

# *The Innovation Killer*

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- *How what we know limits what we can imagine - and what smart companies are doing about it.*

- by Cynthia Barton Rabe

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# The Paradox of Expertise

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- The weight of what we know, especially what we collectively “know,” kills innovation. Yet in many fields what we must know in order to make even the most basic contribution is ever-increasing. It is the paradox of expertise. You can’t innovate with it. You can’t innovate without it.
- There are many examples of individuals with relatively low levels of formal education who were involved in many breakthrough inventions. Examples include the Wright brothers, Bill Gates, Thomas Edison, and Steve Jobs.
- A number of studies show that people are less likely to make optimal decisions after prolonged periods of success. NASA, Enron, Lucent, and WorldCom all had reached the mountaintop before they ran into trouble. Someone should have told them that most mountaineering accidents happen on the way down.

# Rabe Defines Innovation and Finds the Villain.

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- Innovation is the application of an idea that results in a valuable improvement. The ability to think in innovative ways should be a goal for every function in an organization.
- The villain, according to Rabe, is Human nature in the form of a couple of tendencies we just can't seem to get away from.
- The first is ***GroupThink***. This is the tendency we have to try to make decisions that everyone in our close working group will agree with.
- The second is ***ExpertThink***. This is the tendency we have to make decisions with which the “establishment” (the “experts” in our organizations or fields) will agree.

# The Zero-Gravity Thinker/Embedded Alien

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- Experts impose a set of filters that tend to prevent new ideas from getting through the system. The filters help the system get a little better at what it already does, but they act as formidable barriers to doing something a whole lot better or even completely different.
- Rabe has found that the prolonged presence of an outsider, who is not weighed down by the conventions of expertise, can act as a hyper-stimulant for creative ideas. Deep expertise plus expertise in a different but related discipline seems to be a formidable combination. Rabe refers to such outsiders as **Zero-Gravity Thinkers or Embedded Aliens.**
- Such Zero-Gravity Thinkers aren't a magic solution. There is no cure-all for the stuck-in-the-mud organization. Long-term, successful innovation requires a deep commitment to fostering diversity of thought and action.

# We Are Hard-Wired to Conform

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- There is a lot of evidence to suggest that this is true. Conforming with the people we work with, however, is not usually a recipe for innovation. Innovation by consensus could be considered an oxymoron. Members of groups with the majority opinion tend to exert pressure on members with minority opinions to go along with the crowd. GroupThink turns otherwise brilliant, independent-minded people into herd animals. (Doug: Think moo or baaaaa.)
- Hallmarks of GroupThink include: conformity pressure on the minority, self-censorship, the illusion of unanimity, shared mindsets, belief in the inherent morality of the group, collective rationalization, the illusion of invulnerability, and protection of the group from negative information.
- No one is immune from GroupThink. Even our best efforts to guard against it sometimes fail. To battle GroupThink is to battle human nature.

# ExpertThink: GroupThink on Steroids

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- GroupThink is about going along to get along. ExpertThink is about going along to get ahead - or at least not to get left behind. It's an overzealous inclination to align with the boss. For all of our idolization of the individual, we go along with the boss a lot. "Captainitis" causes accidents when the crew doesn't speak up.
- Rabe admits that expertise has its place. It is a valuable commodity that allows one to respond quickly and with authority to familiar circumstances. This auto-response increases efficiency and effectiveness.
- The down side is that experts appear to have extreme difficulty when it comes to questioning the foundations of their belief. We often run on automatic pilot, using previously established and familiar patterns or those of the experts around us as our guide. This is particularly true when we're tired or in a hurry. (Have you ever felt tired or rushed at work?)

# Psychological Distance

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- A person with psychological distance from the group doesn't feel like they are part of the group. Such people are better able therefore, to avoid GroupThink. Research shows that successful innovators often have this quality. Unfortunately, most outsiders start to become insiders on the day they are hired. Even heterogeneous, interdisciplinary groups become homogeneous in the way they approach problems in three years or less.
- Charlan Nemeth of U. C. Berkeley found that highly creative individuals are at high risk of feeling alone and getting burned out. They tend to be confident and independent, prefer complexity over simplicity, tolerate disorder, and tend to be somewhat childlike (not childish). Such personality types don't typically fit well within most corporate cultures. (Doug: This sounds like me. Perhaps I should look for work as a Zero-Gravity Thinker in my next life.)

# Renaissance Tendencies

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- Research suggests that the most innovative thinkers tend to be people who are open-minded, well traveled, well hobbled, and well read. They are people with natural curiosity and a penchant for seeking out different experiences. They are more likely to draw creative connections between objects and ideas, in part because they have been exposed to so many. The more experiences and information you can soak in, the greater the likelihood that you will stumble across something meaningful. Such exposure helps break down one's mindsets. Renaissance tendencies may be the most important characteristic of Zero-Gravity Thinkers.
- Children who grow up to become notable for their creative achievements tend to come from homes that are the most stimulation-rich. In addition to exposure to museums and concerts and a plethora of reading material, these creative overachievers are also likely to have traveled extensively both domestically and internationally.

# The Benefit of Related Experience

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- Related experience is expertise in a area that is relevant but not specific to the challenge at hand. The objective is to not weigh the team down with more of what it already knows. It is to inspire them to explore the world from the perspective of what they don't know. Related experience does this by introducing two factors: Naivete and A Potential-Intersection Point.
- People who are naive view the world with the fresh eyes of someone who is new to the world. Related experts bring a level of naivete regarding some key aspect of the challenge into a team. Such non-experts need to be smart enough to understand the basics. By adding non-experts to the mix we apply more tools to a problem. Novices make experts think differently and new tools can be discovered or created.

# Zero-Gravity Thinker (ZGT) Roles

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- There are two basic categories that Zero-Gravity Thinker roles fall in to. They are Process and Content.
- Process roles are focused on the methods, behaviors, practices, and skills that enhance the ability of a team to solve a problem. Process roles involves teaching team members to improve their own ability to innovate. The other process role is that of a facilitator. Facilitators help teams follow a process that will lead to innovative insights.
- Content roles are focused on applying experience, knowledge, insights, and imagination to a problem in order to solve it. Content roles include informing, collaborating and doing. The inform role tends to be rather superficial and interaction is limited. The do role is frequently confined to portions of the project that a team is incapable of doing. In the collaborative role, time can be more scarce than money. The need-for-speed can kill innovation.

# When to Use and How to Find a ZGT

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- Rabe classifies problems into three categories. They are big picture, little picture, and explorations. Big picture problems tend to be complex, multi-dimensional, systemic, or strategic in nature. They almost always warrant the inclusion of a ZGT collaborator. Little picture problems tend to be bounded within the confines of big picture decisions. They seldom warrant ZGT collaborators. Explorations are “what ifs” typically undertaken by think tanks and R&D organizations. They can always benefit from the collaborative role, since breakthrough thinking is the goal, and time is typically not a factor.
- To find ZGT collaborators look to consulting firms, other groups within your organization, and people on loan from other organizations. If you use someone from another part of your organization, make sure they are not within your reporting structure. Also look for opportunities to swap collaborators with another organization.

# Working with a Zero-Gravity-Thinker

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- Before you hire a ZGT, you must make sure that your team understands the concept, the temporary nature of the role, and the rationale behind it. The team must see this as a positive way to stimulate innovative thinking. Since the team needs to buy in to the idea, it is helpful if they have a role in selecting the person.
- The collaborator may or may not assume a leadership role depending on the situation. Rabe recommends a five-step process starting with defining the problem. This is followed by the immersion period during which the collaborator begins engaging with the team and typically asking a lot of questions. Next is the stage where the team generates possible solutions. Everyone needs to see themselves as an idea person. In order to have good ideas it helps to have a lot of ideas. This should be followed by some time for ideas to incubate. Many people believe that the subconscious mind stays active even when the conscious mind is on to something else. The final step is to construct a specific action plan with dates and owners of each step. Someone also needs to be the overall owner who helps clear obstacles and keeps the project moving forward.

# Do-It-Yourself Zero-Gravity Thinking

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- Since you can't always have an outside collaborator to help you on the job, it is vital that you try to become your own Zero-Gravity Thinker. The first thing is to consciously try to think about a challenge from multiple perspectives. Try to be objective, emotional, cautious, and positive. (Doug: Try to anticipate unintended consequences.) Try to look for unusual combinations of objects or ideas. Sometimes two problems that seem unrelated can be combined to solve both. Take time to think. It's ok to look like you aren't working, at least some of the time. Make notes of ideas that arise and share them. Make sure that you give time to define the problem. Your first try may not produce the most useful way to look at it. Try as many as you can before you decide. Constraints to your thinking come from nature's laws, the laws of man, outside barriers, and inside barriers. The first two are probably not controllable. You can choose to not be controlled by outside barriers and you have direct control over those that come from within the organization. Be sure to cultivate your own renaissance tendencies and try to look at all ideas in a positive light to some extent.

# In Conclusion

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- In an attempt to reduce risk, leaders tend to encourage their subordinates to cling to what they know and are comfortable with. They even punish behavior that strays away from those norms. Leaders need to stop sending the message to innovate without failure. Efforts to innovate should be celebrated whether they succeed or not. Focus on learning from failures. Leaders must role-model an acceptance of and appreciation for new ideas. There needs to be a welcoming and not just a tolerating of dissent. Bring in Zero-Gravity Thinkers who have psychological distance, renaissance tendencies, and related expertise and make sure your team understands their role. Leaders need to be courageous in blazing new trails themselves, but they also need to be role models who will instill bravery in those around them.

# Cool Quotes

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- “If we worked on the assumption that what is accepted as true really is true, then there would be little hope for advance.” *Orville Wright*
- “Insanity in individuals is something rare - but in groups, parties, nations, and epochs, it is the rule.” *Friedrich Nietzsche*
- “When everybody knows that something is so, it means that nobody knows nothing.” *Alois Xavier Schmidt, Professor at City College of New York.*
- “I am enough of an artist to draw freely upon my imagination. Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.” *Albert Einstein*
- “Confidence in nonsense is a requirement for creativity since before a breakthrough is recognized most think it is nonsense.” *Burt Rutan*

# What I Left Out

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- In order to promote sales of this book, I have left out summaries of a number of interesting and informative sections. Here are some things you can read about when you or your organization purchase this book.
- Rabe includes details of great stories about the failure of GroupThink. Included are John Kennedy's Bay of Pigs Cuban invasion (1961), The Enron collapse (2001), The NASA Shuttle Disasters (1986 & 2003), and The WMD rationale for the 2003 Iraq War. You also get a summary of *Money Ball* by Michael Lewis.
- On pages 145-146 there is a statement entitled "The Guiding Principles of the Zero-Gravity Thinker." This should be handed out and read to any group you introduce a ZPG person to as it is vital that they understand the person's role.
- Rabe provide a valuable leader's guide as part on extensive appendix along with extensive notes that include web addresses of resources and additional books that support and extend her work.