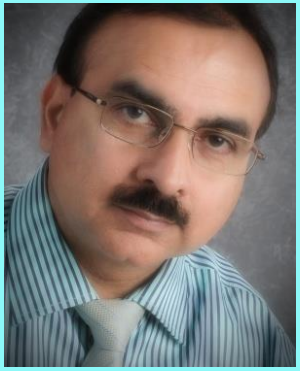
Forming Cognitive-nets & Social-nets can inspire creativity with the power of Cognitive Diversity



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- Human powers to think, compare, and make inferences
- Thinking of infinity
- Nets of ideas
- Nets of subjects and fields
- Inner nets and outer nets (a possible seed for new theories)

"Instead of looking toward a single region of the brain for answers, scientists are focusing on the various circuits that connect multiple brain areas."

(The Brain — The Ultimate Guide Pg. 72)

"Intelligence and creativity are linked to how fast your brain works and your own unique neural connections." (ibid. Pg. 70)

"…….successful innovation depends less on how smart you are than how connected you are ….."

—Mark Thomas and Stephen Shennan,
University College London

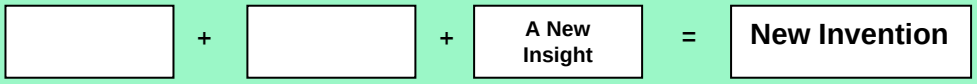
Few common examples (Many extensions can be compared)

Subject 1 + Subject 2 = A New Field of Study
Idea 1 + idea 2 → Leading to new levels of innovations
(Or more than two combinations can also be observed)

Linguistics + Computers = Computational Linguistics
Quantum + Biology = Quantum Biology
Linguistics + Palaeontology = Linguistic Palaeontology
Social Processes + Neuroscience = Social Neuroscience

Inventions by combining two technologies or two gadgets or more

Car + Bike = Car Bike
Cardboard + Bike = Card Board Bike
Binary Math + Electronics = Computers
Phone + Internet + Touch screen =?



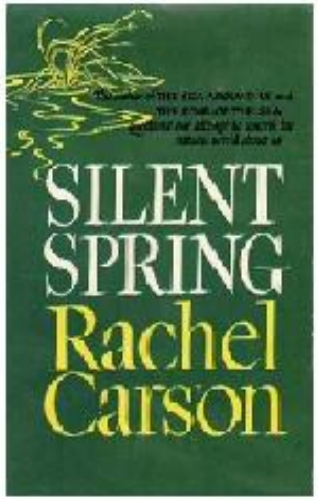
Also some INVENTIONS stem from multiple insights beyond common patterns

Rachel Carson
1907-1964

Acquatic
Biologist

Imagination
Thought Experiment

Writing Passion



Environmental
Movement

In the year 2014- A Nobel Prize (for Medicine) was given for the *"discoveries of cells that constitute a positioning system in the brain"*. {Like an inner GPS in the brain}

One of my possible hypotheses to explore further - a seed for creativity:

Making nets of ideas and nets of subjects in our learning environment can also inspire unique and faster neural connections to facilitate our learning, innovation and understanding

"highly regular grid like structures in the brain",

A National Institute of Health study. Book "How to create a mind" by Ray Kurzweil Page 84

"The construction of stronger, more efficient networks (faster retrievals, greater transfer) in long-term memory is stimulated by repeated activation of the circuit, such that practice makes permanent."

Mind, Brain & Education. David Sousa [et al] 2010

This interdisciplinary research will need experts from various fields to work on it

(e.g. Neuroscience, education, psychology and more)

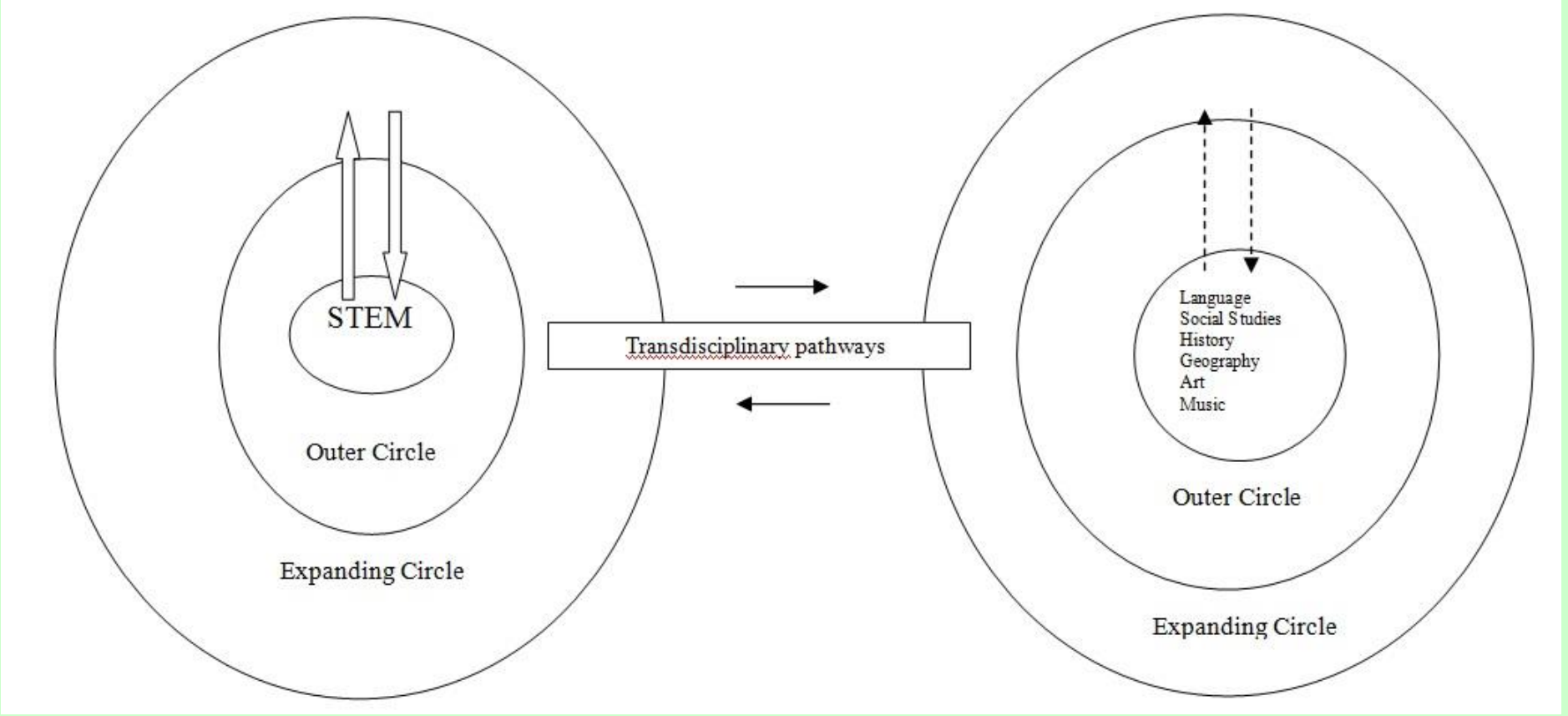
Linking theory, research and practice

MBE = Mind, Brain & Education

STEM = Science, Technology, Engineering and Math

Joining the oceans of the two growing fields

What are some common cognitive tasks/ thinking approaches in the disciplines discussed previously, leading to transdisciplinary level?



Creativity and the Quantum Leap

- Human creativity!
- Continuous Pattern or not
- Sudden moments (Like lightening) leading to a discovery, new idea

- Bath…. [**Archimedes**]
- Bed….. [**Kekule**]
- Bus….. [**Poincare**]

See details in the *Encyclopedia of Creativity* vol 2. pg.494

[Momentary Brain Wave]

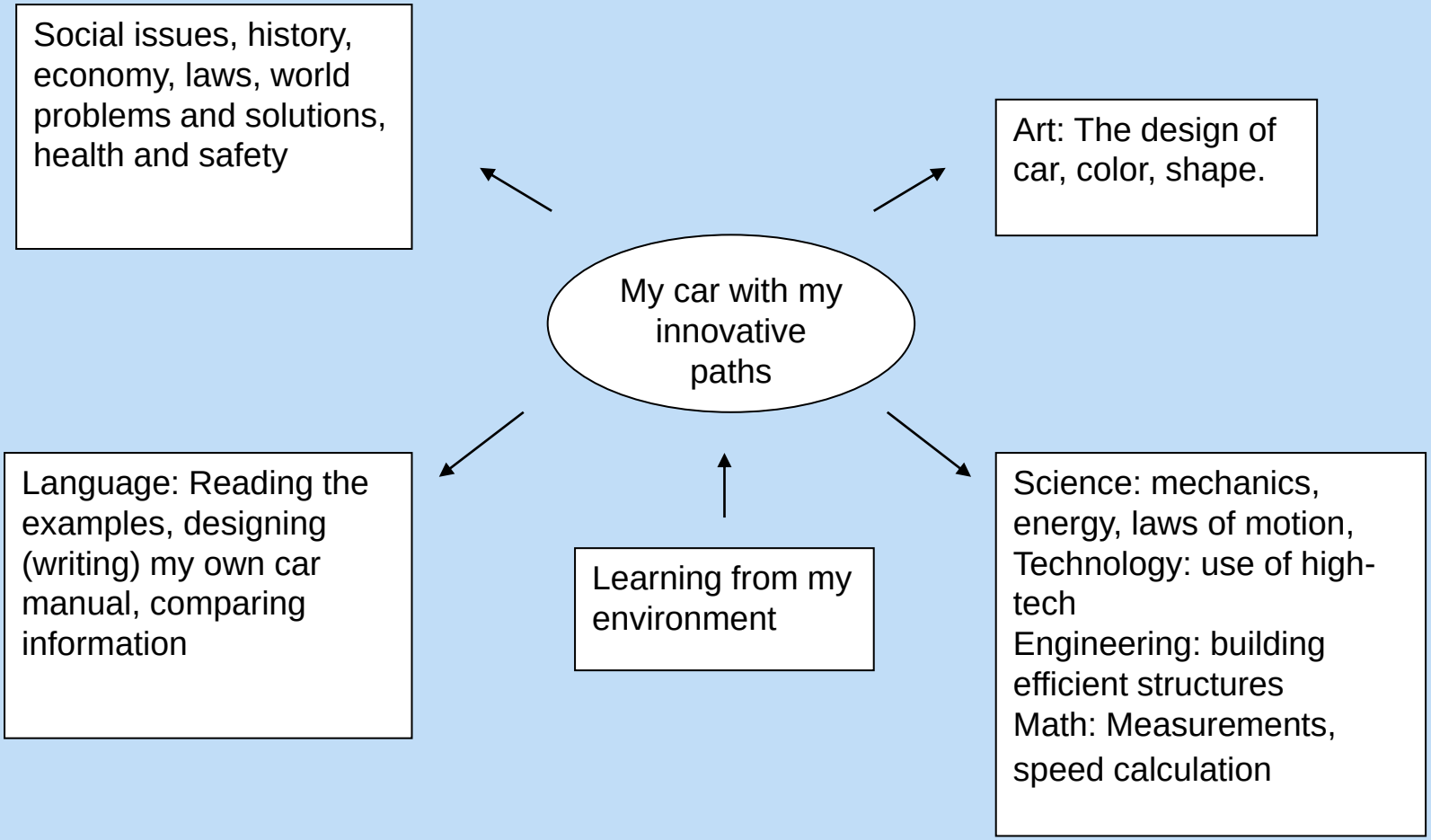
Experimental Pathways for STEM
Links and leads to lead!

"We think that there is much overlap between the form of everyday explanation used by non-scientists and explanations used by scientists."

Keil, F.C and Wilson , R.A (2000) *Explanation and Cognition*. P. 281. A Bradford Book. The MIT Press.

Example:
Designing a car can have multi-subject dimensions and beyond imagination connections of creativity

One topic with many links and extensions



MATHMAT

A Way to Teach Math

Children Learn About Math concepts as they stand of the floor and move on the squares of the floor, which has certain numbers on it-

Math and kinaesthetic learning

Facilitating understanding of students

[Almost all strands of math can be included for elementary grades]

Children also learn through the easy version of higher level books, such as Children's Oxford Dictionary, Children's Britannica etc.

-Time to research and explore the effectiveness of this type of literature for children

Children's Research Journals

(Simplified version, simple text, easy to understand pictures, less complicated math) can be published in many languages and in many subject areas to enrich our academic world

Why we need to introduce simplified version of research journals for children?

-For example, think of an interesting research article from a research journal

-Presenting it in a simplified language, simple pictures, easy to understand math for children (the essence of the research).

We collect data from children about their learning- Perhaps we don't inform children about the outcomes of the research!

Also inspiring children to write articles for research journals (Children)

George Eckert Institute is internationally known on textbook research.
This idea is published through *Edumeres*:
http://www.edumeres.net/uploads/tx_empubdos/Qadeer_Children_Journals.pdf

Energy, Force, Work, Power
What is the difference !

"Energy" is used in everyday life and in science

What do you understand by the word "Energy?"
In how many ways do we use this word?

-Students write their definition(s) of Energy
-Then they explore from textbook(s) or other resources, and re-write the definition

The cognitive map of learning in various domains!

My definition(s) of energy	I explored the definition(s) of energy	My new definition (understanding) of the word energy

Introducing research on **corpus linguistics** and **collocations dictionary** is also useful to provide a view from **computational linguistics** and inspire teachers'/students' thinking to observe and compare multiple dimensions.

The economics, careers and cognitive-nets
From IQ to EQ, MQ and BQ
Are we going to look for "Interdisciplinary Quotient" as well?

The world of next generations of technology based automation will also make new combination of fields with new type of careers.

Carl Benedikt Frey and Michael Osborne, of Oxford University, estimate that **about 47% of the fields and occupations can be taken by Internet automation revolution, in a short period, possibly from one or two decades.**

(Carl Benedikt Frey and Michael A. Osborne have discussed this challenge in their paper *The future of employment: How susceptible are jobs to computerisation*, published on September 17, 2013.)

The field of education is emphasizing about
EQ (Emotional Quotient),
BQ (Body Quotient),
MQ (Moral Quotient)
along with more conventional IQ (Intelligence Quotient)

Perhaps the next wave of social, economic and education needs will look for "Interdisciplinary Quotient."

[Jobs with multiple links to STEM- the new trends have arrived]

New Book:

HOW TO CREATE AND EXPLORE COGNITIVE-NET

Some Tips Some Pathways

A SECRET TO INSPIRE YOUR CREATIVITY

This book is FREE online. Please check the link:

https://onedrive.live.com/redir?resid=BF15A67314F19523!127&authkey=!AOcrt49xGgKjGHA&ithint=folder%2cpdf

Exploring our cognitive-nets

In which ways can it be applied to our various aspects of life?
How we can inspire our creativity?

Rachel Carson, Abdus Salam, Einstein and others—exploring some unique ways of making connections!

A book (about 11000 words) highlighting some unique aspects

Joining the oceans of creativity—leading a way to new pathways
A seed for growing multiple dimensions of our creativity!

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