

Reading Guide for:
Lean Thinking: Banish Waste and Create Wealth in Your Corporation
By Captain Dave Price, USN

From the Commodore: As you read Lean Thinking attempt to find ways the concepts and case studies might apply here in the Naval Air Training Command. Almost ten years ago, the Naval Aviation Production Process Improvement program was begun in order to improve the flow of student naval aviators through the training pipeline and reduce the total time for "street to fleet." Having been a Training Squadron CO during the improvement phase of what is now called NAPP, I was somewhat surprised on my return to find what I think is a leveling off of the original gains in NAPP and perhaps even some backsliding. This is partially due to the normal turnover in personnel associated with our military tours of duty but, I think, also partially due to a belief that NAPP achieved its stated purpose and that further benefits of lean principles are in the category of diminishing returns for the level of effort. In fact, I believe NAPP has a long way to go with opportunities existing for both incremental, evolutionary improvement (*kaizen*) as well as immediate "just do it" improvements (*kaikaku*) which could materially reduce the cost and time of producing the next generation of naval aviators while maintaining or improving the quality and value of our "product." Though some of you reading the book and using this guide will likely think to yourself that lean principles as applied to industrial production don't apply to training naval aviators (with all of the incumbent variables associated with a human endeavor), I ask you to keep an open mind. If nothing else, I hope the reading energizes you to seek and eliminate *muda* in any and all of its insidious forms. The American People deserve nothing less.

Part 1: Lean Principles

Introduction, Chapters 1 and 2: Value and The Value Stream

1. How is value specified for our product? Is it defined by the customer? Who is the customer? How might we better engage our customer(s) in the definition of value?
2. Could/should students be considered our customers? How might they define the value of the product we deliver to them?
3. (p. 21) Are we a "lean enterprise?" Why or why not? How does our hierarchical structure fit with the concept of a "lean enterprise?" How do concerned parties communicate in order to oversee our de-integrated value stream? Is our value stream "de-integrated?" Should communications within the enterprise be between lower levels? Have we created a "formalized successor" and just renamed our vertical integration? How do we now evolve to the next level?
4. (p. 22) How might we shift our focus to the product and its needs in the value stream? Is it possible for us to view the value-adding processes through the eyes of our product? Is the fact our product is a human being a potential benefit to the value stream? A detriment? Both?
5. Is it possible to follow our product through the process to see how the value stream "flows" from day to day? How much waste might we find in the system if we considered flow from the student's viewpoint?

6. (p. 23) How might we continue to move away from traditional departments and batching towards flow? What would it take to make processes and the value they add capable of focusing on one student at a time, as soon as the student was ready for the next value addition?
7. Do you think we are a mass-production enterprise? Why or why not? Is 1200 completed products per year a large volume? Compared to what?
8. What are our value creating processes? Can we have "reengineers" working within our organization? Should we? Without new hires? How?
9. Might we capitalize on the brain power of our students to identify waste and improve flow? Would a production giant like Toyota love to have a "smart" vehicle on the assembly line that could actually voice process concerns? Does our hierarchical nature prevent us from asking students what they think (and mean it)? Does that same hierarchy prevent them from sharing their suggestions?
10. Are there processes in our value stream which are not required to be in their current order? Might some processes add value when the student needs it, rather than when the process (organization, infrastructure, etc) needs the student?
11. Are there value steps we do for every student that not every customer needs? Is it possible for us to only add value (specific attributes) as "pulled" by the customer? Is "pull" possible in our "business?" Why or why not?
12. (p. 43) Is it possible for us to tabulate the student aviator value stream like that in Table 21?
13. (p. 44) Do you think we are trapped in a mass-production mindset? Why or why not? What type of indirect costs might we have in supporting "efficient" but de-integrated process centers?
14. Are there instances in which we might be buying efficiency locally at the expense of the whole value stream? What are they?
15. (p. 48) Are there instances of "benchmarking" in our enterprise? What are they? What are the potential consequences?

Chapter 3: Flow

1. (p. 51) Is it possible to measure all of the wait times of our product as it flows through the process (not only preload/pools)? How much waste might we find if we thought in terms of minutes and hours instead of days and weeks? How might we think differently about these wait times if we were paying the students hourly wages? How might they think differently if they were paying us by the hour for the training?
2. (p. 52) Thinking about flow requires a focus on the product as it moves through the value stream. How might we better flow our students if we could ignore traditional boundaries (jobs, functions, organizations, etc)? Can you rethink specific practices to allow for continuous flow of the individual student through the flight program (street to fleet)?
3. (p. 53) Are our squadrons and wings synonymous with departments in a traditional batch and queue process as described by the authors? How might we organize to improve flow?
4. (p. 56) What is the takt time for our process steps? Primary? Advanced? Might each big process step be conducted in takt time ratcheting fashion in order to smooth the flow through the value stream? How would we vary our takt time to reflect demand? More importantly, how do we make sure current takt time is continuously visible to our production apparatus? (some back-of-the-napkin math: a Primary squadron required to produce 240 students per year is on a takt time of approximately 1 student per work day)

5. (p. 58) Is preload in NAPP synonymous with a "safety stock" (buffer)? How might we balance JIT and level scheduling to produce continuous flow across the enterprise?
6. Does the fact we have product families but not production areas by family lead us back to classic batch and queue across the enterprise while claiming continuous flow? Is this a fair question? What barriers to "pull" can you identify in our processes?
7. (p. 59) Is our workforce able to communicate with one another between our process steps at the production line level? Should they? For example, should a Primary squadron OPSO be able to work out issues on the "factory floor" with his counterpart at API without having to push the issue up the hierarchy for validation, vetting, decision to communicate, etc? Why or why not?
8. (p. 60) Do you see any effects-based thinking in the authors' discussion on this page? (hint: measures of effectiveness answer the question: are we doing the right things vice are we doing things right). Could transparency across the enterprise ensure we are doing the right things?
9. (p. 63) How do we expand and shrink the team size to allow the pace of physical effort to remain constant while making sure everyone (each work cell) is working to a cycle time equal to the takt time?

Chapter 4: Pull

1. (p. 70) Note that pull means we start a process step only when the next step asks for one. If the process steps are designed so their cycle times are equal, this leads to self-regulating takt times (like a pacemaker). What functions in our organization might be eliminated if the process was demand-based and therefore had self-regulated production timing?
2. (p. 78) What visual progress tools does your organization use? Has dependence on computerized databases prevented us from using simple but effective visual controls in the work place? Would a visual control in the student ready rooms showing TTT by individual (% complete versus entitlement TTT) help improve flow?
3. Does your organization have an active "*kaizen*" process? Could it? How might we institutionalize constant improvement at every level in our enterprise?
4. (p. 81) Does our Integrated Production Plan generate internal ebbs and surges to a greater degree than our actual end market? Is this the "familiar 'pogo stick' phenomenon of 'chaotic' orders"? How stable is actual Fleet demand for aviators? Is IPP representative of a pull process?
5. Have we front-loaded all common attributes in our product in order to enable pull? What are the benefits and potential hazards of us doing this with human products?
6. How does/could pull apply to the selection process at the completion of Primary?

Chapter 5: Perfection

1. (p. 94) Which forms of *muda* should we attack now with policy deployment? (Note: this should be focused on the specific waste rather than on just specifying a reduction in resources or specified improvement in efficiency - typically done in percentage format. Those gains follow when the waste is reduced while allowing us to avoid cutting customer-based value from the product).
2. (p. 95) Should more flexible, smaller volume production be our goal too? Why or why not? If so, how?
3. (p. 95) Once we identify specific *muda*, we need to set a timeline for reducing and eliminating it. Could the lean technique of policy deployment be used at the various levels in our

enterprise? (agree on a few simple goals; select a few projects to achieve those goals; designate people and resources for the projects; establish numerical improvement targets and timeline)

4. How transparent is our enterprise? How transparent is your organization? How does information flow? Push? Pull? Horizontal? Vertical?

Part II: From Thinking to Action: The Lean Leap

Chapter 6: The Simple Case

1. (p. 106) What is the “actual amount of time needed to complete the physical transformation” of the product in your process step? This would be “continuous flow time” and when compared with actual flow time can help determine the quantity of Type 2 Waste.
2. (p. 109) What type of personality do you have? Is it hierarchical and accustomed to top-down, command-control style? Are you uncomfortable with horizontal, decentralized execution? How do the lean processes fit with our military nature? How might we change our organization and culture to achieve lean management processes while still retaining expeditionary, warfighting mission effectiveness?
3. (p. 112) How might the concept of “single piece flow” be used within training command in to eliminate queue time without diminishing the benefits of “class flow?”
4. (p. 112) How would you design our flow if starting from scratch which might take into account the notion of “adjacent processes” as shown in Figure 6.4? Would you put API at both Primary sites? Why or why not?
5. How would you design IFS into the flow? Does the value stream begin at IFS? Is the value addition from IFS in the proper place in the stream (geographic and temporal)? Why or why not?
6. (p. 113) How might processes in your organization benefit from rethinking of flow in similar fashion to Lantech? Does your organization encourage and empower everyone to think? Do good ideas flow up? Do we push process decisions *down* to the right level? How much staffing (and therefore second-guessing) is required to improve “*standard work*?”
7. (p. 114) How is lead time managed in your organization? Are starts done in the absence of a demand signal? What is your organization’s *takt* time? Are the value-adding processes in your organization designed to cycle in synch with the *takt* time? If all sub-processes within your organization cycled (ratcheted) at *takt* time, how long would it take for demand to propagate back through your entire process and generate a start? Which of our processes and organizational units need to be “right sized” to support the *takt* time needed to pull flow through the system?
8. (p. 115) Does your organization use standard work charts? Are all process steps included? Do all process steps add value to your product? Can you think of any constraints which would emerge similar to those Lantech found when switching from batch and queue to lean flow?
9. Can you think of any workarounds we currently have in place that are actually hiding constraints to lean flow? How might we identify those constraints? Who would you ask to help identify those constraints? Commanders and staffs? Value stream (production line) workers? Students? Are we using human nature to your advantage or disadvantage in identifying ways to lean our processes?
10. (p. 117) Is it possible the use of computers has actually decreased visibility on production processes and performance. Does everyone in your organization have visibility on the value stream and its flow? Do work cells have visibility on each other in order to generate friendly competition and help identify best practices?
11. (p. 120) Is our concept of Class Flow synonymous with Lantech’s “work teams” (flights of skill sets) that push the individuals through the production process? Could the visual control simply be a display of individual flight performance as it moves a class through the system? Do our production pilots and staffs have much broader skills than we have asked them to use similar

to Lantech's? Could careful scheduling similar to Lantech's identify conflicts in requirements for specifically skilled people to ensure all Flights continue to produce evenly by moving those specialties (formation, etc) from one flight to another as necessary?

12. Does the current organization of a squadron or wing create internal batch and queue processes not visible to, or measurable by, NAPP? Can you visualize a squadron in which each flight (product work cell) has the attributes of all current squadron departments?

Chapter 7: A Harder Case

1. (p. 126) Can you draw any parallels between us in TRACOM and Wiremold as it was in 1989? Are there any hidden inventories in our processes? If so, how reliant are our process steps on those inventories (batches). How nimble is each process step (work cell) in the value stream within your organization? Nimble enough to do without batches and ratchet just in time to work to *takt* time? What types of change would be required to be nimble enough to do demand-based production?

2. (p. 127) Do we have an "instant results management culture" similar to GE's? What results time-horizon do we as an organization work on? What is your organization's time horizon for results? Is it based on tour lengths? Fitness report cycles? How might we take a longer view?

3. (p. 129) Is the management at every level in our enterprise empowered to have a "just do it" mindset? How or why not? What are the stifling functions which prevent managers from leaning their part of the value stream? How might we improve this?

4. (p. 130) Art Byrne had great success at Danaher with the use of *kaizen* events. Is it possible for us in TRACOM to achieve similar results with such activities? If so, how? If not, why not?

5. (p. 131) Are there "thick departmental and functional walls" in TRACOM which might be preventing us from smoothly flowing and seeing the value stream? What are they? How might we remove such organizational barriers? What kinds of barriers might we anticipate in removing organizational barriers? How would you mitigate?

6. (p. 131) Would it be possible for us to classify each management position in TRACOM similar to Art Byrne's approach at Wiremold in order to "de-layer" the organization? Which efforts in your part of the organization are directly creating value (from the customer's perspective). Which efforts are not creating value but are required by our current processes and organization just to keep us producing? Which management efforts are not creating customer-based value and are not necessary to run the enterprise? Is there a benefit to looking at function/effort in this light rather than at individual positions and jobs? If yes, what? Could you reorganize around the resulting value-based answers to the above questions?

7. Art Byrne surmised that 10% of existing management would not embrace lean thought. "Lean thinking is profoundly corrosive of hierarchy..." Is such resistance to lean thought inherent in military and government hierarchy? Does our bureaucracy reinforce or weaken such resistance? Does our lack of business competition and profit motive impede our ability to think lean? How might we incentivize lean thought in the long term? Short term?

8. Just a thought: Why are our classroom schedules driven by the organization instead of by customer-based demand? Is it possible to make the classroom schedule (or more appropriately, the value addition currently done in classrooms) as dynamic and just-in-time as the squadron flight schedule? Can we "retool" classroom processes to cycle at the *takt* time just in time?

9. Is it possible for a government agency to become leaner without threatening jobs? How? If jobs are threatened, what is the incentive for leaning processes? Could we continuously create

more value with extra resources (people, time, etc) created by leaning our TRACOM processes? What are your ideas for such value?

10. (p. 137) Can everyone on your product team easily see the team's performance? Is a dynamic visual indicator posted prominently that gives everyone visibility on how the organization is doing as a whole? What performance indicators would you put on the "scoreboard" for your organization?

11. (p. 137) Are we measuring the on-time meeting of demand? Or are we measuring additions to in-process inventories? Which do you think is the better indicator of your organization's success? If we are measuring incorrectly, does that lead to waste? If so, how might that waste be turned into more specifically tailored value based on individual customer desires?

12. (p. 138) Does your average employee know any detail in the cost associated with training an aviator? What benefit is there to having everyone in the business knowledgeable about the costs? Might waste be more easily identified if more people had visibility on where the costs were in the value stream? Why or why not? How?

13. (p. 141) How does your organization do QFD? Does every manager in your organization understand the basic activities associated with your value stream? How often do managers on your team walk through your processes? Do they do so from the product point of view? Is it possible to lean a process without doing so?

14. (p. 144) How might you improve the performance of your "suppliers?" What do they need from you? Specific information? When was the last time your team met with their counterparts from the supplier? Are you dependent on someone higher in the hierarchy who is less knowledgeable about your processes to do this for you? Is process expertise proportional or inversely proportional with distance from the production line?

15. (p. 146) Art Byrne asked why Wiremold couldn't produce cord sets at the same rate and in continuous flow as the end product. Are there "sub-assemblies" or value additions that we produce in TRACOM out of synch with our end product? Why?

16. (p. 146) As a would-be lean thinker, what physical activities do you think we can "incorporate directly into a single-piece-flow production process?" As a start, consider a class of students akin to a "single piece." (I believe we should eventually move to single student flow, especially for starts and for specific value addition steps that cycle at the takt time. In the interim, it would be a quantum leap in lean flow for TRACOM to be able to flow a class in true lean fashion.)

17. (p. 148) Are we culturally predisposed to being "more interested in massive, long-range 'strategic' planning efforts?" Do you think it possible that leaning the organization might actually achieve the most commonly stated strategic objectives for TRACOM? If so, how? If not, why? Is something as simple as *constant improvement* strategic? Or does strategic imply complexity and difficulty?

18. Can every member of your team (at any level in the hierarchy) define their role in terms of adding value to the end product? Does every member of your team know what the enterprise's product is? Do they measure their contribution on the value stream in terms of performance...or effect? Do you know the difference?

Chapter 8: The Acid Test

1. (p. 155-7) Do you see any similarities in the organizational growth of Pratt & Whitney during the 1930s and our own TRACOM organization? Was their need for increasing managerial positions proportional to the value added by the management organization? Or phrased a bit

- differently, does bureaucracy add value to the product in proportion to the size of the bureaucracy? Or inversely proportional? Does bureaucracy beget more bureaucracy?
2. (p. 159) I recently heard a suggestion that TRACOM should be more stovepiped in its organization along vertical lines from CNATRA down to the squadrons. What do *you* think of this? Good or bad and why? Does a more vertical hierarchy help prevent the “Pratt Salute,” or cause it?
 3. When something goes wrong do you seek to lay personal blame or to find process blame? What is the difference? What are the potential consequences of both approaches?
 4. (p. 160) The common joke at P&W was that a part traveled more inside the plant than when it was in service with the airlines. What unnecessary travel does our product face in the TRACOM value stream (large and small scale)?
 5. (p. 163) How is the cross-functional communication in TRACOM? Can we fix known problems quickly? If we are sluggish in similar ways to P&W, what causes that sluggishness? How many yeas of concurrence are required in our organization before a problem is corrected? How much time is associated with convincing and cajoling concurrence as compared to time actually spent designing an improvement? What is *your* analysis of value added in the existing process?
 6. (p. 167) How is your team organized for continuous improvement? Have you ever heard of a continuous improvement office within the military? What would the arguments against such an organization be? Money? Manpower? Time? How might those arguments weaken if taken in the light of Harley Davidson’s case? Do competition and profit not make Harley even more sensitive to money, manpower and time considerations than the military? If not, why?
 7. (p. 171) Is it possible to introduce lean, flow concepts in your organization? What are the barriers? Are there similar barriers to those faced by Karl Krapek? Does the TRACOM structure support production managers making lean improvements? How many “approvals” would be necessary for you as a manager to make a lean improvement? How much time and energy necessary to get the approvals? If this is a barrier to lean improvement, is it a fundamental characteristic of bureaucratic hierarchy and, if so, how would *you* reorganize the entire TRACOM in order to remove the barriers?
 8. (p. 173) Does our organization have “anchor-draggers?” If so, is anchor-dragging in our organization based on individual personality or based on organizational structure and the associated positional roles and responsibilities of individuals? Both? How would you change this?
 9. (p. 173) Could TRACOM organize along the lines of P&W’s Product Centers? How? What would a flatter TRACOM look like? What barriers would stifle the shift? What costs, risks and benefits?
 10. (p. 174) Note that P&W reduced “senior managers” by half in three years...and only half of those remaining were legacy management. What would the impact be on TRACOM with a similar reduction in senior managers? How do we define “senior?” Is it based on accountability? Or authority sans accountability? Is “senior” defined by the level in the hierarchy? Should it be? How many senior managers does our enterprise need?
 11. (p. 175) How might we construct value stream maps like Ed Northern did for the GE Aircraft Engine Group? Does our organization have a value stream? Or is swamp a more fitting metaphor? What metaphor would you use to describe how value flows in TRACOM?

12. (p. 176) Can you think of any examples of “monuments” in TRACOM? Organizational? Structural? Procedural? List at least three “monuments” that require batches to operate. Include at least two in your own organization (wing, squadron, department, etc).
13. (p. 181) How do we do quality assurance? Is QA in TRACOM a lean process? If yes, how? If not, why? In either case, what is the value added to effort ratio? Is there a good ROI? How might we increase the efficiency of QA? Would lean thinking tend to centralize or spread QA functions?
14. (p. 182) Could a “turn back chart” or derivation thereof be used to track and see scheduling “mistakes” that interrupt continuous flow? How would it look at the flight level? At the squadron? At the wing?
15. Have we got too many overseers in TRACOM? What does so much oversight indicate about our culture? Trust?
16. (p. 183) How much in-process inventory do you have in your work cell? How many students batch before you perform your value-adding step? Are the value adding steps in your organization sensible in their arrangement (physical and temporal)? How might you improve the flow?
17. (p. 185-7) What does TRACOM organization look like? Is it comparable to P&W in 1994 (Figure 8.6)? How might it be made to look more like P&W in 1996 (Figure 8.7)?

Chapter 9: Lean Thinking versus German *Technik*

1. (p. 192) How does our organizational structure resemble that of Porsche in the 1970s? (perhaps better: are our processes as sporty as our products?)
2. (p. 193) How are we at involving the “factory” in designing the “product?” Any consequences to how we are doing this (best or poor practices)? Is our system more *technik* than lean? How?
3. How might we act differently if we were competing for market share with Toyota? What effect does our monopoly have on the value stream? On efficiency? How might we perform as if in business competition? How might a government bureaucracy incentivize competitive (lean) performance?
4. (p. 198) Can you identify any insularity in our thinking within TRACOM similar to that at Porsche in 1992? Are advances in management relevant in our “business?” Should they be?
5. (p. 198) How many layers of managers can you identify in our organization? More than Porsche in 1992? How might we make responsibilities more clear? Leaner?
6. (p. 198) Do the support functions in our organization focus on support issues as in the new system at Porsche? Can you identify specific instances? Can you identify specific examples where support functions focus too much on the day-to-day operating tasks? How might we improve this?
7. (p. 199) How are suggestions for improvement managed within our organization? How do we compare with Wiedeking’s third step? Is it possible for our *meisters* to implement change quickly? Why or why not?
8. (p. 200) What visual management systems do we have? Are our computerized visual management systems as effective as those non-computerized systems used by lean industry? How? Are our visual management systems visible to everyone? Could we use visual metrics to improve the flight scheduling process? Days idle? Double pumps? Other indicators of poor flow? Could this be done at the Flight/Class level? How?

9. (p. 202) What similarities can you recognize between our enterprise and early Porsche in how we institute change? What barriers do we have to the “just do it” improvements of the Lean Sensei? What role might human nature play in our own institutional inertia? (Assuming you think we have institutional inertia) Hubris? Pride? Job security?
10. What process *kaikaku* would *you* recommend we undertake to demonstrate lean principles in our enterprise? Could we just cut something representing a “queue” to the “1.3 meter level” like Nakao did in the Porsche engine assembly area?
11. (p. 205) Is it possible for us to have a policy similar to Porsche’s regarding every work team conducting routine improvement projects on its activities? Is “not enough time” a rational answer from the lean perspective? Get it? What about a policy for immediate action on work team improvement suggestions? Possible? Why or why not? What are the barriers to improvement in your/our organization?
12. (p. 207) How do we get our workers and work teams to subsume traditional management activities? Is it possible to manage conceptually similar to a wiki? Is it possible with our current organization? Why or why not?
13. (p. 206) How can we avoid generating upset and defensiveness while introducing lean thought in TRACOM? Were the reactions of the workforce and union at Porsche specific to that company’s culture or reflective of human nature in general?
14. Can you think of any advantages we might have over industrial production activities? Is having a thinking “product” an advantage? Might our product help identify improvements? How can we capitalize on that advantage (if you think it is an advantage).
15. Based on your study of the Porsche case, do you think we have achieved all of the lean benefits possible in TRACOM? Has NAPP culminated? Are further lean improvements sensible from a cost-benefit perspective? Why or why not?
16. (p. 213) Is NAPP jerry-built on the existing TRACOM structure in similar fashion to Porsche’s product development system? If so, what is the risk? How can/should we mitigate the risk?
17. (p. 214) In the absence of a robust customer definition of value, have we substituted an “engineer’s definition?”
18. (p. 215) “Good hearing is therefore needed to ensure that product designs contain what customers want rather than what designers enjoy making.” What do you think about this comment and its application to our enterprise?

Chapter 10: Mighty Toyota; Tiny Showa

1. (p. 222) Taiichi Ohno told Showa “that by moving to small-lot production and producing only what was requested by the next production step, it would be possible to reduce” inventory. Could we in TRACOM benefit from his advice? How or why not?
2. (p. 225-6) In 1987 Showa dramatically changed their corporate structure from vertical to horizontal. Could a similar restructuring work within TRACOM? Why or why not? What functions should be centralized?
3. (p. 226) How do we accurately judge our product development team leaders? Is the control of resources an issue in judging performance? How?
4. (p. 227-8) Think about class flow in TRACOM as you read the section on Rethinking Order-Taking and Scheduling. What ideas to improve scheduling do you get from Showa’s example?

5. (p. 228) What specific poka-yokes would you recommend we put into TIMS to improve flow using our daily flight schedules?
6. (p. 231) Is our “success” preventing us from taking the next lean evolutionary step?
7. (p. 232) How close to JIT delivery are the process steps in your part of the value stream? Do work cells in your organization produce in ignorance of the next cell’s production? Or do they depend on the demand signal from the next cell to help regulate their production? How might we manage elemental process steps internal to the squadrons to achieve JIT?
8. (p. 233) Ohno’s conclusion (and dictum) that upstream departments should only work based on the next downstream departments demand permanently changed the work of managers throughout Toyota’s value stream. How would management change in TRACOM if we followed Ohno’s lead?
9. (p. 236) Could each squadron conduct 1 improvement activity each month? Each quarter?
10. (P. 239) It took 35 years to push lean concepts through Toyota and the supporting elements of its enterprise. How long would we expect NAPP to really take to reach its logical conclusion of making TRACOM a “lean enterprise?” 5...10...20 years? Based on Toyota’s experience as the “machine that changed the world” is it realistic for us to think we’ve achieved the benefits of lean thought in less than 10 years? Have we achieved the cultural shifts required to make lean practices self-perpetuating?
11. (p. 240) The Motomachi plant’s key system weakness was not knowing the actual level of human effort involved in each production job. Do we know what actual human level of effort is required in your value-adding production jobs? Is the resolution of our knowledge sufficient to identify effort as value-additive? Type 1 waste? Type 2 waste?

Chapter 11: An Action Plan

The Getting Started Plan:

- A. Find a change agent.
- B. Get the knowledge.
- C. Find a lever by seizing the crisis, or by creating one.
- D. Forget grand strategy for the moment.
- E. Map your value stream.
- F. Demand immediate results.
- G. As soon as you’ve got momentum, expand your scope.

1. (p. 248) Who’s the change agent in your organization? Do you have what it takes to be one? Do you know someone who does?
2. (p. 250) How might you classify a crisis that generates motivation and urgency for change? In the absence of a true crisis, how might we generate lean competition? Between Flights? Between Squadrons? Between Wings? Between NATRACOM and AETC?
3. (p. 253) What activity in our organization is performing poorly but is very important to our production? (pick something in TW-4 span of control). Have you followed the “product” through this particular process? What do you find on doing so?