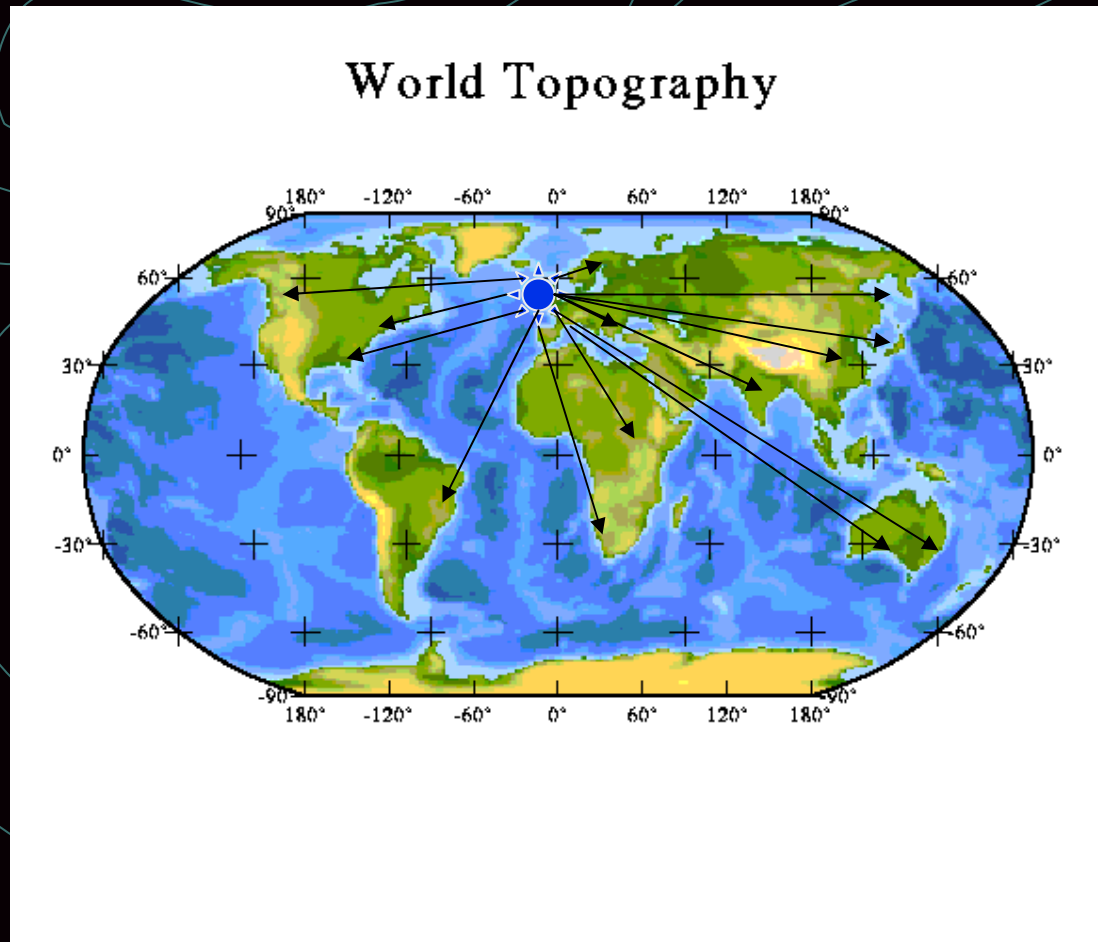
The Nature of Global Interactions

- **International**-relating to or involving at least two nation states, at the level of the nation.
- **Multi-national**-Having operations, subsidiaries, or investments in more than two countries, with a central home base.
- **Transnational**-focuses on the heightened interconnectivity between people all around the world and the loosening of boundaries between countries. Facilitates the flow of people, ideas and goods between regions, with an equality of purpose.

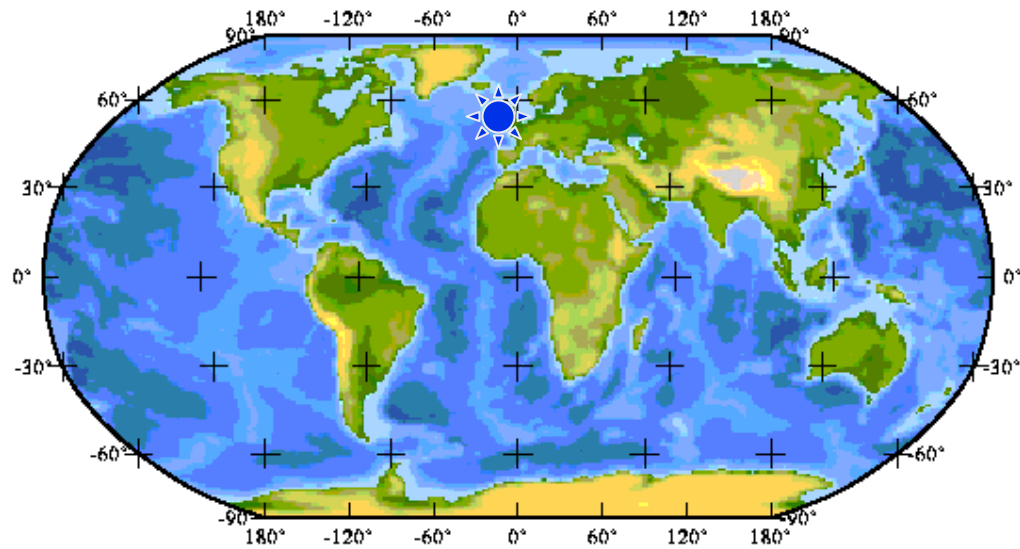
World Topography



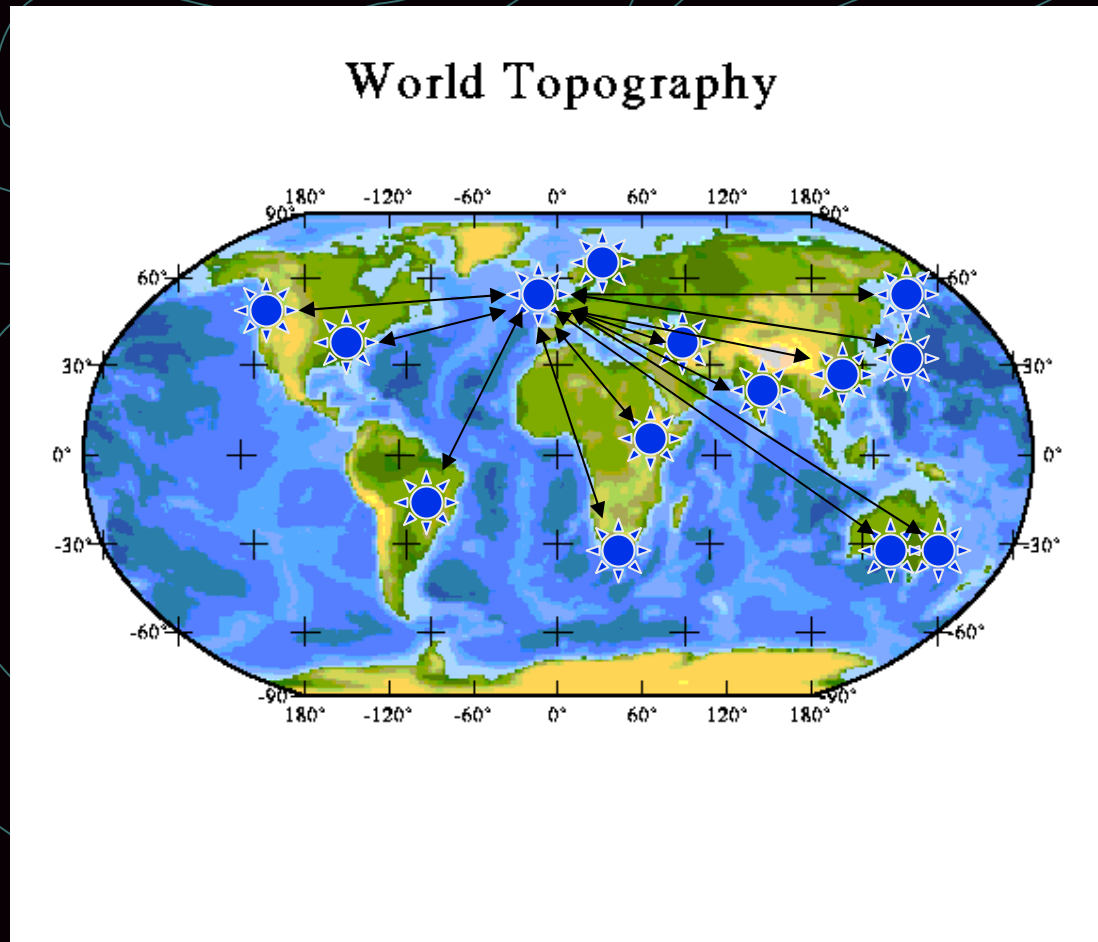
Multinational



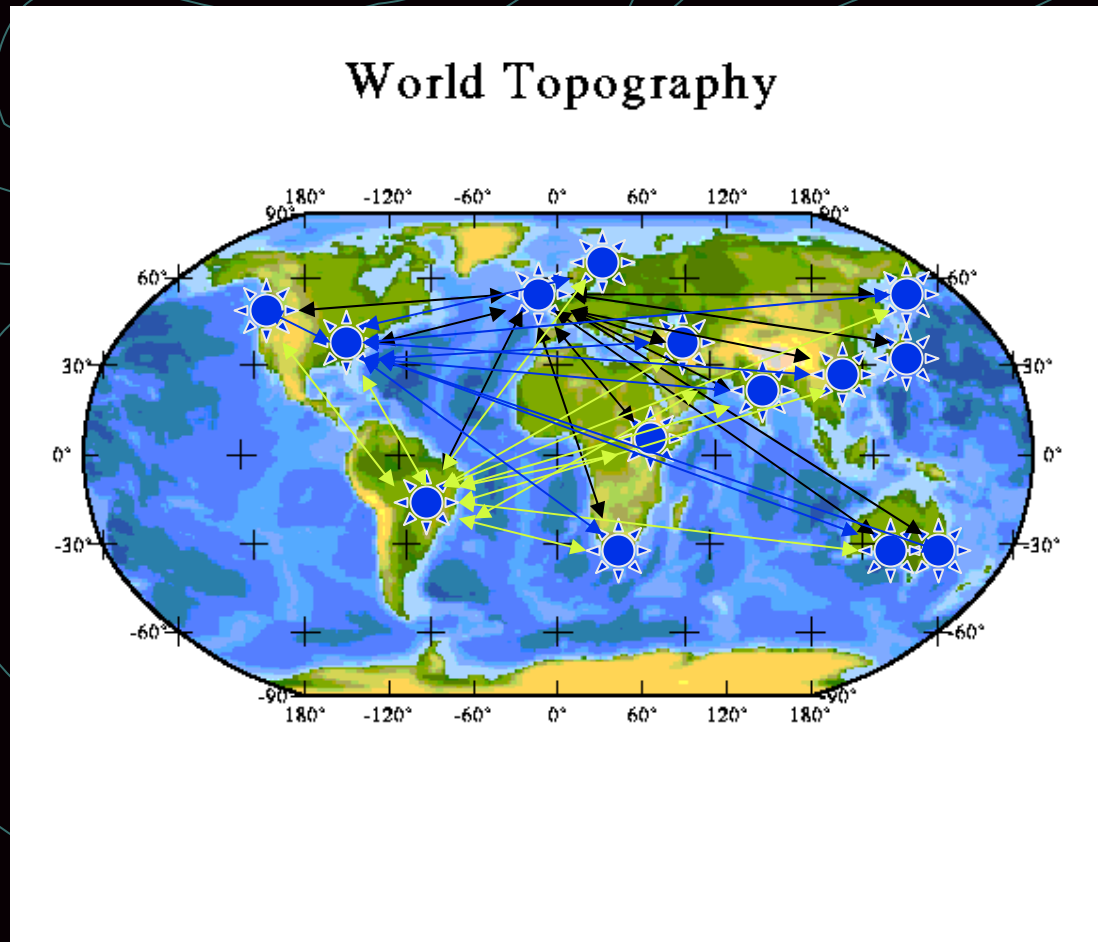
World Topography



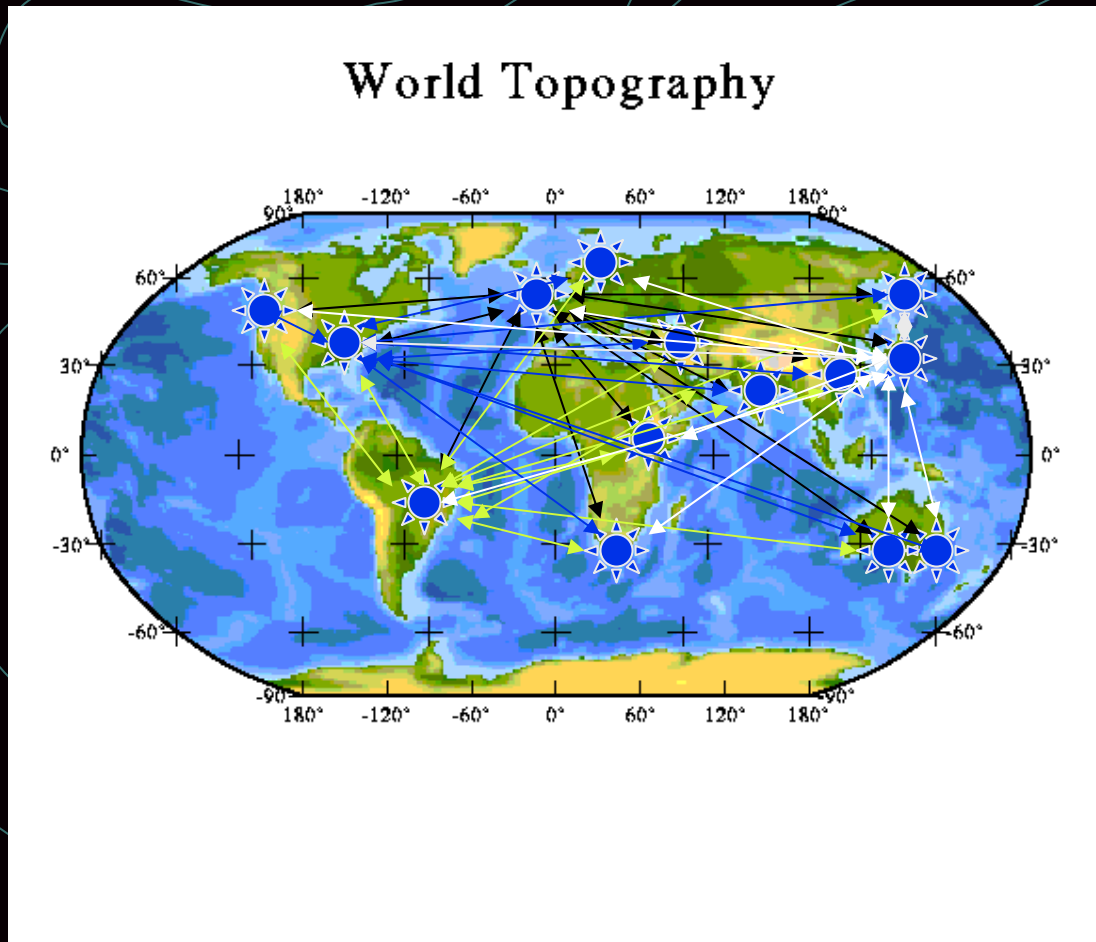
Transnational



Transnational



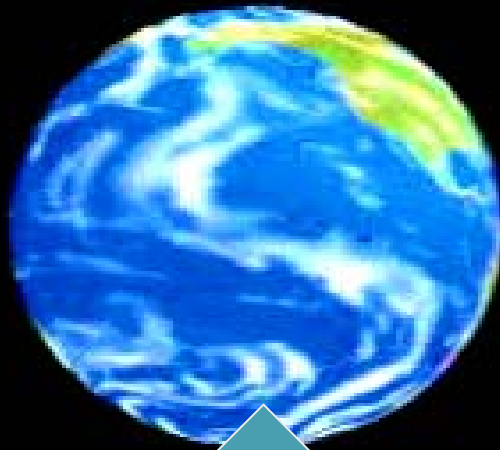
Transnational



To summarize:

Information
Revolution
tells us to
expect serious
change.

Relevant



Global
change

Safety -
need rules
of
engagement
if there is
dispute



Obligation - to help with learning/therapy opportunities

Competitive Advantage through Synergism - self interest

Further support

- “ It is in the area of transnational problems.....that there is the largest scope for expanding or building new international partnerships”

The final Report of the Foreign Policy Project - “The Partnership Imperative -Maintaining American Leadership in a New Era” - released in 1997.

Further support

- Addressing issues through a Transnational approach with a “cooperative set of partnerships is also in the best tradition of melding self-interest and broader global interests, of both doing good and doing well.”

The final Report of the Foreign Policy Project - “The Partnership Imperative -Maintaining American Leadership in a New Era” - released in 1997.

From 1,000,000 kilometers

-centered on Iowa City and Adelaide respectively



With a 58 degree arc



With a 15 degree arc





So what is a Transnational Academic Alliance?

Adapted from:
Collaborative Advantage: The Art of Alliances
Rosabeth M Kanter; Harvard Business Review
July-August 96-108;1994

Forming and developing a Transnational Alliance

- They are living systems, not just a deal.

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- They are living systems, not just a deal.
- Must be benefits to all participants.
- Need to create new value by collaboration, rather than just an exchange. Participants must value each other.
- A formal system or agreement does not work. Need inter-personal connections to make things work. The relationship is managed - not the deal.

Forming and developing a Transnational Alliance

- ⌘ Need to value financial, political, cultural, organizational and human aspects of the relationship - not just one of these.

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Forming and developing a Transnational Alliance

- ⚙️ Need to value financial, political, cultural, organizational and human aspects of the relationship - not just one of these.
- ⚙️ Need to have relative equality for each participant - like the internet there is a distributed relationship.
- ⚙️ The Transnational Management - and local champion - needs to be well accepted (liked and respected) by all participants.

Forming and developing a Transnational Alliance

- Able to satisfy participant's needs.

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Forming and developing a Transnational Alliance

- Able to satisfy participant's needs.
- Able to think and behave globally.
- Able to overcome parochial attitudes and jealousy from within.
- Able to have senior managers who have a great comfort level in both settings.
- Able to make the most of the competitive advantage by sharing technology and processes, and having uniformity where that is important.

Forming and developing a Transnational Alliance

- ❖ One other problem - what are the rules?
- ❖ A way of solving that is to have each member function under the existing rules of their institution.
- ❖ This local umbrella provides some rule based coverage, with the expectation that members of the alliance function under this broad category.

Forming and developing a Transnational Alliance - the 5 steps

1. Meet, initiate

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2. Draw up plans / close the deal.

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Forming and developing a Transnational Alliance - the 5 steps

1. Meet, initiate
2. Draw up plans / close the deal.
3. Discover the differences.
4. Bridge the differences.
5. Participants are now changed, and are comfortable.

The image features a topographic map of a region, likely in the western United States, with contour lines and a yellow road. A blue diamond logo with a white border is centered at the top. Below the logo, the text 'IOWA / SOUTH AUSTRALIA TRANSNATIONAL ALLIANCE' is written in white, bold, sans-serif font. A white arrow points from the left edge of the map towards the text.

ISATNA

**IOWA / SOUTH AUSTRALIA
TRANSNATIONAL
ALLIANCE**

Initial barriers: 1996

- The world wide web is a passing fad and will never support images.
- Our two universities will work with you if you exclude the third.
- How much are you getting paid to do this?

ISATNA

Participating Institutions

South Australia

- University of South Australia
- University of Adelaide
- South Australian Health Commission
- Royal Adelaide Hospital
- South Australian Research and Development Institute
- Flinders University
- South Australian Government

Iowa

- University of Iowa
 - College of Medicine
 - College of Pharmacy
 - College of Nursing
 - College of Dentistry
 - College of Engineering
 - College of Business
- University of Iowa Hospitals and Clinics



● Meet, initiate

The overall vision is of a pro-active, co-operative, Transnational Alliance that seeks to maximize the Core Competencies of the Academic Institutions in Iowa City, USA and the Institutions in Adelaide, Australia. This is expected to provide advantage to both geographic sites in attracting external grant support, in attracting students, and in the Health Sciences Area, patients. The vision is an exchange of ideas, technology, students and staff.



● Meet, initiate

The synergistic interaction will provide a greater global presence for both groups, and will provide a further mechanism for each group to compete in the Global Economy.

There are clearly tangible benefits as well as intangible ones.



● Meet, initiate

- The next phase was to examine the Legal, Collegiate and Business Aspects in more detail - position papers on these were written.
- These were submitted and accepted. Similar due diligence was undertaken in Adelaide for the Legal aspects.



● Draw up plans, close the deal

Mission Statement

To provide advantage to the broad academic programs of the University of Iowa and participating institutions in South Australia, by providing a mechanism for communication, collaboration, and co-operation in areas of basic and applied research, in educational activities, and in clinical areas.



● Draw up plans, close the deal

Strategic Objectives

1. Facilitate the core competencies of the University of Iowa and its associated hospitals, and the Health Science areas in South Australia, in the areas of education, research and patient care.
2. Initially focus on tele-medicine, tele-education and other related information technologies, with a view to value-add to existing projects.
3. Nourish the Transnational Alliance to support its growth.



● Draw up plans, close the deal

Strategic Objectives

4. Enhance the capabilities of both centers to cope with the unprecedented rapid global changes in technology, in organization, and in the health care environment.

5. Evaluate collaborative revenue generation from spin-off products and/or services.



● Discover the differences/barriers

- major barriers have been to interact with multiple institutions that often have been competitive, and to overcome parochial attitudes and biases.
- further barriers have been to align the process in both geographic sites.
- South Australia sent one position paper to Iowa that had been unilaterally developed by South Australia on multi-national lines - this was rejected. But almost stopped the process.



● Discover the differences/barriers

- A further position paper was prepared with input from both participants; this outlined the development of proof of concept modules : these encompassed several examples such as a joint development of a large project, joint development of a web-based educational tool, joint development of a clinical protocol, student participation, and facilitated faculty visits.
- This approach was accepted bilaterally.



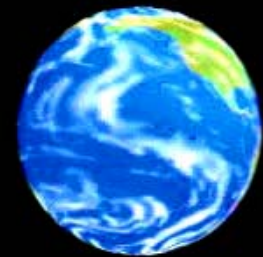
● Bridge the differences

- this appears to have been done
- new differences, however, will emerge
- and they did!

the predator

● Participants are now changed, but very comfortable

- at each end there is a champion - but expect turnover
- unanticipated benefits have been really good




















Truth/Opinion

- and your practice

Understanding Clinical Truth and Training?

- In 1800, it was Benjamin Rush (1745-1813)
 - he studied in Edinburgh, and then taught at the University of Pennsylvania.





“We live in a revolutionary age. Our science has caught the spirit of the times, and more improvements have been made in all its branches within the last 20 years than had been made in a century before”

Benjamin Rush 1791

A Clinician has the following strong attributes :

- Personable and Adaptable.
- Solid Perceptive and Analytic skills, Creative, Ethical and Intuitive.
- Informed.
- “Chunking” thinking; able to Integrate complex information.
- Empathic and Holistic.
- Excellent Communication skills.
- Excellent Clinical skills.

Most of these are not easily measureable, or even understandable.

But clinical practice is more than this!

“Medicine is but one aspect of the general civilization of a period, expanded into a broad sociological context...within a matrix at once political, economic, social and cultural.”

George Rosen -1958

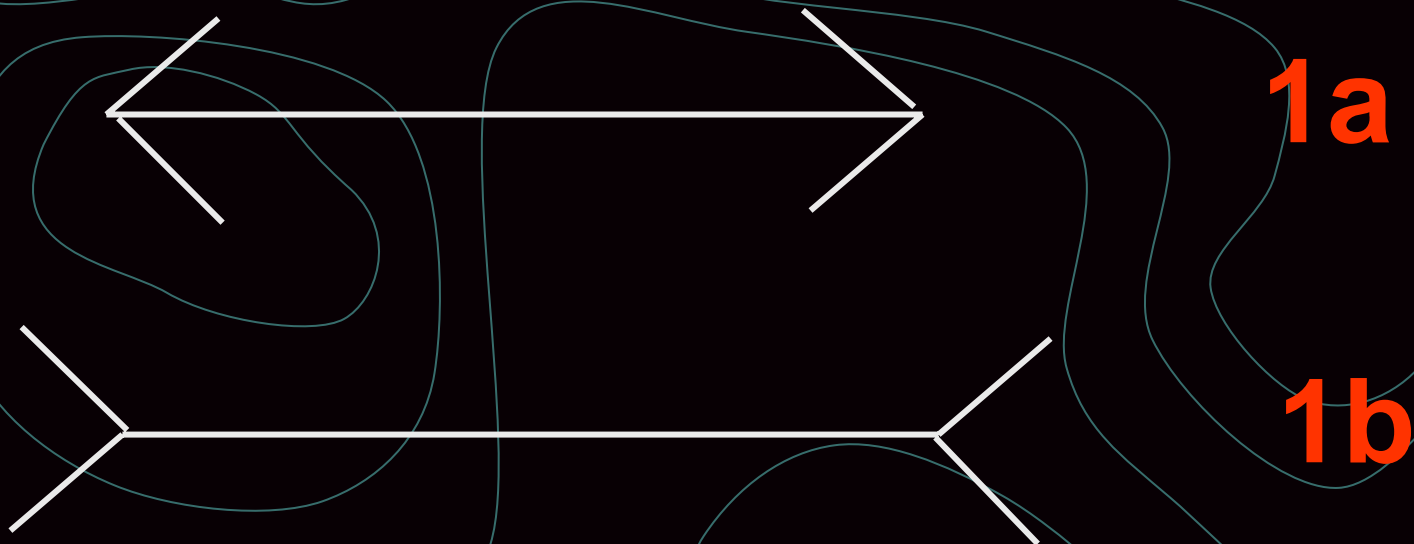
How are we rated on developing and maintaining the Clinician attributes?

- Personable
- Perceptive (observant) -cognitive skills - these can be taught, but usually are assumed. We can examine briefly perception characteristics as follows, and we must have a solid understanding of these. But as people engage in transnational interactions, they must understand that they are perception limited.

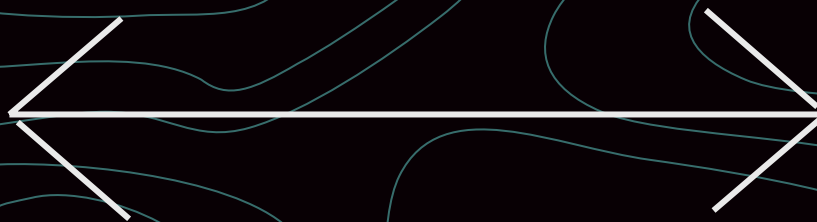
Perception limitations

- There are 8 well defined categories of perception limitations.
- We will look briefly at a couple of those.
- On top of these inherent limitations there are also significant additional limits associated with language and cultural differences.

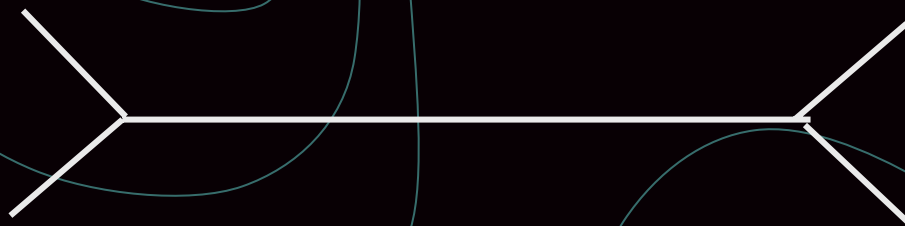
1. Perception limitations



1. Perception limitations



2a



2b



1. Perception limitations

FINISHED FILES ARE THE RESULT
OF YEARS OF SCIENTIFIC STUDY
COMBINED WITH
THE EXPERIENCE OF YEARS....

2. Perception overconfidence

- ❖ Adonis was the god of love or vegetation?
- ❖ The potato originated in Peru or Ireland?
- ❖ The first aerial bombing took place in 1937 Or 1849?
- ❖ The first country that is reached flying due south from Detroit is Canada or Cuba?
- ❖ To reach Reno, Nevada from Los Angeles you travel North-west or North -east?



7. Perception arrest

This sentence is not true.

The Mobius ring

What is the truth?

SPICULATED NODULE

Instructions to Thoracic Radiologists were
"Draw the Boundary of the Nodule"



SPICULATED NODULE

Expert Number 1 Contour



SPICULATED NODULE

Expert Number 2 Contour



SPICULATED NODULE

Comparison of Contours



Clinical practice

We need to listen to the past,
And understand that the information
Revolution will cause an evolution in
clinical practice. Within the
revolution, we are within
society. But it is needed to allow the
evolution of humanity.

Intelligent within the
clinical community

To allow adjustments, and appropriate
evo-revolution.

So far this is not happening.



The Multidisciplinary approach to Health Care

- a long and winding road

Health care practice

Goals:

- Provide the highest quality care to our patients

Method:

- Be aware of, and incorporate the best clinical evidence into our patient care

Health care practice

- The two issues that are emerging as health care becomes more complex - the need for specialized health care professionals, and the need for these professionals to collaborate in a team.
- BUT team building is recognized as very difficult in the health system.
- AND education of how to function within a team is essential, but seldom provided.

Med Educ. 2001;35(9):816-7

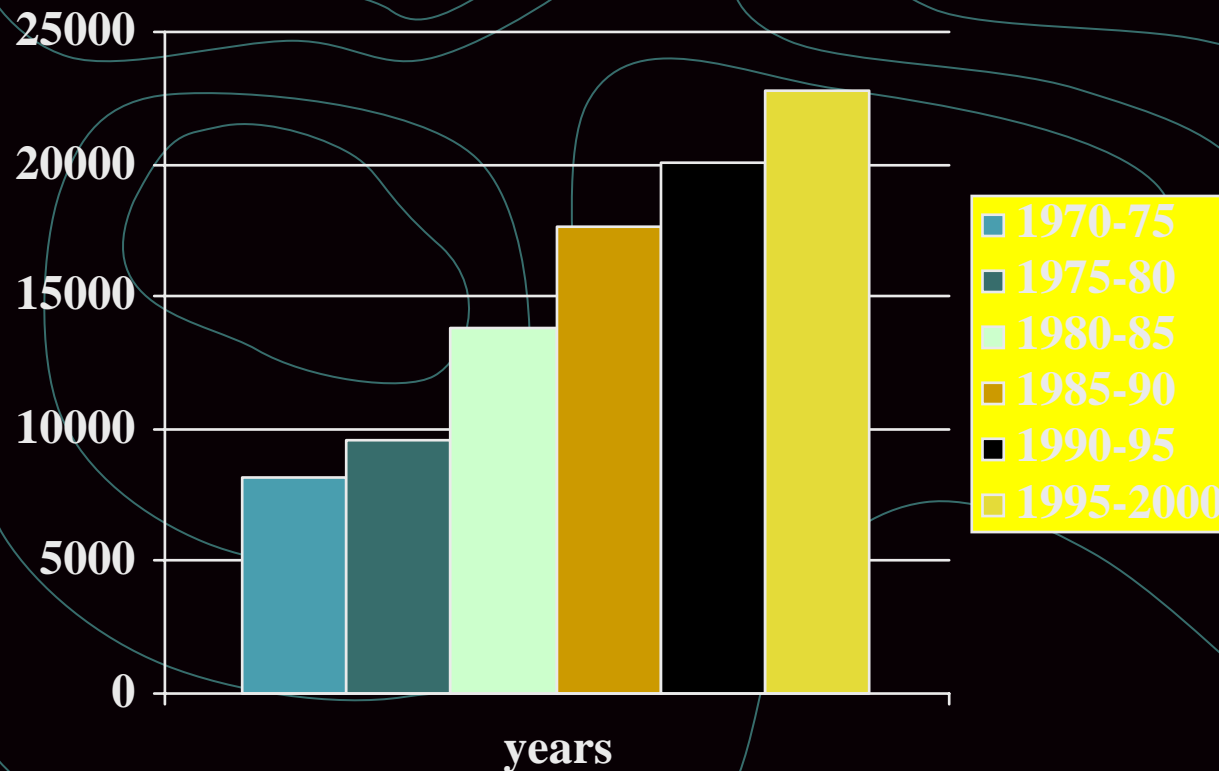
J Allied Health 1981;10(4):240-7

Health care practice

- ⌘ The reaction to the increasing complexity is also to provide more complexity in the form of new technology - this usually further overwhelms the recipient.
- ⌘ For instance, lets look at lung cancer (my field of interest)

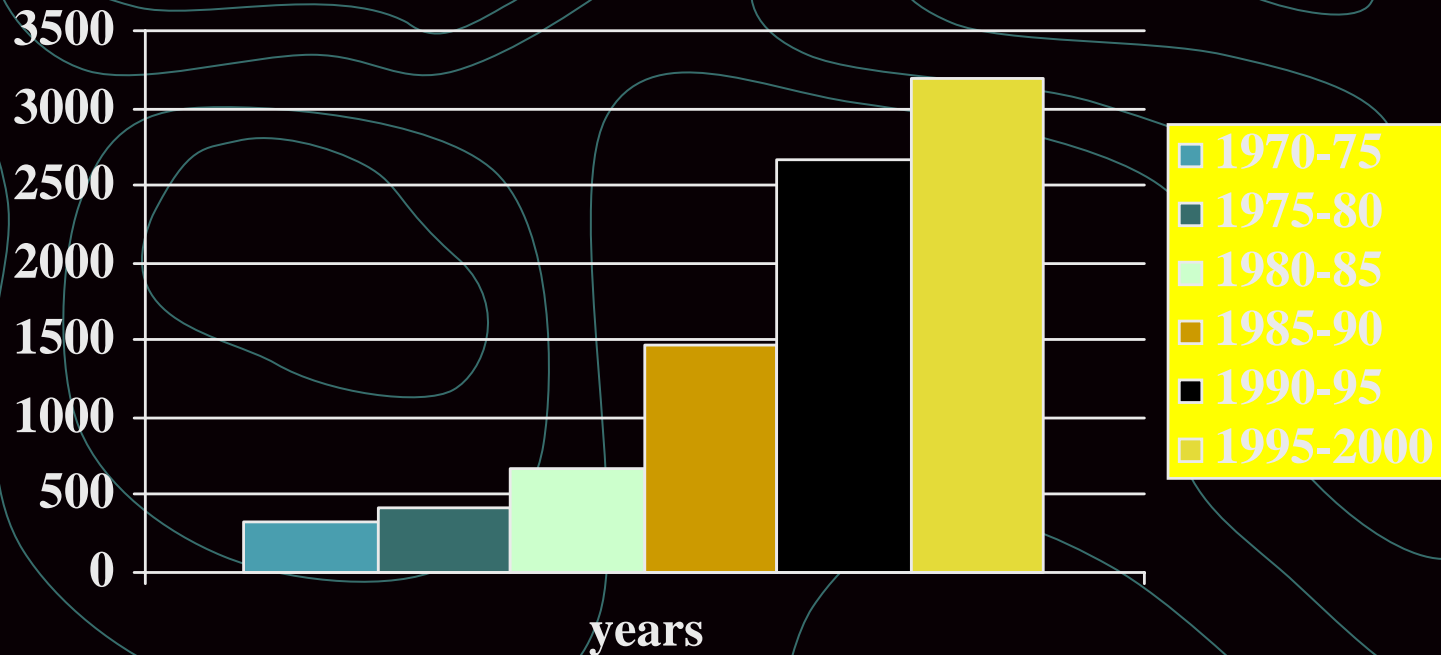
Complexity

Education - number of articles on lung cancer



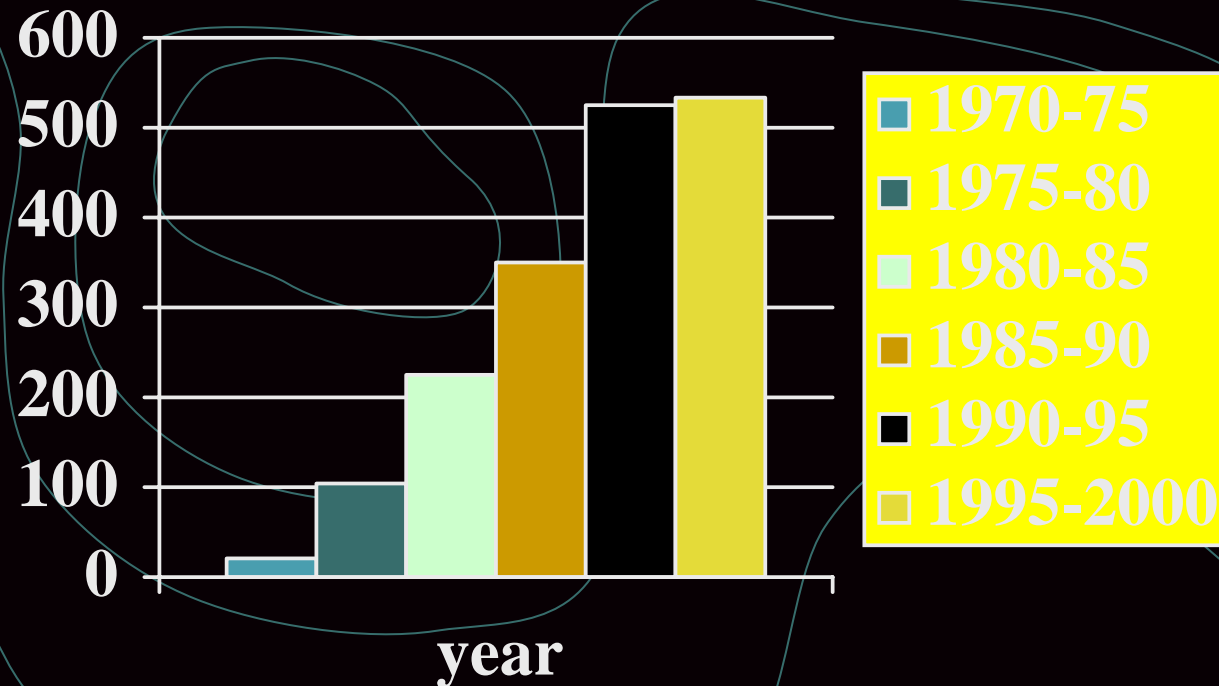
Complexity

Education - number of review articles



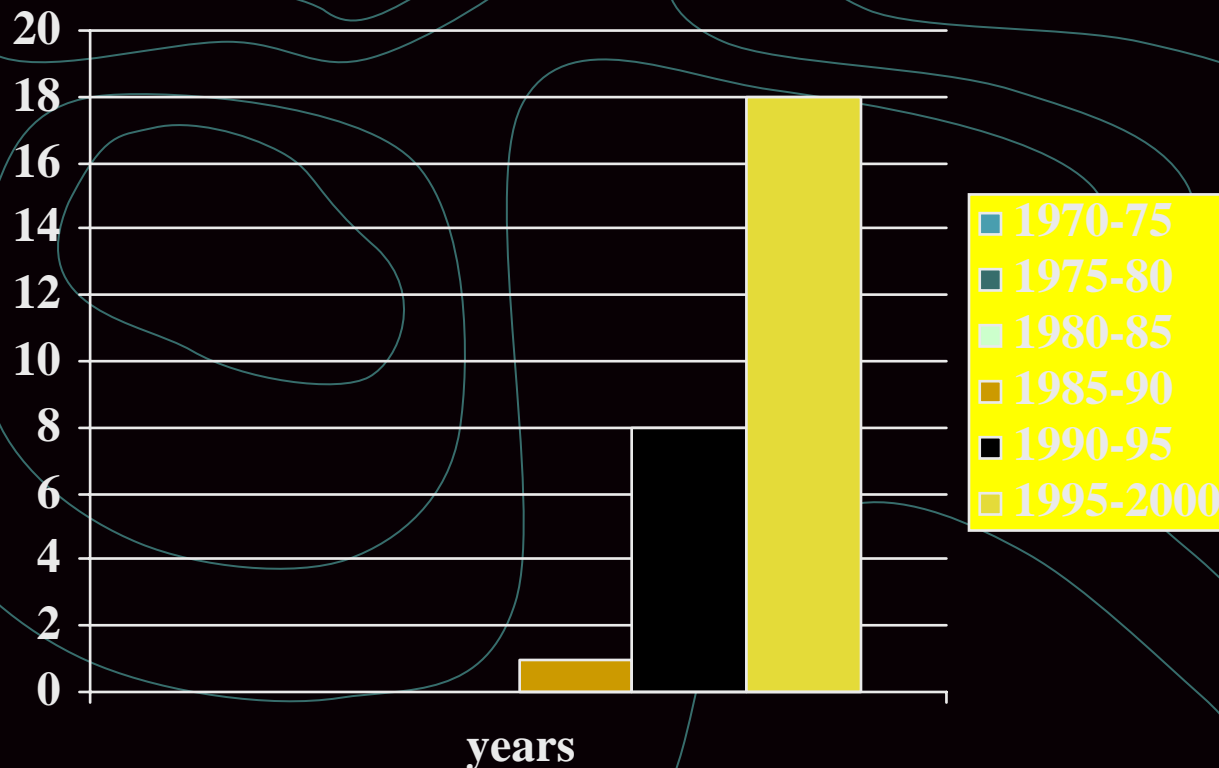
Complexity

- Education - number of randomized controlled trials in lung cancer

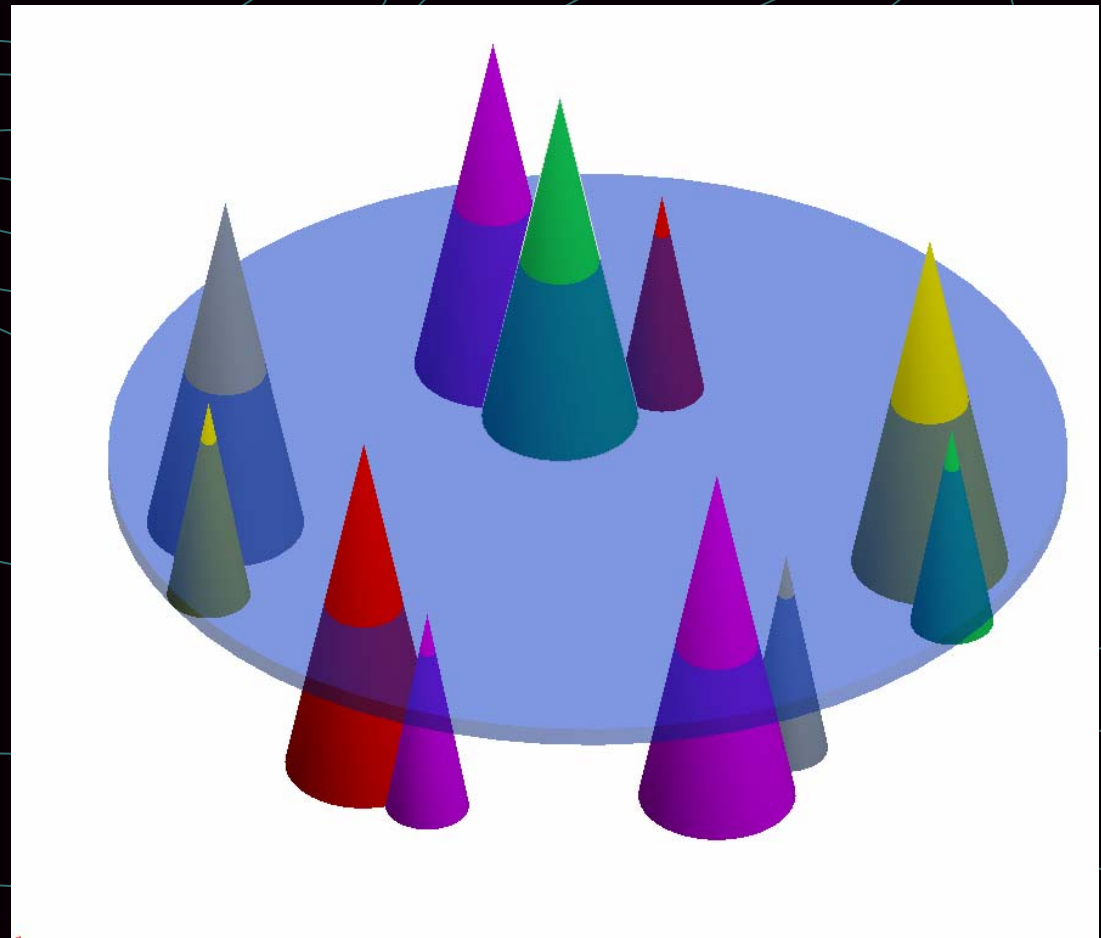


Complexity

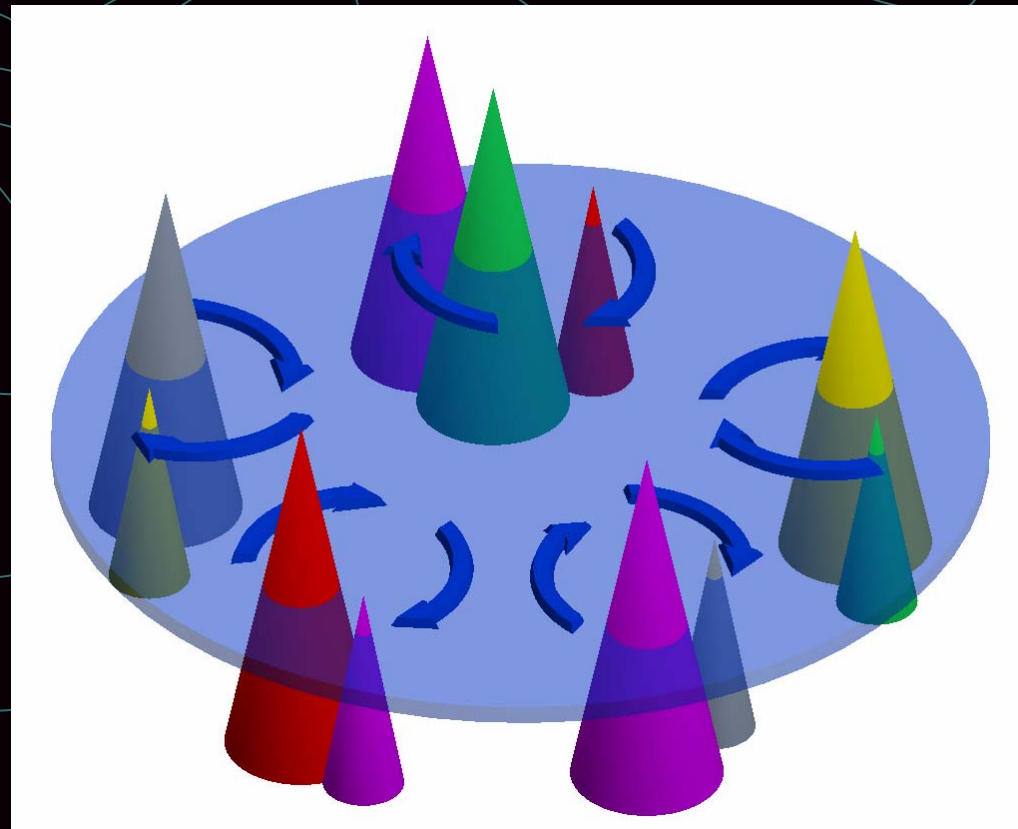
- Education- practice guidelines in lung cancer



This can be represented further in the following image, where the multidisciplinary group is portrayed as a sheet of glass, supported by the individual vertical disciplines/career tracks.



In this setting, individuals contribute expertise/time to the group, with a synergistic interaction that strengthens the group. Part of the output from the group is value back to the individual - a value that could be greater than the input value. For each group member, these individual inputs and outputs also need to be understood, managed, and constantly re-visited.



The multi-disciplinary team must recognize that:

- There needs to be a very clear unique purpose, that is considered important.
- The specific goals must be clear.
- The methods to accomplish those goals must be known and available.
- They must have the right skill sets.
- They must be accountable to themselves.

The multi-disciplinary team must also recognize that:

- ❖ The team (or individual members) does not derive power, authority or influence additional to their usual linear employment, outside of pursuing their clear unique purpose.
- ❖ The team must revisit and refine/revise all of these aspects regularly, in a collegiate manner, using a process such as the balanced score-card approach.

Goals frequently expressed by the multi-disciplinary Idealist

- ⌘ Educational objectives
- ⌘ Better patient care through cooperative guidelines and/or opinions
- ⌘ Good data management for tracking patients, and for entry into clinical trials

Goals frequently expressed by the multi-disciplinary Idealist

- Cooperation from diverse specialties for the common good
- Cheaper care, by limiting tests
- Better outcomes for the patient
- The ability and desire to rapidly explore novel approaches



Very unusual goals for the Multi-disciplinary Idealist

- To generate more income

Different styles within a group must be recognized

I believe!

Where is the data?

unitary

sensory

mythic

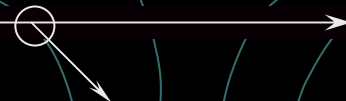
social

I need to see the overall picture!

Society will be better!



Visiting the future



- the need for a new communication language

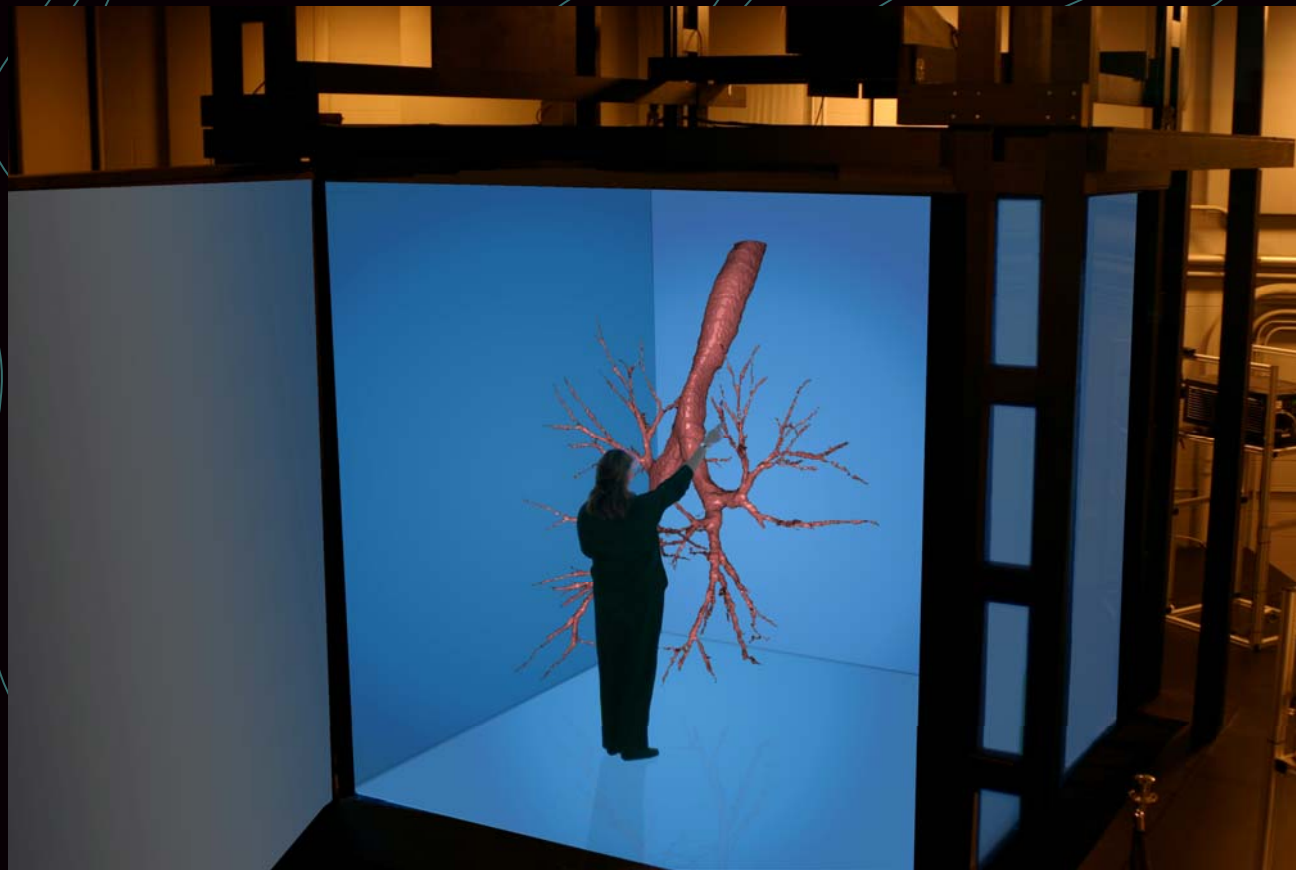
Eidomics

- As information becomes more complex there is more of it, how do we view it, and absorb it?
- The answer is likely through imaging, with the creation of a new language.
- This new language will be personalized to the needs of the care giver and care receiver.

Eidomics

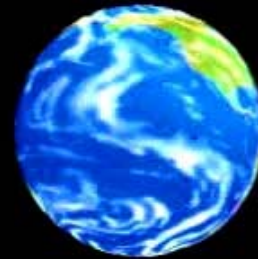
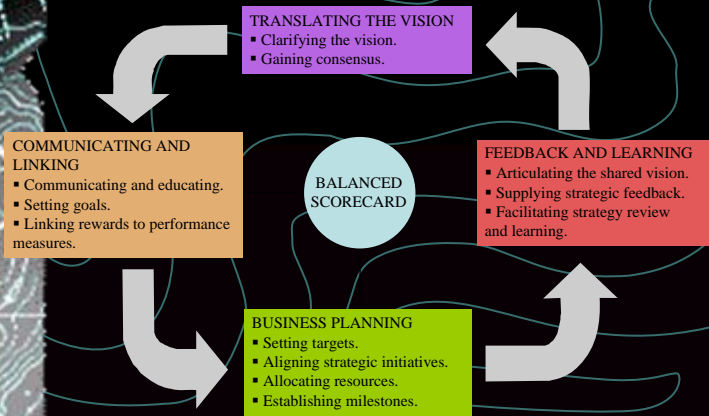
- ⌘ The new language will be part of a new discipline - eidomics.
- ⌘ This relates image/structure (eidos) to biology (-omics), together with animation/simulation and artificial intelligence.
- ⌘ This again will be another consequence of the computer-aided information revolution.

Eidomics

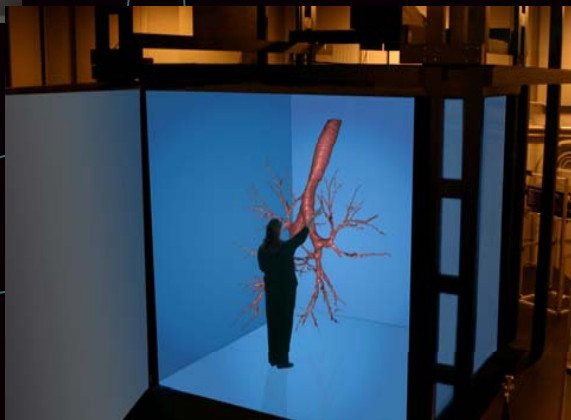
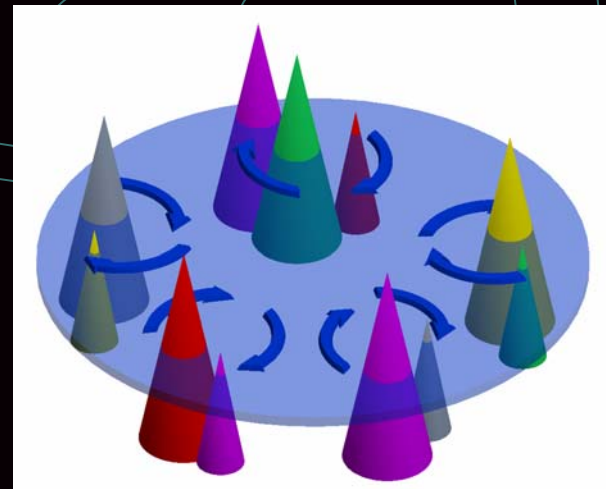


Eidomics

Time and a decompressor
are needed to see this picture



TRUTH



Broad discussion questions that might help


- What is “the common good”
- What is the definition of disease?
- Is there such a thing as a diagnostic test?
- What is the truth?
- How do I know what is right and wrong?
- Who does this emerging group serve?

“For each age is a dream that is dying
Or one that is coming to birth”

O’Shaughnessy 1881



Thanks for listening

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- One never goes so far as when one doesn't know where one is going. • *Goethe - Letter to Carl Friedrich Zelter (December 3, 1812)*
 - "Divide and rule, a sound motto; unite and lead, a better one", Goethe