

Zen and the Art of Building Commissioning or, The Inner Game of Commissioning

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Synopsis

This paper investigates some of the non-technical skills required to do commissioning well, to facilitate effective team action, and to build deep enjoyment of our work. The paper will focus on attitude and mindfulness, and how these affect our work and our co-workers. Furthermore, it will make concrete recommendations on how we can examine and develop these skills.

I hope to reach several different kinds of people with this paper. Some of you may be familiar with the concept of inner work and how this can bring effectiveness and joy to your work and life. If you fall in this group, this paper may offer you some techniques you haven't previously encountered, and maybe help you better apply what you already know to your commissioning work. Some of you may be skeptical about the usefulness of inner work and its application to earning a living. If you fall in this group, I hope this paper will stimulate some curiosity and reflection about whether the problems and techniques I describe might fit your experience.

About the Author

Michael Kaplan has been active in the field of building commissioning for the past 20 years. He is the proud winner of the 2008 Better Bricks Engineering award for his commissioning work. His early work in commissioning helped establish it as standard practice in energy efficient construction. Mr. Kaplan also has an extensive background in commercial HVAC and industrial mechanical design. He holds a mechanical engineering degree from the University of Washington and is a registered professional engineer in Oregon and Washington.

Mr. Kaplan has assisted PacifiCorp, Seattle City Light, Pacific Gas & Electric, Georgia Power, and Los Angeles Water and Power with the development of their commissioning programs, has presented numerous seminars and training workshops, has authored six technical papers on commissioning for national conferences, and has been the Commissioning Authority for millions of square feet of new and existing institutional, commercial, and industrial buildings.

Introduction

In this paper, I speak to all of us commissioning team members who have observed that we sometimes manage to defeat ourselves in meeting our objectives, though our technical skills may be excellent. I will not tell you how to use a datalogger or how to write a test procedure. Instead, I'll speak of inner work—work with mindfulness, being present, letting go, and other such inner activities that strongly shape our effect on the world—and will explain how to use some of the tools for this work that I've found particularly useful.

Sometimes, despite hard inner and outer work and good intentions, it all seems to go wrong, and we're sure we failed on some important level. The inner game of commissioning gives us tools for dealing with this too, and I'll share these with you.

A word about the paper's title and subtitle: “Zen and the Art of Building Commissioning” borrows from a long line of “Zen and the Art of ...” books. From the 60s we have, *Zen in the Art of Archery*. From the 70s, *Zen and the Art of Motorcycle Maintenance*. Then, “Zen and the Art of” — Happiness, Gardening, Intimacy, Pond Building, Brownie Baking, and, of course, Anything. I haven't read all of these, thank goodness, but the couple I have read share that the authors are introspective, looking within themselves to learn lessons that make practice of their subjects easier, less stressful, more joyous, and more successful.

The subtitle, “The Inner Game of Commissioning,” borrows from another long line of books starting, I believe, with *The Inner Game of Tennis* by Tim Gallwey (Gallwey, 1974). That book improved my tennis game more than any lessons I ever had. It also remains one of the wisest books on inner work I've read. Many of the tools I'll discuss in this paper are presented beautifully in that book in the context of playing better tennis.

The Inner Game Concept

Before I can dive into a discussion of the tools of the inner game of commissioning, I must set the stage by asking why it's worth bothering with an inner game. After all, don't we have enough on our plates just dealing with the minutia that commissioning demands of us—what we'll call the outer game? Isn't commissioning difficult enough?

Well, that's the point of the inner game. Commissioning is plenty difficult. However, a lot of that difficulty comes not from the work itself, but rather from the obstacles we automatically and probably unknowingly put in front of ourselves. Gallwey points out that, “There is always an inner game being played in your mind no matter what outer game you are playing. How aware you are of this game can make the difference between success and failure in the outer game.”

Inner work means bringing awareness to what's inside our skin, not outside. Even though we respond to outer circumstances, our inner work focus is on what's going on inside. All of this will become clearer as we examine some of the common obstacles most of us encounter at some

point in our commissioning work and how inner tools can help us find a way through these obstacles.

Inner Tools for Some Common Commissioning Challenges

Anxiety

Most of us at times feel anxiety connected with our work.¹ Why should we concern ourselves with this common sense of anxiousness? Is it just uncomfortable — something we can simply tough out? No, it's much more than just uncomfortable. Anxiety clouds our perception and can severely limit our range of action. Useful concern can, though, serve a purpose. It can focus attention and prevent mistakes. Only practice teaches us to differentiate between concern and anxiety.

For me anxiety takes several forms. It may be a general anxiety that I won't live up to my client's expectations or that I'll fall short of my reputation. It may be an anxiety over revealing that I don't know something that I think I should know. It may be an anxiety over appearing stupid or unprepared, or even an anxiety over appearing anxious.

I could go on with the many colors of anxiety, but I think most of them share some characteristics:

- Most anxiety is accompanied by plenty of mental chatter. Perhaps your mind is busy with what could go wrong. Perhaps it's worrying, “I don't know if I can deal with that,” or “what if George is there? He always tries to make me look bad.”
- Anxiety is often accompanied by self-judgment. We may feel bad about ourselves when we feel anxiety. We define ourselves as always worrying, weak, fearful, or out of control.
- Anxiety isn't always paralyzing. But it does usually have a strong affect on our response to something or interaction with someone. It puts us in a defensive position and reduces our range of possible responses.

Let's address the mental chatter first. The first tools of the inner game of commissioning are quieting the mind and non-identification. We don't practice these by telling the mind to shut up or calling it “stupid, noisy mind.” That is just more chatter and is counter-productive. Instead we just notice that the chatter is there, and don't identify with it. We are not the chatter. Chatter is just what the biological mind does — it oozes thoughts. Now, substitute “anxiety” for “chatter” in the sentence, “we just notice that the anxiety is there, and don't identify with it.” Taking this small step back from the anxiety itself can work wonders.²

¹ I differentiate anxiety, which typically occurs without any specific external threat, from fear, which is defined as a basic emotional response to specific threats and danger. Both may arise in our work. Since I'm not trying to establish credentials as a psychologist, for simplicity I label both as “anxiety” in this paper.

² Non-identification is one of the basic concepts of eastern psychology. It comes from the idea that there is no Self, that the Self is a mental construct—an illusion that we've trained ourselves to believe is real. Try to answer the question “Who am I?” This question forces us to peel off the transitory layers of thoughts, emotions, sensations, etc.

Try it. Call to mind some recent cause of anxiety. For example, “Did I remember to turn off the burner on the range before I left home?”; “Am I sure that what I called a controls blunder was really their mistake and not mine?” When you have recalled or imagined some source of anxiety and gotten a little into that mood, read on to the next paragraph.

Don't discount the anxiety; don't try to squash it. That doesn't work. It still lurks not far in the background. Just notice it. Don't identify with it. There is you, and then there is the anxiety — a separate entity. Take a few deep breaths and come back to the present. Check in with your body. Can you relax the muscles that are tight? You can do these things in a meeting or on a rooftop. Probably no one will even notice that you've taken a moment out.

Self-judgment is a common accompaniment to anxiety. We condemn ourselves for being anxious, or maybe we explain the anxiety by labeling ourselves as incompetent in some way. Treat self-judgment exactly the same way we just discussed treating the anxiety itself. Step back from the self-judgment and just notice it. Focus on the self-judgment itself, not its object — our anxiety. Above all, don't judge the self-judgment. Some people find the concept of “witnessing” more accessible than “just noticing.” Witnessing implies dispassionate 3rd person observation of an activity or phenomenon.

Notice if you get annoyed or angry when you observe anxiety or self-judgment in yourself. Then step back from that too. Some people find it useful to mentally and softly label these things, “self-judgment, self-judgment” or “annoyed, annoyed” as they notice them.

The layers of this can get pretty amusing. We get annoyed at our annoyance, anxious about our anxiety, angry at our anger, and so forth. The inner work tool of “nothing extra” can help with this. The anger at the anger and the anxiety over the anxiety are extra. Recognize them as extra and let them go. Just drop them — they're only extra baggage.

Boredom

Who hasn't occasionally felt bored with their work? If boredom is truly infrequent for you, then it's no big deal. It happens, and you know it will soon pass. But for some, boredom becomes a major aspect of their work. This is a problem. I want you to love your work and be energized by it. This is difficult when you're mostly bored with it.

What do we have in the inner work tool bag that can help with this? Computer games! No, wait, that's not right. But let's look at computer games, because that offers some insight into our habitual response to boredom. I've noticed that it's usually when I'm resisting the next task that I tend to click on the Freecell or Solitaire icons on my computer. It isn't necessary that the next task is intrinsically boring, just that I'm resisting it.

that change by the moment. In meditation practice this can lead to experiences of clarity and spaciousness. In commissioning, it is enough that we don't define and limit ourselves by a limited and passing feeling such as anxiety or anger.

If computer games aren't your reaction to boredom, try to identify what your reaction is. Do you spend energy getting annoyed at your job or your supervisor? Do you mentally doze off? Whatever your reaction is, try to notice it.

Why do I resist that next task? Some things are just naturally difficult for me, as I'm sure some are for you. Take writing this paper for instance. Organizing my thoughts on paper is challenging to me. Perhaps anxiety plays a part in this — anxiety over failing, not meeting the deadline, or just drawing a blank. So I'm almost magnetically pulled towards that Freecell icon. What's to be done?

The first tool I'd pull out for this is The Pause. When you notice you're bored, just pause for a moment and don't react by turning to the computer game, bad-mouthing your boss, or nodding off. Take those couple of deep breaths and just notice the bored feeling. Again, don't identify with it. Just notice it, acknowledge it. Gently name it if that helps.

Next, investigate. We commissioning providers are naturals at that. After all, that's a large part of what we do; we investigate. In this case we'll just turn that investigation inwards. Inner investigation is a primary tool for practicing the inner game. The first question I ask myself is, "What's this about?" This is a here and now question. What is going on right now that connects to this feeling of boredom? Am I resisting something? What? Is there a good reason to resist this? Do I feel incapable of doing this? Am I anxious about the task or the reaction I may get when I present the finished product?

Is this just a habit reaction? Have I taught myself that I'm always to be bored when I have to do whatever it is? Recognizing reactions that are born of habit reaction or habit energy is another important tool in this inner work. The funny thing about habitual reaction is that though it may once have been an appropriate response to something, it typically becomes unnecessary or inappropriate as time passes. Just recognizing that a reaction comes from habit is often enough to soften our identification with it, release its hold, and free us for a more natural and energetic response.

Of course there are also some outer tools that help deal with boredom. If you've been stationary, get up and move around. Drink some water. Take a nap. Turn to a task that more suits your body and mind states of the moment. (That means you have to check in with what's going on inside.) Organize your days for some task or location variety. Breathe.

Agonizing Over a Mistake

Agonizing over mistakes typically invokes regret, self-judgment, and embarrassment. Like all the challenges I've offered up so far to our inner game, a useful response begins with Just Noticing. The tools of Nothing Extra and Non-Identification are also useful. Defining yourself as a bumbler really doesn't help. Berating yourself is no help either. If you do those things, just notice that you're doing them. As before, please don't beat yourself up for berating yourself. This can be subtle; pay attention.

I note also that it is rare that anyone else notices my mistake as much as I do. Most mistakes simply don't matter very much. The main harm done is the damage we do to ourselves over these mistakes. Of course there are exceptions, and it's important to face them and deal with them. But I'm more concerned in this paper with the many small mistakes that we make big, and how they can become another unneeded obstacle to enjoying our work.

I hope you're starting to notice that it is possible to have some fun with this inner work. It can definitely be amusing to recognize the same old specters arising again and again. We start to greet them with a grin as old friends. With this humor, we also note that their hold on us gradually lessens.

Not Knowing Something

Closely related to agonizing over a mistake is the anxiety over admitting that we don't know something. Commissioning is a particularly fertile ground for this. Our scope typically spans mechanical, plumbing, electrical, structural, architectural, and construction management considerations. We want to speak knowledgably to various contractors, design engineers and architects, owners, building occupants, inspectors, and so forth. Yet, we're not always knowledgeable about a specific subject. How can we deal with this without dying a bit every time it comes up?

First, some good news: this gets easier as you get older, or at least it has for me. This is not because I've learned everything. There is always more to learn. I think it has much more to do with my learning to relax around what I don't know. As I relax I might say in a meeting, "I haven't heard that before. Would you please explain how that works?" And I notice several funny things. First, no one seems to think less of me because I admitted I didn't know something. If anything, they seem to respect me more because I acknowledge it. Second, this conveys the message that I regard them as knowledgeable where I'm not, and that they have something valuable to contribute to the team.

My advice to you, if this is a problem area for you, is to tiptoe into experimenting with it. In a one-on-one conversation, say, "I don't know. What do you think?" If you survive this experiment, try it in a meeting or even at an interview. Another thing I find helpful when I'm in a funk of thinking I don't know anything is to acknowledge to myself and even secretly celebrate what I do know. Switch the focus.

Team Communication and Meetings

I regard this as one of the most important aspects of our commissioning work, and often the most personally satisfying. This is where we make the world better, both buildings and people.

Commissioning is primarily successful in either or both of two ways: 1) it verifies that systems or equipment are installed and working properly, or 2) it causes change that results in systems or

equipment working properly. In either case, and especially in the second case, good team communication is essential.

Imagine for a moment under what conditions you perform best in a group. Is it when the group leader treats you as though you're incompetent and out to cheat him? Or is it when the group leader treats you with respect, as an equal, and operates from the assumption that you're as committed as he is to a common goal?

Most of us perform noticeably better when treated with respect and with positive rather than negative expectations of performance. I consider this the most important rule of team interaction. Throughout the commissioning process, I always voice and demonstrate my assumption that all of us on the commissioning team share a goal of creating an excellent project. This sets the tone for all team communication. But the tone can get lost if noise enters the communication.

I'm speaking here of the noise we bring to the communication through our tone or attitude. If we project to the team that we think we're the smart ones and they're the shlumps, then that's all they hear. The details that need attention are drowned out. And it's not enough to try not to express that attitude of arrogance — if we think it, it oozes out in our body language, in the tone of our voice, in the tone of our responses to others. Instead, we have to just-notice the attitude and let go of it by focusing back on the facts of the moment - what is happening right here, right now.

But what about maintaining authority? With all this touchy-feely stuff, how do we stay in control of the commissioning process? Don't we need to maintain some distance of authority from our team members?

Authority

Yes, we commissioning providers must have some authority if we are to do our work successfully. And no, we do not need to flaunt this authority or use it to maintain distance from the other team members. How do we get the authority we need? There are two main ingredients:

- 1) The authority is bestowed upon us by already established authority, usually the owner's representative and the project contract documents.
- 2) We earn the authority by being professional, usually right, and fair.

The first ingredient, bestowed authority, is more outer than inner game, but is critical and deserves a few words. In fact, I have found it to be so critical to commissioning success that I will not sign a contract with anyone but the owner or owner's representative (only one careful exception in the last 20 years), and then not without making sure that the owner will fully and vocally support my authority and that the project specifications will adequately cover commissioning (one disastrous exception in the last 20 years).³

³ I have one client who puts in the General Conditions of the contract documents that 5% of the contract amount is retained until commissioning is complete (as defined by a letter of completion from the Commissioning Agent). This almost always gets the Contractor's attention and encourages cooperation. It also gives the General Contractor a strong tool for motivating their subs.

The second ingredient, earning the authority, is more complex. I'll note first that we must earn the authority from everyone on the team — owner, designers, contractors, operators, occupants. Fortunately, the same steps seem to work with all these team members. We start by telling the team what we're going to do in some detail, who is involved at each step, and when in the process we're going to do it. And then we do it. This should sound familiar; this is what the Commissioning Plan and the Pre-Commissioning Meeting are about. I also re-visit it and focus on what will happen over the next several weeks at every commissioning progress meeting. And then I do it.

This “do it” detail is important. We lose credibility and discourage the team from taking our communication seriously when we say we'll do something and then don't follow through with it. Of course there are good reasons why plans sometimes have to be changed. This is not a problem so long as we communicate to the team that there will be a change and why.

It's also useful sometimes to subtly exhibit the benefit of your work. The commissioning deficiency or issue list in the ongoing progress reports is a good medium for this. I always include in the issue summary table a column titled, “Observed or Possible Effect if Not Corrected.” Table 1 is an example from a recent report. Note also in this table that the last column kicks off the action plan. But it's done from the standpoint of responsibility, not blame. We'll come back to this when we discuss fairness on the next page.

Table 1: Excerpt From a Commissioning Progress Report

Issue #	Date	Description	Observed or Possible Effect if Not Corrected	Action By
1.1	7/11/08	2 nd floor east Sector B duct pressure testing unacceptable	Possible excessive duct leakage	MC
2.3	8/18/08	AC-1B compressor 1 didn't start	Occupant discomfort	CC, MC

“Usually right” means that I make the effort to question whether what I'm about to say is a deficiency or issue before I say it. I question whether the way I tested or looked at something misleadingly influenced what I saw. A common example of how this can happen is when I override an input point in the control system (BAS, or Building Automation System) for a simulated functional test, and it turns out that the programming used a different point or a fixed input or included a long delay. The test is failed, but there may be nothing really wrong with the contractor's work. An off-the-record call to the programmer can usually resolve this. I tell him what I observed and ask if I'm missing something. If I'm still not sure whether I'm seeing a problem correctly — and this happens often — I typically write the Action direction as “correct or comment,” inviting an explanation from the appropriate person. I also invite discussion or response on each issue as we discuss them at the commissioning meetings.

Being fair starts with acknowledging to the team that we know that everyone makes mistakes, including ourselves. I began the pre-commissioning meeting for one particularly complex project with, “This project is big and ugly enough that we'll all end up looking stupid at some point or another. Let's just accept that, move ahead, and not beat each other up when we're all trying hard.” What I expect from the team is that people step up to the things they're responsible

for, and deal with them appropriately. I make it clear that this is expected from everyone on the team, whether contractor, designer, maintenance tech, or whomever.⁴ When it's my turn to accept responsibility for something, I make a point to do it and not offer an excuse or delay. This is not only good for the project, it's healthy for me, and I always feel much better for it.

Being fair also means giving credit when you can, especially at meetings. A “thank you” when a team member makes good on a commitment or goes beyond what was expected works wonders. We all love to be appreciated.

As mentioned earlier, being fair implies that we assign responsibility, not blame. This brings us back to our inner tool bag and our Nothing Extra tool. When we blame someone for something, we usually come from an attitude of anger or hurt. That attitude is what's extra, and it tends to warp or even destroy the message. Instead of hearing, “I noticed the condensate drains aren't installed yet; can you get these in before the next meeting?” the contractor hears, “Damn you; you suck at your job. Can't you read drawings?”

An interesting side-effect of assigning responsibility rather than blame is that it can actually empower team members. It reinforces for that person that he's an important member of the team and is trusted to make his work good. This also applies to ourselves when we take responsibility for an action or error. My conference session co-presenter, David Sellers, noted in his peer review of this paper, “a lot of times for me, the key to getting over being anxious and judgmental of myself about a mistake or misstep has been to simply take responsibility for it.”

Communication Bits and Pieces

I find it useful to do regular inner check-ups during my work, especially when I'm communicating with team members. I pay attention to tell-tale signs of creeping “extra stuff.” Am I feeling tense or angry as I write or think or say something? If so, I'm likely to communicate blame rather than a request for information or action. Am I feeling superior because I found a problem? If so, I may unconsciously let this superiority and accompanying put-down creep into the communication. Am I feeling anxiety or embarrassment because I overlooked a test or a problem until well past the optimal time to deal with it? If so, I may convince myself that it's not important and do a disservice to my client by missing something that does matter. Instead, if I recognize the anxiety or embarrassment, I can just let those feelings be, take responsibility, go ahead and apologize for the inconvenience, and move ahead to do what has to be done.

A word on timing: If the communication is written, whether a report or an e-mail, it's often possible to save it as a draft before sending it out so you can review it after the present cloud of attitude or emotion has passed. (I learned this tip from a priest who was frustrated with how his e-mails were being misinterpreted and realized that the problem was his.) If the communication is verbal, this inner reflection must take place real-time. With practice it is possible to listen to

⁴ Several years ago I did an informal analysis of commissioning issues on several diverse projects I was involved with, and was surprised to find that about 25-30% of the issues arose out of the design - due either to error or, more often, not addressing something that had to be addressed.

yourself and filter out the extra stuff before you say it, or at least before too much harm is done. It's also possible to get immediate feedback on the effect of your delivery by observing the reaction of the person you're talking to.

And a final word on anger: I think that very occasionally anger can be skillful action. If a team member repeatedly does unacceptable work or fails to meet commitments, and if non-blaming discussion fails to clear up any misunderstanding that may be the cause, then perhaps it's time to express some anger.

Zen and the Art of Functional Testing

We have a lot of territory to cover when commissioning a building, a lot to see and interpret. How is it possible to see it all? It's not possible to see it all, but we can be pretty comprehensive if we use the outer tools of organization and the inner tool of just-seeing.

The outer tools of organization include commissioning plans, pre-functional check sheets, functional performance test forms, BAS screen check forms, and so on. These serve an important purpose, directing our attention towards a long list of items, many of which we might otherwise forget. Even if we didn't forget items, we likely wouldn't remember to do them in the right sequence, and sequence often matters. How frustrating it is to go through a series of functional tests only to eventually find that some BAS points are mis-mapped or wildly out of calibration! Good test forms would have directed us to the point-to-point checkout first. This is much like a pilot's preflight checklists. Even the most experienced pilot would never take off without running through these.

The inner tools of functional testing are less easily defined. Whereas the outer tools direct our focus, the inner tools tend to widen our focus. Borrowing from the Zen lexicon, I'll call this just-seeing. What this means is that to see clearly we must shed pre-judgments, opinions, and even attitudes such as anger or anxiety. In one of his Navajo crime novels, the author Tony Hillerman tells of his lead character, Joe Leaphorn, searching a crime site for clues. His by-the-book colleague from the city asks him what he's looking for. Joe answers, "Nothing in particular. You're not really looking for anything in particular. If you do that, you don't see things you're not looking for."

That is exactly how we apply the inner tool of just-seeing to our work. We open our senses to what is and let go of opinion, direction, purpose. We pause, and then use a bridging tool: curiosity or wonder. (I regularly use four of my five senses for my commissioning work; I don't recommend using the sense of taste.) Let's consider a few examples to see how this works in practice and why it's a useful addition to the outer tools we use.

I walk into a mechanical room, pause, and listen. What pieces of equipment are making noise (i.e. running)? What time is it? Having taken this in, I switch to the outer tool of interpretation. Should that equipment be running? Why isn't the pump making any noise? I walk across a roof to do a point check on an air handling unit. I have to step around and over multiple pieces of construction debris. If I'm completely focused on the air handling unit I'm walking towards, I

will actually not notice the debris and just automatically move around it. But if I'm just-sensing, I notice the debris, wonder why it's there, and call it out in the next commissioning progress report for removal.

I often use "screen check sheets" to record the values I see on the BAS graphic for the various control points relating to the mechanical equipment in a building. In this case I'm using an outer tool aid, the screen check sheet, for the inner work of opening my senses to what is. I just see the data with no particular agenda or test in mind. Does anything in the data jar my mind? In one instance I noticed that the temperature of the return air (RAT) to an air handling unit was much lower than the average zone temperature. In fact it was close to the discharge air temperature (DAT). I followed up this observation with a look at the trended data. Figure A is the trend graph I saw.

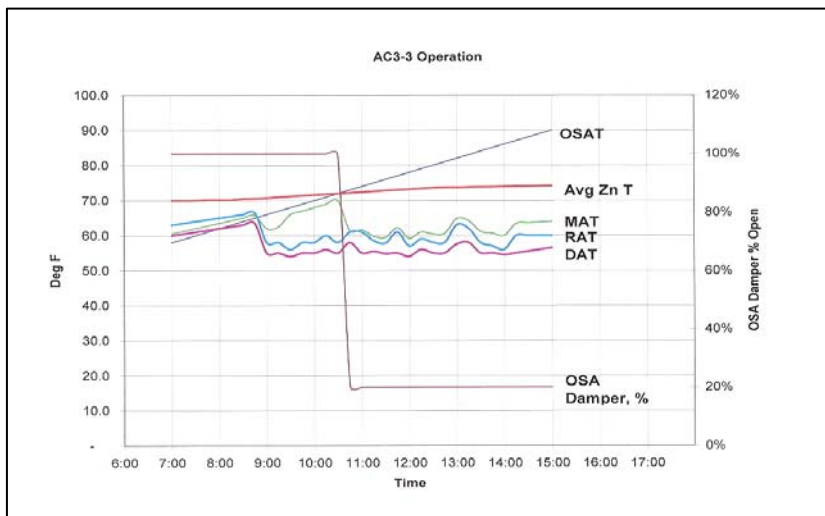


Figure A: Trend of Air Handling Unit Operation

This graph confirmed to me that something unusual was influencing the return air temperature. The close relationship of the mixed air temperature to the return and discharge air temperatures was further evidence that there was a physical explanation for what I was seeing. Before I describe the investigation and resolution, I want to introduce another inner tool that was critical to carrying these observations to a successful conclusion.

When I brought this issue up at the next commissioning team meeting, I was met with blank stares and general doubt that this was a real problem. It didn't meet any of the usual definitions of a problem. There were no broken pipes, clogged strainers, mis-mapped points, or faulty programming that seemed to be involved. I voiced my suspicion that somehow discharge air was short-circuiting to the return air plenum and back to the air handling unit return, but no one believed that could happen. I began feeling very lonely out on my limb. Some of you know how difficult it is to stick with a position when you're not absolutely certain of it and almost everyone around you is telling you you're wrong.

What are the inner tools that can help in an instance like this? I think I emptied the tool bag for this one. First, some non-identification proved useful. Embarrassment, or even the anxiety over potential embarrassment, can take over when you're exposed out on that limb. So non-identification with the person out there, just witnessing his discomfort, allowed me some clarity. Next, a strong dose of Nothing Extra helped me to just be with the question — how can we explain what we're seeing in this data? Finally, calling up some good old Courage brought me through. On the outer side, it helped that the owner allowed me the latitude to pursue this, never siding with the nay-sayers. Certainly the owner himself drew on some inner tools that enabled him to step back and allow the process to unfold. How did this end?

The balancer suggested doing a smoke test. We all gathered on the roof by the unit while he introduced smoke to the supply section and we immediately started the unit up. Within seconds smoke was pouring out from the exhaust dampers. Now everyone was a believer. When the mechanical contractor removed the supply discharge section panel, we were able to see that the factory had omitted two sheet metal strips that were to seal off gaps at the transition to the supply ductwork. There was a 4-inch wide by 6-foot long opening directly to the return air plenum. I calculated by temperatures that under certain conditions, up to 2/3 of the supply air was short-circuiting directly to the return section.

Conclusion

We have all experienced times in our work when we've done everything technically right but still haven't achieved the expected outcome. Often the explanation for this lies in the “extra stuff” — the attitudes, emotions, body language, words, and mixed messages we unconsciously dump on ourselves and those around us. This extra stuff is the object of the inner game of commissioning. To help us deal with this extra stuff, I've described a number of techniques and tools of this inner work. These include inwardly directed non-identification, witnessing, just-seeing, expanding the field of focus, letting go, recognizing habit energy, and non-judgment.

Our work as commissioning providers gives us an ideal platform for practicing this inner work. In turn, this practice immediately benefits our work and the team members who share in our work. This is a platform for practicing courage, mindfulness, objectivity, fairness, and other virtues that can transform more than just our work life.

References and Further Reading

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Gallwey, W. Timothy. 2000. *The Inner Game of Work*. Random House, Inc., New York, NY. This book adapts Gallwey's inner game principles to the field of work.

Kornfield, Jack. 2008. *The Wise Heart: A Guide to the Universal Teachings of Buddhist Psychology*. Bantam Dell, New York, NY.

Jack Kornfield is a psychologist and Buddhist teacher who, in this book, gets into the nitty-gritty of how Buddhist psychology views the human mind. He addresses many of the principles mentioned in this paper, including non-identification, the illusion of self, and non-judgment. Like most of his work, this book gives many examples of how these principles work and suggestions for further investigation and practice.