MINDSETS, FUTURES AND INNOVATION

Christine MacNulty, CEO Applied Futures, Inc.

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Christine.macnulty@applied-futures.com,
What do you see?

Innovation frequently requires a change in perception
Can you un-see?
Disruptive Change is Accelerating with Implications for DOD and Industry

Assumptions

• Warfare has already moved away from just force on force.
• Old and new peer competitors will wage conflict with many non-traditional elements of power, including UW, COIN, CT, Cyber, EW, and more – Gray Zone activities and Unrestricted Warfare.
• Non-state actors are using almost entirely the same elements

Dr. Tom Burns, DARPA, and others. are saying that a fundamental tenet for future success must be:

**Master and Impose Complexity as a Weapon**
in order to create many simultaneous dilemmas for an adversary (i.e., complexity) in a manner that is difficult to counter (i.e., asymmetric).

**Obtain advantage through architecture and agility, composable systems – and people**

*This all requires seeing things differently*
Are Mindsets and “Boxes” Likely to Inhibit Your Success In The Future?

What do you see—a hag or a beauty?

Getting out of our Boxes is hard and time consuming—even for creative teams.
Invention, Innovation and Bright Shiny Objects

**Invention**
- Is the creation of a technology, product or process for the first time

**Innovation**
- Is the practical application of the invention or
- An improvement on the invention

**Bright Shiny Objects**
- Are things – inventions, technologies, products or systems – that grab the attention of people, whether or not they are useful

Beware Bright Shiny Objects!
We need to go beyond these Bright Shiny Objects.

**Technology**
- Most bright shiny objects are technological – appealing and seductive
- Frequently they come from a technology-push perspective
- It is the imagination of people that create them, and people who use them

**Organization**
- Most organizations, especially in the military have an ancient, hierarchical structure, despite advances in communication.
- What inventions or innovations could we create here?

**People**
- All things – inventions, technologies, products or systems – come from people and their imaginations.
- But we are Mark 1 Mod 0 people – what could we do if we became Mark 1 Mod 1 or even more?
- How can we improve the cognitive performance and psychological SA of people?
- What kind of education and training and augmentation will they need?
Are Current Mindsets and “Boxes” Likely to Inhibit Your Success In The Future

Brain circuits and chemicals act as accelerators and brakes. Subconscious patterns can disempower and create uncertainty. Doubt, fear of risks can inhibit decisions & actions.

Get the brain and body working in coherence!
Mindsets, Brain and Body

**Old Assumptions**

- Focus and Order are good
  - In life
  - In understanding
  - In organizations
  - In research
  - In reaching goals

**BUT**

**New Mindsets**

- Focus can prevent us from being aware of the unexpected
- Focus keeps us in our boxes
- Focus prevents us from connecting dots
- Focus prevents us from seeing things differently

**Fixed Mindsets**

- Possibility Mindsets
Einstein said
"Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution."

Dr Srini Pillay, a famous Professor of Psychiatry from Harvard, says that unfocusing – playing, relaxing, doodling, and even napping, is the best way to become creative, inventive and innovative.

Many famous scientists, including Edison and Tesla practiced unfocusing.

August Kekulé got insight into the structure of the Benzene molecule from this state “... I turned the chair to the fireplace and fell half asleep. Again the atoms gamboled before my eyes... My mind’s eyes, trained by visions of a similar kind, now distinguished larger formations of various shapes... everything in movement, winding and turning like snakes. And look, what was that? One snake grabbed its own tail, and mockingly the shape whirled before my eyes. As if struck by lightning I awoke. This time again I spent the rest of the night working out the consequences.” This gave Kekulé the realization that benzene had a ring structure and, in this way, the valence rules would be observed.
Best Mindsets for Thinking Futuristically & Innovatively

Possibility Mindset
- Curious
- Intuitive
- Open-minded
- Open to possibilities
- “Yes, and...” not “Yes, but...”
- Exploring
- Discovering
- Eager
- Welcomes collaboration
- Willing to take risks

These characteristics can be taught/learned, and practiced
And they can be encouraged by the use of creative techniques

Techniques:

• Metaphor (Simile)
• Wouldn’t it be nice if…?
• What if…?
• Wouldn’t it be nice when…?
• Science fiction / scenarios
• What do we have now that approximates…?
• What would happen if we turn that on its head?
• What if we connect these dots?
• What would X look like, if Y…?
• What if X and Y and Z…?
• …and more…
Useful SciFi
and other books to stimulate the imagination

All these have a good balance between people and technology.

• World War Z, Max Brooks
• Ender’s Game, Orson Scott Card
• Foundation Trilogy, Isaac Asimov
• The Dorsai Trilogy, Gordon Dickson
• The Practice Effect, David Brin

Others:

• The Starfish and the Spider, Brafman & Beckstrom
• Future War, John Alexander
• When Cultures Collide, Richard Lewis
• Unrestricted Warfare, Qiao Liang & Wang Xiangsui
• The Essential Guide to Remote Viewing, Paul Smith
• Analogue Network Security, Winn Schwartau
Let’s focus on People as well as Technology

What will innovation in/for people look like?

• Identify the characteristics of the best of the best
• Identify people who are good at specific things
  • Psychological SA
  • Intuition
  • Understanding cultures
  • Communicating with people of other cultures
  • Seeing whole systems in their minds
  • Connecting dots
• Reinforce their capabilities through neuro-cognitive approaches
• Reinforce their capabilities through long-term careers
• Put them together in teams and units that are synergistic
• Provide them with relevant education and training
Cybersecurity as an Example

History

• Early computers were analogue
• Networks did not exist
• Occasionally people in a single organization connected computers together
• No one thought about computer security
• Then came the Internet and Digitization – and security became an issue.
• But we had a fortress mentality – historical – building firewalls that grew bigger and more complicated.
• No one thought of what might already be in the foundations and basements. Our security paradigm was historical
• And no one thought of the potential risks posed by people

Present/Future

• Until a rock musician with a recording studio decided to become a security specialist
• And with his analogue knowledge developed a new approach - Analogue Network Security
History shows us that it is very difficult to “Institutionalize Brilliance”

Innovation is all about People

In the effort to innovate, the quality of the people engaged in innovation – and their imaginations – are far more important than organizational structure, and also more important than the things.

What can we do to encourage people to use both sides of their brains, expand their awareness and develop mind-body coherence?

The Russians, Chinese and N Koreans are doing it. Shouldn’t we try, too?