



How to Think

How often do you critically examine the process by which you think, and then ask yourself, like Dr. Phil "How's that workin' out for 'ya?" Doing so is a great idea. Why? Because the quality of our thinking process is a very important factor in determining whether or not we're successful, not only in business, but in life in general.

For as long as I can remember, I've been conducting an amateur study on how others and I think; observing and analyzing other people and myself and trying to understand how the ones who were the best at gaining the truest and most useful insights do it. What's their secret?

Native intelligence is clearly a good thing to have, but native intelligence alone does not always lead to the best results. Luckily, for those of us who didn't get a perfect score on our SATs, there is obviously something in addition to native intelligence that contributes significantly to the ability to think well. In my view, that "something" is the thinking process itself.

In this newsletter, I'll share what I've observed, as well as some rules I've distilled along the way. With some work, discipline, precision, and practice, anyone can use these techniques and methods. Your observations may be different than mine, and if so, I urge you, as your teacher did in high school, to "compare and contrast" with what I write below. If you do this, even if you disagree with everything in this newsletter, it will provide you with value.

For what it's worth, below are the conclusions of my study as of this moment. Let the comparing and contrasting begin!

I've noticed that the people who are the most successful, the most innovative, and the most prepared to take advantage of change as opposed to being derailed by it follow this three step process, in order:

Step [1] Considering the current form, separate form vs. function.

Step [2] Ignoring the current form, deconstruct just the function.

Step [3] Reconstruct the function into several new forms, and evaluate each one to see which are the most true, the most appropriate, and / or the most valuable.

One of the great things about the process is that it doesn't take long to do. In fact, its quite quick. Here's a simplified example of the process:

About five years ago, I was asked to find a new market for a product that the company had failed to sell into an existing market. "What's the product?" I asked. The answer: "It detects for the presence of anthrax." Please note that this answer provided me with the form of the product, not its function, and the form of the product wouldn't help me, because I already knew that the current form of the product was not successful at being sold.

Consistent with Step 1 above, my first job

was to determine the function of the product. "OK", I said, shifting the topic of the question from the product (its form) to the IP (its function), "how does it do this detection?"

The answer provided me with the function of the product in its current form: "It can tell us the percentage of particles that are from one to 7 microns in size and if they are biologic or not. If there is a higher percentage of biologic particles in this size range than are normal, the area is under biologic attack." This answer completed Step 1. On to Step 2.

I asked "What, in nature, is the size of the smallest bacteria?"

"About half a micron."

"Can the product detect microbes this small?"

"Yes."

"Can the product tell us if there is just one microbe present?"

"Yes".

"So would it be accurate to say that, in addition to being very good at detecting anthrax, the product could also tell us if there is even a single bacteria in the sample?"

"Yes".

In an effort to create a device that could detect for the percentage of microbes of a certain size (its present form), the company had created IP that could detect for even one microbe in the entire size range of known bacteria; a much broader and potentially useful understanding of the function of the IP. With this understanding, we've completed Step 2.



definition

Form *n.* How something appears to be; what it is currently used for.



definition

Function *n.* What something really is, at an elemental level, in its constituent, irreducible, relevant parts.



definition

Deconstruct *v.* The process of separating out the function from the form and then breaking down the function into its elemental parts.

Before moving on, however, please note that, at this time, we have no idea if this deconstructed product can be reconstructed into a more valuable form, and at this time, we don't care; that's not our objective with Step 2. Reconstruction into value is the objective of Step 3, which we'll get to next.

In this real life example, Step 3 was ultimately accomplished by reconstructing the product in a way that created an enormous amount of value in the pharmaceutical manufacturing market, which is a completely different target customer than the one originally intended. While pharmaceutical manufacturers are not that concerned about anthrax attacks, they are vitally concerned about making certain that there are no bacteria in their clean rooms. As a result, with our newly reconstructed product, we utilized the original function and reconstructed an even better form than the original.

The three-step plan works not only for descriptions of products or IP, but also for ideas and conclusions. When evaluating an idea or conclusion, always ask the question: Is this the form, or is it the function, and furthermore, are form and function well matched? Doing so will help you to think and evaluate, and perhaps come up with better conclusions.



example

Here's an example of this type of thinking by Milton Friedman, the Nobel Prize winning economist. The story is that Dr. Friedman was invited to watch the construction of a dam in a Third World country. He asked his hosts why, when they had access to heavy earth moving equipment (I believe that some were actually sitting at the site, unused), they had workers moving earth by using buckets. "It's a 'jobs program'", was the answer.

"If it's a 'jobs program'", Dr. Friedman asked, "instead having the workers use buckets to move earth, why don't you have them use tea spoons?"

While this may seem like a rhetorical question, following it to its conclusion provides valuable insight. Is the form consistent with the function? If not, is there a better way to bring these two in line? Dr. Friedman had originally assumed that the function and form of the project were well matched-- to build a high quality dam with as few resources (people and money) as possible, thereby creating the greatest value (the dam) with the least cost, and freeing up as many resources as possible to create additional value elsewhere. When he was told that the function of the project was to provide jobs, it didn't match Dr. Friedman's view of either 1) what the function of building a dam should be; or, 2) what he was told the function really was— the jobs program.

Understanding if there is a mismatch between form and function allows us to think about better forms to fulfill the function. For example, is using the construction of a dam the best way to fulfill the objective of providing jobs? What are the unintended consequences of doing this? Are there perhaps better ways? What if they used the earth moving equipment and with the efficiency gained and money saved provided training to the workers for more productive work than walking around with buckets filled with dirt? Would this form better fulfill the objective (the function) of providing work in a way that created the most value, not only for this country, but for the workers individually?

I've also found that, when the environment changes, people who understand their product, their ideas, their plans, etc. at the functional level are prepared; they can react more quickly and smarter. Why? Because, if you understand what you're doing at a functional level, you can quickly re-assemble your actions it to accommodate the new environment.



example

Before television, many baseball team owners thought that their business was selling tickets to fans to watch baseball in their stadiums. That's how they made their money, so their understanding was that this was the only appropriate form for their business.

When television came along, these owners were quite unhappy and viewed television as a competitor which would damage their business by causing some fans to watch at home, rather than come to the stadium and pay for a ticket. In contrast to this view, other owners deconstructed their business and defined it in functional terms: "My baseball team is a form of entertainment, and my objective is to make as much money as possible with that entertainment, however this is done, in ways known or not yet known; it doesn't make a difference."

For the owners who had this functional perspective, it was easy to reconstruct what they had into a form that took maximum advantage of their deconstructed view of the advent of television. With this ability, these owners saw television functionally— as just another welcomed means of getting the entertainment that they owned to more people, and making more money. The owners who knew at a functional level what they had (their IP) were much more quickly able to utilize what they had in order to serve their clearly stated objective (make as much money as possible), and to reconstruct their IP to an expanded form to take advantage of the change.

As another example, consider the difference between learning how to do something vs. learning why it should be done. If you just know how to do something (its form), if circumstances change, you won't change your behavior. This is the difference between a worker and a manager. The worker can tell you the rules (the form) but not why the rules were made (the function of the rules). In contrast, the good manager knows the function of the rules and can thereby successfully alter the rules to fit unlikely or changed circumstances, all while still being true to their function.

Be a relentless asker of questions and, in a kind and good way, a relentless persecutor of ideas (yours and others) with the single-minded focus of understanding the essence of the situation or problem. Do not accept things at "face value" or surface level. Why? Because "face value" is many times the form, or the un-deconstructed view. If you don't dig any deeper, you won't have the more important understanding of the thing at its essence, and you will just go along with the pack. Deconstructive thinking is essential for original thinking and new perspectives, which is the same as adding the most value.

There are many ways and rules to put this into daily practice. Here's some of them, in no particular order:



Rule #1 Force yourself to give examples. For this wonderfully useful recommendation, I credit my wife (who's always asking for examples), and Dennis Prager, the author and radio talk show personality. As Prager points out, the ability to make generalizations is necessary for good thinking, but with the necessary proviso that when you do generalize, you have to provide examples. (At the risk of stating the obvious, if you make a generalization but then you struggle with an example, your generalization probably isn't very good.)



Don't fall into the trap of thinking that, in order to be perceived as smart, sophisticated, or to be taken seriously, you have to speak in a way that is full of jargon and is difficult to understand for people not at your elevated level.



A good example of the opposite of this way of describing things is at <http://www.dack.com/web/bullshit.html> or <http://emptybottle.org/bullshit/index.php> The reason it's so funny is that we've all seen examples of this.

Make certain that you fully understand what you're saying or writing and that you can fully explain it, in simple terms, as free as possible of jargon and buzzwords. If you are considering which of two equally good words or concepts to use, use the simpler one.

What I've found is that the most competent, integrated and honest people speak in



Make pretend you are explaining to someone who knows nothing about your topic. Better yet, do explain your topic to someone who in reality doesn't know anything about it. If you can't explain your topic in this setting, you probably don't understand it very well. The exercise could be invaluable, in that you'll discover the flaws in your thinking, and you'll also get some practice being better at explaining yourself.

the most direct and simple way. Why? Because they've broken down their topic, understand the essence of it and can build it back up in a way most appropriate to communicate to their audience.

If someone refuses to do this for you, either they're blind to the good manners and to the effectiveness of doing this, they're lazy, they're not telling the truth, or there's a good chance they don't know what they're talking about. It's people with these characteristics who

must hide behind esoteric concepts and jargon-rich vagaries. Don't be one of these people. You're probably not fooling others, but worse, you may be fooling yourself.



Suspect people who tell you that you couldn't understand what they're saying because it's too complicated. The people who understand things best are the ones who can explain it best to non-technical people.

Examples of people who are highly, highly knowledgeable and who can explain concepts in their field to someone who is not in their field: scientist Carl Sagan, musician Leonard Bernstein, economist Milton Friedman, and your favorite teacher. The chances are that you're not at a higher level of understanding in your field than Sagan, Bernstein, Friedman and your teacher were in theirs, so it certainly should be as easy for you to speak in a way that less accomplished people could understand as it is for them. (Huge extra bonus: as a result of doing this, you'll understand your topic better, too. This is one of the gifts of teaching.)



Force yourself to make definitions. If you find that you're struggling to come up with a definition of a word, phrase or idea you're expressing, the chances are quite good that you don't really know what you're talking about, on a deconstructed level. As an example, you can't very well answer "Who's my customer?" if you don't know the answer to the question "What is the definition of a customer".



Make your definitions very, very, very simple. (See Rule #2, about Carl Sagan, et. al.)



In order to deconstruct well, you have to constantly re-assess if what you think is correct actually is correct. Mark Twain said "It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so."

The most interesting, out of the box ideas come from people who re-examine "common wisdom". One example that leaps to mind is the book *Freakonomics*, which uses data to challenge and mostly discredit common understanding and then proposes novel solutions based on this new understanding.

Corollary to this challenge: admitting when it turns out you're wrong. My recommendation: Do it. It's cathartic, effective, and leads to much better outcomes.



Critically examine every belief. Ask yourself: Why do I believe this? Why do others not? What other explanations could there be? Could there be an explanation that I don't understand and maybe can't even articulate, but appears to be present?



Don't forget to apply the process to what your competitors have and what your customers want. Relative to what customers want, Harvard Business School marketing professor Theodore Levitt reconstructs it this way: "People don't want to buy a quarter-inch drill. They want a quarter-inch hole."

An example of not following this advice is what happens when the people who start a company "fall in love" with their own technology. People don't buy the technology (the form; the drill bit); they buy what the technology can do (its function; the hole).



example

Very few people care or know how a television works. For the most part, they're not buying "reconstituted light information transmitted via cathode ray tubes." What they're buying is how much enjoyment the picture gives them.



When you hear something new, try as hard as you can not to place it into your preconceived ideas. Avoid confirmation bias.



definition

Confirmation bias *n.* The tendency to give greater weight to evidence that confirms our already held beliefs and disregard evidence that does not.

My advice: find a good balance and, from time to time, think something through assuming a completely different model, one with which you either disagree or haven't thought that much about.

Ask yourself, "How would [some other person] think about this?" In effect, borrow their model and see how it works for you. This advice, however, is not that easy to follow. In order to think at all, each of us have developed our own models of how the world works, so that we can more easily integrate new information and not have to re-think every single new piece of information. Of course, once these models are established, they're quite difficult to dislodge, because doing so is time consuming, requires a lot of effort, and, emotionally worse of all, may show you that you've been wrong all along. (That's why so few people do it.) From time to time, however, it's a good idea to ask "How would it change things if my model were wrong?"

I've been given business advice by very bright and very successful people. The

advice from some of these people (the ones I don't ask again) always seems to conform to what they did in the past to be successful, whether or not it was in any way relevant or appropriate to my situation. These are the people who never deconstructed their success, and as a result, could make critical mistakes or give very bad advice in a new situation. It is just as important to deconstruct when something goes right (not often done) as when things go wrong (done many times, but not always successfully. See: "confirmation bias.")



Rule #7 All decisions are made on the margin.

Those of you who are not majors in economics are probably asking yourself "What the heck does that mean?"

The "margin" is the most recent event. The phrase "all decisions are made on the margin" means that the present decision should not in any way be biased by prior results and / or effort on your part.

How tempting it is, even natural, not to think like this.

To guard against violating this principle, people make easy to remember questions or statements to fit particular circumstances. For deciding whether to buy, hold, or sell a stock, you may have heard "If you had no money invested in this stock whatsoever, would you buy it today?" Translation: "All decisions are made on the margin".



example

When deciding whether to buy, sell or hold a stock, it is completely irrelevant to consider how much you made or lost on it already. Why not? Because, while the future price of a stock is influenced by many factors, how much you personally lost or gained in the past is not one of them. Your loss or gain, my friend, is completely irrelevant to the future price. To put it in anthropomorphic terms, the stock price doesn't care about you. The money you gained or lost is either gone, or you have it, irrespective of what you do in the future.



example

In college, a friend of mine spent a lot of what little money he had fixing his quite often broken car, which was financially and emotionally traumatic. When the car broke again, he had to make a decision as to whether to pay for the repair or junk the car. The first words out of his mouth were "Well, I've already spent so much already that spending a little more seems to make sense." Given that we were all taking courses in economics at the time, almost before the words left his mouth, we realized that what he was saying violated the "all decisions are made on the margin rule". The money he already spent was gone, and should have zero impact on whether to pay for the new repair.



Rule #8 Avoid small sample bias so as to avoid incorrect undifferentiated conclusions.

The error of small sample bias was illustrated to me by Don Palazzo (an attorney in Westlake, California), a great business thinker and friend. At the time, I was doing business with a man who was objectively very successful, but I couldn't figure out why. This man did not have a good understanding of his field of expertise and he didn't have good social skills. I was stumped. What was it that made him so successful? Don



definition

Small sample bias *n.* The tendency to take a statistically insignificant sample and assume that the results are meaningful.

gave me the answer: "There are probably 20 people who have the same attributes as this man and act the same way, and 19 of them failed. You're talking to the one exception."

Don's point is that, while one can and should learn from successful people, and modeling by observing others rather than reinventing everything can make for an easier path to success, merely parroting the actions of a successful person will probably not take you to the same level of success. Why not? Because your circumstances and timing will be different, maybe more like "the other 19 people" Don refers to above.

Lesson: distill out the function of their success, not the form of it, and apply the function. Doing so will make you much more likely to be successful in your own circumstances.



Unless you have strong evidence to the contrary, have as your working assumption that others are not using the three-step process. Another gem from Don Palazzo: "If you want to predict what a person or company will do in the future, just look at what they did in the past. You can be pretty certain they'll do the same thing again".

At the time Don said this, we were trying to predict how a company we were talking with would structure a partnership with my company. Per Don's advice, we researched how this company had structured previous deals, and, sure enough, Don was exactly right—they did almost exactly the same thing again. They followed the same form, irrespective of different circumstances. Most companies and people will do this, although, hopefully, after reading this newsletter, you won't be one of them.

So there you have it. After decades of study, I've come to the conclusion that the most successful people follow the process and rules described in this newsletter. For students of the subject, like me, watching it in operation is a joy to behold. Practitioners can take a typical, sometimes complex situation, quickly reduce it to the point that they can focus on the important parts of it, gain complete functional mastery, and express their insights and conclusions in very simple terms. If you're not already doing it, give it a try. I'll bet you can do it, too.

Here's two exercises you can use to practice. As we all know, the Internet has greatly reduced transaction and organizational costs, resulting in the need to re-think entire industries. How would you use these changes to reconstruct the newspaper and magazine publishing business?

After you've answered that one, here's a harder question: In light of the changes the Internet brings, how would you re-construct your own industry? If you can answer this question well and before others, you may be on your way to earning a fortune.

About Chuck Bolotin

Chuck founded, funded, operated and sold two companies. The On Target Consultants Process™ he developed, and the success he has achieved applying it has made him an expert in bringing products to market in virtually any vertical market, many times when the target market is not known in advance.

Chuck is available for talks to your organization as well as personalized consulting assignments.

