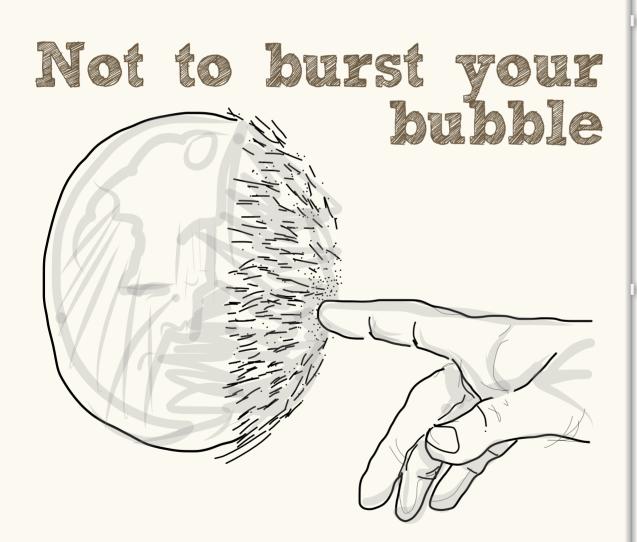
The Reality Bubble

Field Guide to Changing Perception

Mike Glaser



You are reading the first sample chapter of "The Reality Bubble". It attempts to capture concepts and applications of design principles that I have been practicing and thinking about for many years. The book explores the topic of how designers change reality as part of their process, and why that is valuable.

It builds on my experience from professional practice and academia, sharing how I perceive the world of design and how designers have an impact on the world around them with the lens of design. Consequently, it offers the value of creating novelty.

My goal is to share this philosophy with startups around the world and hopefully to get as many people as possible to act like designers.

Chapter 2

Reality gives
to a Bubble

As a kid growing up in Cleveland Ohio, I was a happy-go-lucky dreamer. I certainly was not studious like my brother, who is now a PhD medical researcher at a top university, or focused and diligent like my sister, who is a successful midlevel manager at an educational clearing house. I was interested in four things: playing outdoors, daydreaming indoors, hanging out with my pothead friends and listening to prog rock (mostly the band YES). In Elementary school I was a behavioral problem and in High School I was bored. Consequently, I did not get indoctrinated into a linear thinking world. I suspect that if I were a kid today I would be labeled with a behavioral condition and prescribed pharmaceuticals. Luckily, I was not, and while I had set the expectation bar fairly low for myself, it gave me something more important in adulthood. I stayed a dreamer.



Buying out of Reality

My story is not unfamiliar to many teenagers growing up in the suburbs during the 70's. But how is this relevant to the Reality Bubble and running a startup? Its relevance has to do with perception. Take a second to focus on your assumptions of my childhood. I tried to paint a visually rich narrative to stimulate your perceptions around the reality of my youth. While you were reading, your mind was feeding you assumptions. You may have considered me to be bluecollared, or a Browns fan, because I grew up in Cleveland, and you made an assumption about the way I played and what music I listened to. You formed an impression of my friends, and the same with my brother and sister. You may have thought, this guy is a hippy, artistic, pothead. You may have even labeled me ADHD, or a slacker, because I like to dream. Think about it: everything I described in the story has a reality. Cleveland has a reality, being a doctor has a reality, being a pothead has a reality, even me as a dreamer has a reality. In this scenario, I gave you just enough imagery to trigger a perception but not enough substance to support or change your mind or assess the accuracy of the judgment. Here lies the crux and the potential of the Reality Bubble. Everything you put out into the world, every product, service, word, or object, is open for others' interpretations, right or wrong, good or bad. As soon as you launch whatever you're putting out there, you lose control of how your offering will be perceived. As you can imagine and already have sensed, this has huge ramifications for the sustainability of your startup.

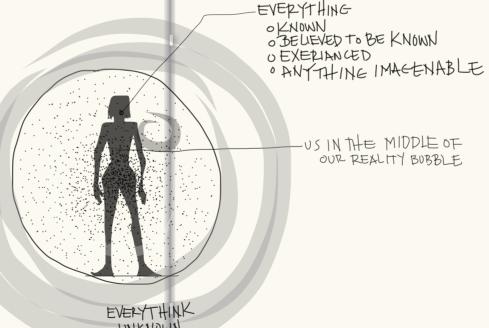
While this story is about my experience growing up, it actually illuminates the boundary of your own childhood reality. The impressions you made and believe to be accurate are based on your experiences of childhood, your family, friends, the town you grew up in, and all those people and things that influenced you along the way. An interpretation of my experience has passed through your understanding to each of these realities. If you've never

been to Cleveland, your reality is biased; if you grew up in Cleveland, you can relate to some aspects my reality; and if you were my childhood friend, my reality is more clear, so on and so forth for each part of the story. While this is certainly obvious to you, understanding how designers use this knowledge is at the heart of creating transformative solutions.

First, let's give the Reality Bubble a definition and context: the Reality Bubble is a person's cognitive boundary between the edge of what they imagine or infer to be true and that which they cannot imagine. While what sets the limits of this boundary is not fully understood, its existence is discerned though a complex tapestry of personality, reasoning, intellect, emotion, knowledge, experience, and awareness of oneself being a conscious living entity. It is the essence of sentience or qualia. When conscious, humans sense the edge of their reality though their inner voice. We know our voice intimately as it alerts us when we get close to the edge of our perceived reality and stops us from trying to step outside of that boundary. It is that uneasy feeling when we get close to something perceived to be detrimental to us either physically or emotionally. It is the voice that keeps us from leaping of the cliff or speaking up in a meeting out

of fear of getting hurt, looking foolish, or being wrong. It is the voice that compels us to defend a truth we believe is challenged. I believe it to be part of each human's survival mechanism.

The voice is an internal monologue that provides judgment to our thoughts, our actions, like and dislikes, daily decisions and even purchases. It can be considered a verbal stream of consciousness where we watch what we think, say, and do. Our inner voice functions as a filter for what we perceive internally but also controls how we want to be perceived externally by others. The



filter is so strong that it controls what perception we let in through our senses and which we block. In short, because you believed what your inner voice was telling you, I would venture to say that my reality is much different than your biased perception of my reality.

We can discern that it was your inner monologue that helped you make assumptions about my story of growing up. It is also at this very moment interpreting everything that is happening in your sphere of consciousness in real time. I'm doing it right now as I'm writing, my inner voice is making assumptions about what you will find relevant and you're doing it as you read, unpacking my assumption of what I wrote. Because we are not talking face to face or even through speaking, you have no other point of reference to interpret my meaning. In this relationship we are actually communicating inner voice to inner voice. I have the same disadvantage of not being in front of you while you read, and I can never be 100% sure if my assumptions are resonating the way I intend. I have strategized and picked each word carefully, putting them in a logical order on a verbal map. I assume this matches the logical map you would follow, with the intent that you may glean and experience these words, paragraphs, and chapters as a whole to inspire you to act more like a designer. I must hope that you are unpacking my meaning correctly and are

don't even

think about it

finding value in these assumptions. If I imagined your mental map correctly you will be inspired to continue reading. If I'm incorrect you will most likely put the book down and my efforts will be lost. As such, this book is my lobbyist. It is the voice of my brand, a talisman of sorts and the first opportunity to connect you to how valuable the Reality Bubble is. The book represents the same concerns for me as it does for your product or company. They are your lobbyists. Just like me, you are not able to personally talk to each person that buys, downloads, or uses your product. Because of this you have the same

relationship between you and your customer. You are communicating through your product, your inner voice to their inner voice. If correct in your assumptions you will create brand loyalty; if not, your customer will move on to the next brand.

Designers understand this connection of inner voice. They attempt to mitigate miscommunication by understanding that anything they assume is ripe for a disconnect. This is exactly the challenge you face when you put a product or service out into the world. You must trust that the assumptions you have made during development will be interpreted correctly and valued.



While this insight is fresh, take 5 to 10 minutes to think about or discuss with your team where your offering is based on assumption. In the space bellow jot down a list of the assumptions your company may have about your customer, such as: your user's needs, why they want your product, how they will use it, where they will use it, and what experience they will have. Don't overthink it, and open up ideas that in the past you may have filtered. Then write down everything you can think of that may or not be an assumption. If you're not sure if it is an assumption, it's better to write it down and remove it later than to filter it in your head. We will use your list later in the book.

For me, this is were things get interesting and demonstrates the potential in understanding the Reality Bubble. Designers leverage two insights that help them create both appropriate and transformative solutions. The first is that designers are trained to realize that their reality contains bias (as demonstrated in the beginning of this chapter). Designers replace their bias by developing empathy for the customer's reality, which in turn helps the designer to make decisions appropriate to the user's rather than their own. We will cover this in detail in the chapter entitled, "How Designers Work". Second, our Reality Bubble is pliable, and it can be expanded in many ways, including novelty. Designers also learn very quickly that customers cannot imagine solutions past what they think is real. A user can only tell you what they want improved or revised, often shunning innovative ideas until they can see it function or touch it as real. When it's real, they may flock to it with open arms. Designers use this insight to synthesize the users' reality not by what is said but by what is observed. Then, through a design process, they will reposition the problem uncovering unmet needs that lead to transformative

solutions. We will cover this in detail in the chapter, "How Design Works."

Why a bubble?

Why not the reality cube, cylinder, or tetrahedron? In reflecting on the question "What is the Reality Bubble?" I realized that I understood the effect that design had on changing people's perception before I knew how to describe it or how powerful effect this was. I needed a metaphor to teach students and clients my theory on how design worked, and to effectively visualize for them what I understood from practice. This turned out not overly difficult, but elusive in depth.

The bubble is a metaphor which has unfolded over approximately ten years of my professional life. It took so long not because I could not find a metaphor or disliked the bubble, but because of the challenge of understanding just how perfect a bubble is. Early on I started using a semi-permeable membrane as a metaphor in class, but it evolved to become simpler as a bubble.

It all began in graduate school at The Ohio State University with a series of events and classes that would culminate in the first seeds of a bubble. It was during a late night paper writing session for a course entitled, "The Psychology of Creativity", that I had a breakthrough. I had painted myself in a corner by arguing with the Professor Emeritus, a stately old fellow, who only taught this one class for the love of teaching. I had argued that creative testing by psychologists was impossible because they applied analytical measures to non-analytical outcomes.

Psychological tests for creativity that are structured to be analytical are expected to net quantifiable results. They rely on either measuring frequency or fixity to show the evidence of creativity. Measuring frequency means that the test analyzes the number of ideas a person can generate in a span of time. An example of a frequency challenge would be asking someone to generate as many ideas as possible for things that can be made using paperclips. Fixity, on the other hand, means solving a seemingly impossible (but not really impossible) puzzle by bending or changing the function of the objects in the puzzle. An example of a fixity challenge would be asking someone to imagine they are in a classroom with two strings that are suspended from the ceiling just far enough apart that they don't touch. The challenge is to tie the strings together even though they don't reach each other. To solve this the test subjects are expected to use two objects in the room such as a pencil and a stapler to extend the length of the string enough to be tied. In both cases each test has an expected solution or number of solutions that are deemed reasonable by the tester. Yet, in the case of the paperclip there are an infinite number of possibilities. For example,

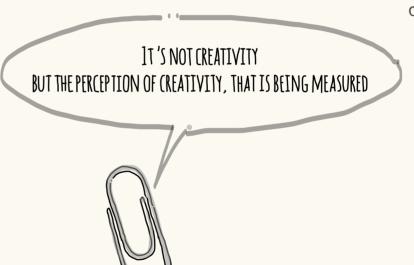
one idea might be a rocket ship if you're willing to make the leap that we could melt millions of paper clips down to form the exterior. Another solution might be to sit and wait for your hair to grow to a length long enough to weave into string extensions to tie to both loose ends. But to the tester, both of these seemingly creative answers would be eliminated. I realize now looking back on this moment that there is an important lesson to be gained form this experience: creativity is in the eye of the beholder, and as such important evidence can be blocked if you set up a perception not to recognize it. Thankfully, in the Reality Bubble we are not seeking creativity but a novelty to expand one perception to include outliers.

I was frustrated by what I thought was an obvious omission by the psychologists (who apparently are not creative and had little sense of humor) to measure creativity only through the answers they could not predict. In a last ditch effort of futility, I stated in class that a creative person could and would act non-creatively as a creative expression for the pure joy of creative titillation. The poor professor after this argument probably stopped loving teaching and quit. Even for my standards I have to admit that he was argumentative, cocky and a bit elitist. His last laugh came in the form of an assignment to write a 20-page paper on the topic, "Evidence of Willful Non-conformity in Creative Testing". Funny, I was the only one to be given that topic and I realized that I was the brunt of psychological humor after all.

Now at 2AM I was stuck with no relief in sight. At one point in the early morning I doodled and wrote, "It's not creativity, but the perception of creativity, that is being measured." Then I drew a big speech bubble around the statement coming out of the top of a paper clip. A bit later during a coffee fix, it dawned on me that for psychologists, creativity did not fit in their world view, or their reality. I'm not saying that they did not believe creativity existed, but they had no perceived way to develop a model of testing that was not analytical. All results for their model needed to be quantitative not qualitative. Instead of testing the existence of pure creativity in a creative way, they compartmentalized a model that measured their perception of creativity in an analytical way. They were trapped in an artificial space where everything had to conform to an analytical

rule. Of course, none of this went into the paper. I was still fuming and making my point in my head, which was easier than defending the argument in writing. Again, I turned to doodling and drew a psychologist sitting in a box where only the answers he perceived were able to pass through the walls and the outlier creative answers kept bouncing off. (This is my first image of what would become the semipermeable bubble.) The moral of this story is that we all sit in this box. I kept working and refining this metaphor for several years as the box became a bubble and became my next "aha".

Just after graduate school, I took my first foray into creating a startup with 2 other people: one was a mechanical engineer and the other a marketing wizard. Our vision was to create a design space for companies that wanted help solving "wicked problems" by creating product innovation. The twist was that we



offered space, facilitation

and training to attract the project teams to us. They would come to our facility with their project and team to learn how to innovate in real time. We also had an extensive network of experts we could bring in as needed in a range of scientific and manufacturing

capacities. We called this service the "Neural Network". It was a relatively novel idea for the design service industry. During the first 6 months, as you might expect, we bled money as we crisscrossed the country pitching our company and concept. As the rejections piled up I got good at understanding what resonated with the potential customer and adapted our presentation quickly to become more authentic and less boastful. With the travel I also got a chance to read, and I became fascinated with metaphysics, which will come into play later

in explaining the development of the Bubble. It is here that I learned that designers, like entrepreneurs in the early phase of development, sell faith. We had to make an emotional connection with our potential clients and because we were selling a new paradigm, the clients needed time to absorb this new reality. The adjustments started to work and in month seven we had landed a few small projects. We had learned that our company best resonated with small to midsize companies that sold their products in big box stores like Walmart and who were looking to innovate, but had never worked with a design firm before. This knowledge paid off.

Near the end of our first year we landed our first big project working with a company that manufactures commodity hair trimming and beauty supplies mainly sold at Walmart. I share this experience because it is the first real application of the Reality Bubble that shows its value in action. I will be using this experience in Chapter 5, so I will provide only a Cliff Notes version here. Our client was indicative of many in this space, and they were one of the largest employers in their small midwest town. Because they were a commodity trying to get their product on the sheves of, Walmart, Target, and KMart, the big distributers dictated the price point of the product and where it would go on the shelf. If it was not yet a commodity and it was a new, innovative product, Walmart would sell it at the price you set until your competition caught up. The CEO of our client was an admirable man, and had figured out that if he could sell his product for \$19.99 or higher he could afford to keep his factory in town; if the price dropped below that magic number he would have to move production to China and his town would wither. When we arrived they had already started the price death spiral trying to drive the price up by throwing more and more clips and meaningless accessories in the box, but could not figure out a way to innovate. Over the course of the project we developed and delivered incredible insights into how they could create multiples lines of styling products to be set their own prices rather than the prices dictated by the high volume chain stores. This came by changing their Reality Bubble. Here is what we found:

First, the client did conduct user testing, but their feedback was tainted by conducting it in the factory, with family members in a room that was set up just

like a barbershop. Point one: Users have a different reality. We found through home visits and observational studies that 93% of home haircutting happens in a bathroom or kitchen which doesn't resemble a barber shop at all. We also found that the reality of home haircutting is predominately driven by convenience and cost savings, not styling. This raised all sorts of challenges, since products sold as styling gadgets like curling irons and hair straighteners command a higher price than utility gadgets like hair cutting.

Point two: The users' perception of your product dictates what they are willing to pay. Making your user look good is always worth more than just helping them get the job done.



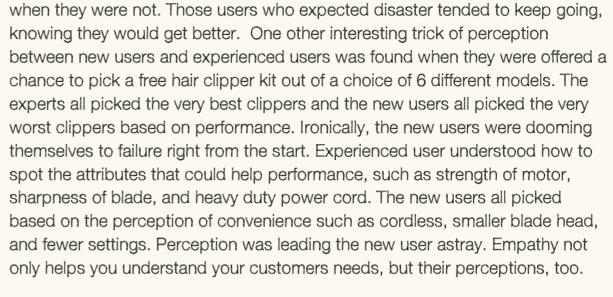
Point three: First time buyers of hair cutting appliances usually bought the cheapest device to start with, and buyers of styling products tended to buy the most expensive offering. The bombshell was: a staggering 80% of the customers stopped cutting hair after the first experience. Our client coming in at the midrange price point was missing a huge percentage of customers solely because they bought a poor quality device to start with.

Point four: the client had to change their reality from hair care to hair styling.

Point five: Know where you are in the food chain and how customers migrate to your offering. Providing a path will help them arrive.

Final Insight: Cutting hair, like many activities, is a study in human perception. It takes a huge leap of faith to commit to wanting to cut someone's hair. Face it, you don't get a chance to practice; success or failure starts with your first cut. By empathizing with the user we found that we could predict whether a first time home cutter would stop and never cut hair again or would continue to cut solely based on their expectation and perception of how hard it would be to succeed. The user's reality

directly correlates to their willingness to try again. New users who are convinced they would be successful tend to give-up



The last piece of puzzle then for me was, "Why do humans even have a Reality Bubble at all?" For this answer I needed to turn to theory in the combination of metaphysics and quantum mechanics.

The Birth of the Bubble

I can't say that I am a full-on YouTube junky, but I do on occasion catch myself lost following endless links of videos. I may start with trying to understand how to reset my smart phone, and end hours later watching some conspiracy theory nut babble about the end of the monetary system. My lovely partner Carla seems to always migrate from something intellectual to corgi puppies, then tries to rope me into watching her guilty pleasure, so I know it's not just me. On one such binge I happened to stumble unintentionally on a video about how Quantum Mechanics works. It was an animation of a cat (Schrödinger's) watching atoms acting like waves. I'm not exactly sure what it was about that video in particular, but it had the profound effect of giving me a spontaneous flash of inspiration. I quickly sketched a diagram that became the foundation of

you. The metaphor of the Bubble, which had served me so well, now became crystal clear: innovation is nothing more than a change of perception. It is the side effect of your Reality Bubble expanding. Design is the potential that ignites this cognitive leap. When innovation is authentic it is caused by experiencing something that you could not imagine to be real before, and will never see as being the same again. When innovation is contrived it is merely a message that someone persuades you to believe it is a new perception, yet it often turns out to be a refinement of an existing reality. When ultimately experienced there is no change of state and you are let down.

The following is my designer's simplistic interpretation of Quantum Mechanics. In a quantum universe at the microscopic level, particles, electrons and atoms behave differently than expected. They behave with unusual properties not bound by the physical laws we believe and live by. One such anomaly is that electrons act differently when watched than when not.

When watched or measured, electrons behave like discrete particles whose location can be predicted at any given moment. When not being watched, electrons behave like waves and have any number of probable locations. In fact, they can be in multiple locations at the same time. Therefore, the behavior of subatomic particles is determined by probability, not certainty. An extrapolation of this understanding is that particles can exhibit all the possibilities of their location and state in a fuzzy way, until they are observed. Then, and only then, do all but one of the possibilities disappear, leaving the one state you measured or see with certainty. This leads to the multiverse or parallel universe theory where all other possibilities are played out simultaneously in some other set of universes we can't see.

The spark of design is probability. If we think about this in light of consumerism, there are two corollaries that mirror quantum theory: One, we can see customers tend to behave like particles, both discretely and like waves, thus

acting unpredictably when not watched. We know from experience that they will say and express one thing, then moments later act totally differently when observed. Even if you buy into Big Data's assertion that consumers are predictable and trend in a straight line, their models are only good until a disruptive product causes customers to radically and unpredictably change course. Design then is the multiverse that is used to show how all other possibilities are played out simultaneously, expanding your understanding of what will get customers to migrate to you, and better understand what will pull them away. It's only until we allow multiple collections of ideas to exist at the same time that we can really start to explore the true potential of possible solutions. We will put this insight into practice and apply the principles of being a designer in the chapter "Expanding your Bubble."

Why Do Humans Create Reality Bubbles? The Heavy Stuff

In the grand scheme of a quantum world there exists an overarching universal or cosmic reality. It is an ultimate set of laws beyond the grasp of humankind and so with the inability to comprehend the magnitude of this reality, humans construct a subset of reality in which to exist and make sense of the human condition. By creating a contrived reality (in essence, a "Bubble"), we can happily live our lives without the crushing burden of comprehending everything to infinity. Ironically, we boldly put ourselves smack dab in the middle of our bubbles whereas in ultimate reality we are an insignificant rounding error buried deep in a lonely fissure in the far reaches of space. As such, humans struggle to make sense of the things we perceive, which we understand through science is a very, very small percentage of what is in our field of perception and an even a smaller subset of things we know exist but can't perceive, such as dark matter. The duality of this conundrum is that universal reality holds all truths, probabilities, and scenarios. Everything that can exist does whether we can imagined it or not. If it can

be, it will be, whereas human's contrived reality holds very little in the way of truth. Our Reality Bubble is filled with is inference, myths, theories, philosophies, and ideologies. In its rawest form it is a reflection of the human condition: it encapsulates our search for meaning, the inevitability of loneliness, the burden of freedom, and the desire for gratification and is ultimately shaped by our understanding of what is moral. Reality filters what we absorb by manipulating our perception. It drives us to react and want to control our surroundings, all while we struggle to make sense of the unknown. I know this sounds bleak and depressing, but in the immortal words of Dieter, Michael Myers character in the SNL sketch "Sprockets", "You are deeply depressed and your every thought is of pain and sorrow... oh how I envy you." Channeling your inner designer means this is not depressing; it is the source of inspiration.

Making the Bubble Relevant: The Fun Stuff

For a designer, the understanding that humans have Reality Bubbles is liberating. We use it as powerful knowledge that shows itself in many ways:

As empathy, knowing all humans struggle with making meaning and sense of their world. Designers help humans make meaning.

It is the opportunity to have an endless steam of ways to improve the human condition. Designers' goal is to improve humans' lives.

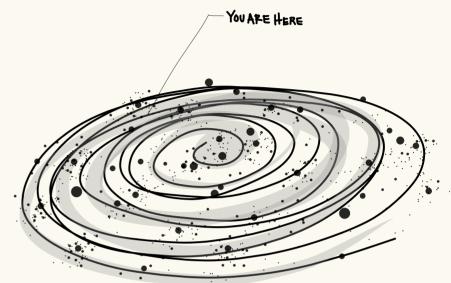
It is the freedom to imagine that anything is possible and know that if I bring it into the world it will change the reality of others. Designers change people's perceptions.

It is the knowledge that while others are trapped by their realities, designers create value by playing outside the boundaries. Designers create disruptive ideas.

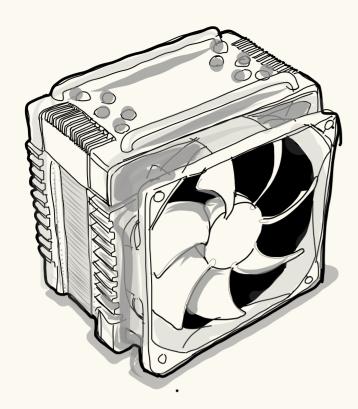
It is the potential of knowing that a person's Reality Bubble is pliable, with no limit to how far it can reach. Designers expand this bubble through novelty.

The key to activating the lens of design starts with shifting how you perceive reality. It is an understanding that reality is a medium that can and does get

manipulated like a ball of clay. Reality is not something by which you are intellectually bound. This is not the same as being bound by the laws of physics. (I'm positive that still applies.) To that point, I can demonstrate that though we are bound by physical laws,



intellectual laws can be bent to foster a change in perception. As an example, let's say a team of designers may be stuck on a way to get rid of excessive heat building up in the enclosure of a new home cleaning appliance. The team is mentally trapped by the physical laws of heat but they can play with the question, "What if heat were not bound by the laws of physics?" or , "If there were laws of heat that existed in the universe that we could tap into and change for our solution, what would we want them to be?" By turning off filters like physics, the team can net new ideas. While these new ideas could not exist in a bound reality, they do exist in an unbounded one. The goal here is not to try to make a solution that breaks the laws of physics, but to play with ideas to change your perception of how a solution can be found. We net ideas that affect our reality of the problem, grow our reality, and then allow an idea that otherwise would not be accepted to occupy a new space in our expanded reality. The key is that turning off the filters of reality allows it to grow larger. We turn off filters now because we know we can. With filters off, the team starts listing attributes of how they wished heat would behave or be controlled. They imagine that heat could be turned into a solid or jelly or maybe it could act like water, maybe heat



could be treated like an two-part epoxy and combine with something else to change state. What if we could invent a use of heat as good for the components in the box or harness the heat to provide function? As you see, we still do not have a solution but already we are repositioning the problem from, "how do we manage heat?" to "what is something that heat can do?" Hopefully at this point your mind is already starting to think of solutions. Now that we removed the filters it can help awaken part or all of your problem-solving nature. You should now hear your inner voice running with ideas. Do not fixate on any one idea but continue to let ideas come to you without blocking them. Just as we can override our inner voice that tells us not to jump out of the plane the first time we go skydiving, we can also turn off the inner voice that tells us not to express an idea that sounds too improbable or prevents us from expressing ideas we suspect are outside of reality. Filtering is the number one killer of novel ideas. Understanding how you filter is the best way to know how not to filter. Why we should not filter is that we will learn that every idea has value, unless it goes unexpressed. There are three basic ways you can block ideas: fixation on or "falling in love" with an idea, fear of expressing an idea, or not following an idea out far enough.

• Start capturing ideas in your journal, and we will see where this goes.

This fictitious scenario of heat is based on a real world example of a product I watched being developed at the sister division of a company I worked for in Germany. I had traveled to Frankfurt to collaborate on a project that was being developed in tandem between our two divisions. The lead designer was working with a team of engineers designing a High Performance Liquid Chromatograph system. One particular unit in the system had an extreme heat problem due to a very specialized high pressure peristaltic pump that was destroying all the other components in the box. In an ideas session similar to the scenario above two breakthrough transformative solutions were created. The engineers developed an internal packing clamshell made out of expanded polypropylene beads (similar to cheap beer coolers) that forced the heat to flow like a river while insulating the other temperature sensitive components. The second breakthrough came by way of using the excess heat in other areas of the system now that they could make it flow and control where it went. They were able to directed a portion of the heat to other areas in the system that needed pre-heating, to warm samples, get

And so we get to the most important insight about the Reality Bubble: all ideas that are expressed, that is, ideas that make it out of your mind and are observed by others, whether real or fantasy, have value. Even if later they are tossed out as unrealistic, they have already changed perception. All ideas filtered or blocked from being expressed have no value whatsoever. They are wasted electrons in your brain and have no potential to change others' perception. So lies the value of being a designer. Designers express ideas and make the intangible become tangible and ultimately allowing new ideas to exist by growing the reality and perception of others.

volatiles to evaporate and to stabilize results due to

fluctuating ambient temperatures. Not only that, but it also reduced manufacturing time, and became more recyclable.

