

Common Threads in Life

Glenn Booker – gbooker@drexel.edu

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A human being should be able to change a diaper, plan an invasion, butcher a hog, conn a ship, design a building, write a sonnet, balance accounts, build a wall, set a bone, comfort the dying, take orders, give orders, cooperate, act alone, solve equations, analyze a new problem, pitch manure, program a computer, cook a tasty meal, fight efficiently, die gallantly. Specialization is for insects.

-Robert A. Heinlein, *Time Enough For Love* [1]

Looking for patterns, themes, and repeated motifs is a common technique for understanding many subjects. Gamma [2] did a great job describing the most proven software development patterns. The Software Program Managers Network [3] has captured dozens of lessons learned in managing projects. But like the late Robert Heinlein, my focus is a bit broader than those examples.

Seventeen themes and patterns have emerged (so far!) from wildly disparate activities. Fields as diverse as dancing, project management, playing golf, engineering, and massage therapy have contributed to this collection of observations about how we think, plan, move, and analyze.

Observation	Examples
1. Focus attention on the desired outcome, not what you're avoiding	Golf: the best way to hit the ball poorly is to focus on what you <i>don't</i> want the ball to do. Project management: a project plan identifies the tasks needed to achieve the desired objective of the project. Karate: Assume you will be successful, and determine how to make it happen.
2. Recognize risks without dwelling on them	Project management: sound risk management is critical to success, but can't be the only activity. Golf: plan for likely errors, without falling into the trap of the previous observation. Karate: recognize your opponent's strengths, yet plan your strategy for success in spite of them.
3. When something goes well, stick to the basics	Project estimation, karate, golf, piano, dance: Practicing the basics is the key to achieving better performance. Eastern philosophy: What do you do before enlightenment? Chop wood, carry water [4]. What do you do after enlightenment? Chop wood, carry water. (Regardless of what else happens in life, you still have to take care of the basic necessities.)
4. When something goes badly, go back to the basics	Project management: a classic mistake is to abandon the project plan when something goes wrong – instead, that's the time to return to basic understanding of tasks to be done and measuring progress toward achieving them [5]. Golf: After a bad shot, the best way to avoid a string of more bad shots is to focus on basic technique.

Observation	Examples
5. Follow by rote at first; then with experience, tailor your approach	Project management, dance, karate, massage, construction, etc.: When first learning a new skill, it is common (and expected) that you will follow a prescribed set of actions very literally. As you develop more skills and confidence, you will develop the ability to adopt techniques from a variety of sources, and blend them into your unique method or approach.
6. Attention to detail separates good from great	Carpentry, fashion, music, dance: the difference between ordinary work and excellent work is often in attention to details.
7. Balance similarity and opposites	Project management, engineering: most management and design decisions involve balancing conflicting needs (speed vs. quality, light vs. strong, reliable vs cheap, security vs accessibility, etc.), yet good design practice encourages reuse and application of patterns. [2] Dance, music: Use changes among fast & slow, smooth & sudden, harmony & dissonance, symmetry & asymmetry, fall and recover, repetition & novelty to create interesting work.
8. Left field is a good place to visit often	Program management: Successful contract approaches often use unconventional structure. Engineering, science: Many great insights have come from pulling together seemingly unrelated concepts, and discovering synergy among them.
9. All things are rarely equal	Risk management: risks need to be quantified to see which are most important, and therefore worthy of attention. Software engineering: software components don't all require the same level of design inspection or testing. Need to tailor scope of testing to match complexity and criticality of the component. System modeling: need to model the critical aspects of a system, and set aside the rest.
10. Organization helps	[suggested by John W. Francis ¹] Project management: organization helps allow efficient sorting of priorities (e.g. to assess "All things are rarely equal"). Education: curricula are organized to provide a clear path for understanding and progression. For examples, see the guides to the software engineering and project management bodies of knowledge. [7] [8]
11. Examine a problem with different sets of eyes	Astronomy: Insights have been obtained from looking the same direction, but using visible, infrared, ultraviolet, polarized, or hydrogen alpha light; or using a radio telescope. Bioengineering: Can learn about a material by correlating different aspects of it – physical properties, biochemical reactions, luminescence, radioactivity, ionization, etc. Requirements engineering: get input from all kinds of users and stakeholders to produce a balanced solution.
12. First communicate your intentions with your mind	Golf: visualize what you want the ball to do before making the shot. Massage: connect with the client in thought, before touching them. Dance: Imagine how each movement will feel and what it will express before you do it.

¹ Email, received September 19, 2007

Observation	Examples
13. Focus beyond what is “possible” or seems immediately relevant	<p>Golf, tennis: Continue the swing smoothly long past contact with the ball.</p> <p>Karate: Focus the target of a technique farther than you will actually be able to strike.</p> <p>Dance: Focus your attention and maintain connection beyond your body – into the earth, into the sky, with your partner, to the audience.</p>
14. When moving, use the largest muscle groups possible	<p>Massage: use legs and back to power your movement when possible, not just fingers, hands, or arms.</p> <p>Golf: much of the power in a full golf swing is from hip and torso rotation.</p> <p>Karate: power comes from hip and torso rotation, not just extremities.</p> <p>Piano: use arms for strength of playing, not the fingers, which will tire more quickly. Move the fingers only to select which keys are played; don’t press the keys with just finger strength.</p>
15. Muscles need to be able to relax completely in order to produce maximum strength, power, speed, and flexibility	<p>Karate: have to relax to move quickly.</p> <p>Golf: have to relax to swing smoothly.</p> <p>Dance: have to relax to move with power, grace, and full range of movement.</p>
16. Optimum movement is the least work	<p>Dance: The best dance movement wastes no energy in extraneous or frivolous movement.</p> <p>Electricity: Electricity prefers to go where there is least resistance.</p> <p>Water: Fluids move to eliminate stresses on them.</p> <p>Biomechanics: Muscles adjust to use the least energy possible for a given action.</p> <p>Occam's Razor: The simplest theory is the best one. [6]</p>
17. Let go	<p>A.k.a. “Fake It With Authority” or “Uncertainty Breeds Failure”</p> <p>Dance, singing, modeling: In order to move fully, or sing freely, must let go of insecurity or uncertainty in what you’re about to do.</p> <p>Fashion: Must follow your artistic vision, regardless of whether it’s lauded or panned.</p> <p>Research: Must define and execute your research with conviction, no matter whether the end result is no new insight, a minor achievement, or a Nobel prize.</p> <p>Golf: must choose the swing and club, and follow through with confidence, no matter the actual outcome.</p>

This list isn’t meant to be comprehensive or a finished product – more a starting point for continued thought and evaluation. Feedback, rebuttal, and additions are welcome!

References

- 1 Heinlein, Robert A. Time Enough for Love: The Lives of Lazarus Long. New York: Ace, 1994. ISBN: 0441810764
- 2 Gamma, Erich, Richard Helm, Ralph Johnson and John Vlissides. Design Patterns, Elements of Reusable Object-Oriented Software. Indianapolis: Pearson, 1995. ISBN 0201633612
- 3 SPMN Guidebooks. 2004. Integrated Computer Engineering, Inc. November 7, 2006 <http://www.spmn.com/pdf_download.asp>.
- 4 Fields, Rick, Rex Weyler and Peggy Taylor. Chop Wood, Carry Water: A Guide to Finding Spiritual Fulfillment in Everyday Life. New York: Penguin Group, 1984. ISBN: 0874772095
- 5 McConnell, Steve. Rapid Development. Redmond, WA: Microsoft Press, 1996. ISBN 1556159005
- 6 Hiroshi, Sugihara. What is Occam's Razor? July 1997. Usenet Physics FAQ. December 18, 2006 <<http://math.ucr.edu/home/baez/physics/General/occam.html>>.
- 7 IEEE Computer Society. Guide to the Software Engineering Body of Knowledge® November 24, 2007 <<http://www.swebok.org/>>
- 8 Project Management Institute. A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Newtown Square, PA: PMI, 2004. ISBN 193069945X

Most of these observations are based on personal experience. Credit goes to my instructors in many of the areas cited here: massage (the Touch Therapy Institute in Los Angeles, CA), karate (Sensei Fred Schote), music theory (Mr. Luke Abruzzo), piano (Ms. Stephanie Abruzzo), dance (primarily Ms. Lucinda Lea and Dr. Miriam Giguere), and golf (LPGA member Ms. Sarah DeFuria).

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