You are encouraged to read the whole book, and please make a proper citation if needed.

Brown, T. (2009). *Change by design: How design thinking transforms organizations and inspires innovation*. HarperCollins.

Page 3	What we need are new choices—new products that balance the needs of individuals and of society as a whole; new ideas that tackle the global challenges of health, poverty, and education; new strategies that result in differences that matter and a sense of purpose that engages everyone affected by them. What we need is an approach to innovation that is powerful, effective, and broadly accessible, that can be integrated into all aspects of business and society, and that individuals and teams can use to generate breakthrough ideas that are implemented and that therefore have an impact. Design thinking, the subject of this book, offers just such an approach.
Page 4	By integrating what is desirable from a human point of view with what is technologically feasible and economically viable, designers have been able to create the products we enjoy today. Design thinking takes the next step, which is to put these tools into the hands of people who may have never thought of themselves as designers and apply them to a vastly greater range of problems. Design thinking taps into capacities we all have but that are overlooked by more conventional problem-solving practices. It is not only human-centered; it is deeply human in and of itself. Design thinking relies on our ability to be intuitive, to recognize patterns, to construct ideas that have emotional meaning as well as functionality, to express ourselves in media other than words or symbols. Nobody wants to run a business based on feeling, intuition, and inspiration, but an overreliance on the rational and the analytical can be just as dangerous. The integrated approach at the core of the design process suggests a "third way."
Page 8	Change by Design is divided into two parts. The first is a journey through some of the important stages of design thinking. It is not intended as a "how-to" guide, for ultimately these are skills best acquired through doing.
Page 14	They discovered that nearly everyone they met had happy memories of being a kid on a bike but many are deterred by cycling today—by the retail experience (including the intimidating, Lycra-clad athletes who serve as sales staff in most independent bike stores); by the bewildering complexity and excessive cost of the bikes, accessories, and specialized clothing; by the danger of cycling on roads not designed for bicycles; and by the demands of maintaining a sophisticated machine that might be ridden only on weekends. They noted that everyone they talked to seemed to have a bike in the garage with a flat tire or a broken cable. The design team, inspired by the old Schwinn coaster bikes that everyone seemed to remember, came up with the concept of "coasting." Coasting would entice lapsed bikers back into an activity that was simple, straightforward, healthy, and fun. Coasting bikes, built more for pleasure than for sport, would have no controls on the handlebars, no cables snaking along the frame, no nest of precision gears to be cleaned, adjusted, repaired, and replaced. As we remember from our earliest bikes, the brakes would be applied by backpedaling. Coasting bikes would feature comfortable padded seats, upright handlebars, and puncture-resistant tires and require almost no maintenance. But this is not simply a retrobike: it incorporates sophisticated engineering with an automatic transmission that shifts the gears as the bicycle gains speed or slows.

Page 16	There are useful starting points and helpful landmarks along the way, but the continuum of innovation is best thought of as a system of overlapping spaces rather than a sequence of orderly steps. We can think of them as inspiration, the problem or opportunity that motivates the search for solutions; ideation, the process of generating, developing, and testing ideas; and implementation, the path that leads from the project room to the market. Projects may loop back through these spaces more than once as the team refines its ideas and explores new directions.
Page 17	Insofar as it is open-ended, open-minded, and iterative, a process fed by design thinking will feel chaotic to those experiencing it for the first time. But over the life of a project, it invariably comes to make sense and achieves results that differ markedly from the linear, milestone-based processes that define traditional business practices. In any case, predictability leads to boredom and boredom leads to the loss of talented people. It also leads to results that rivals find easy to copy. It is better to take an experimental approach: share processes, encourage the collective ownership of ideas, and enable teams to learn from one another.
Page 18	The first stage of the design process is often about discovering which constraints are important and establishing a framework for evaluating them. Constraints can best be visualized in terms of three overlapping criteria for successful ideas: feasibility (what is functionally possible within the foreseeable future); viability (what is likely to become part of a sustainable business model); and desirability (what makes sense to people and for people).
Page 19	Design teams will cycle back through all three considerations throughout the life of a project, but the emphasis on fundamental human needs—as distinct from fleeting or artificially manipulated desires—is what drives design thinking to depart from the status quo.
Page 21	Designers, then, have learned to excel at resolving one or another or even all three of these constraints. Design thinkers, by contrast, are learning to navigate between and among them in creative ways. They do so because they have shifted their thinking from problem to project. The project is the vehicle that carries an idea from concept to reality. Unlike many other processes we are used to—from playing the piano to paying our bills—a design project is not open-ended and ongoing. It has a beginning, a middle, and an end, and it is precisely these restrictions that anchor it to the real world. That design thinking is expressed within the context of a project forces us to articulate a clear goal at the outset. It creates natural deadlines that impose discipline and give us an opportunity to review progress, make midcourse corrections, and redirect future activity. The clarity, direction, and limits of a well-defined project are vital to sustaining a high level of creative energy.
Page 22	The classic starting point of any project is the brief. Almost like a scientific hypothesis, the brief is a set of mental constraints that gives the project team a framework from which to begin, benchmarks by which they can measure progress, and a set of objectives to be realized: price point, available technology, market segment, and so on.
Page 26	The next ingredient is clearly the project team. Though it is possible to operate as an individual (the garages of Silicon Valley are still full of lone inventors aspiring to become the next Bill Hewlett or Dave Packard), the complexity of most of today's projects is fast relegating this type of practice to the margins. Even in the more traditional design fields of industrial and graphic design, not to say architecture, teams have been the norm for years.
Page 26-27	There is a popular saying around IDEO that "all of us are smarter than any of us," and this is the key to unlocking the creative power of any organization. We ask

	people not simply to offer expert advice on materials, behaviors, or software but to be active in each of the spaces of innovation: inspiration, ideation, and implementation. Staffing a project with people from diverse backgrounds and a multiplicity of disciplines takes some patience, however. It requires us to identify individuals who are confident enough of their expertise that they are willing to go beyond it.
Page 28	Design thinking, by contrast, seeks to liberate it. When a team of talented, optimistic, and collaborative design thinkers comes together, a chemical change occurs that can lead to unpredictable actions and reactions. To reach this point, however, we have learned that we must channel this energy productively, and one way to achieve this is to do away with one large team in favor of many small ones.
Page 35	Although it can at times seem forbiddingly abstract, design thinking is embodied thinking—embodied in teams and projects, to be sure, but embodied in the physical spaces of innovation as well. The project spaces are large enough that the accumulated research materials, photos, storyboards, concepts, and prototypes can be out and available all of the time. A well-curated project space, augmented by a project Web site or wiki to help keep team members in touch when they are out in the field, can significantly improve the productivity of a team by supporting better collaboration among its members and better communication with outside partners and clients.
Page 37	My argument is that these skills now need to be dispersed throughout organizations. In particular, design thinking needs to move "upstream," closer to the executive suites where strategic decisions are made. Design is now too important to be left to designers.
Page 39	The job of the designer, to borrow a marvelous phrase from Peter Drucker, is "converting need into demand." On the face of it, this sounds simple: just figure out what people want and then give it to them.
Page 39-40	Much has been written about "human-centered design" and its importance to innovation. Since there are so few truly compelling stories, however, it's time to ask why it is so difficult to spot a need and design a response. The basic problem is that people are so ingenious at adapting to inconvenient situations that they are often not even aware that they are doing so.
Page 40	Our real goal, then, is not so much fulfilling manifest needs by creating a speedier printer or a more ergonomic keyboard; that's the job of designers. It is helping people to articulate the latent needs they may not even know they have, and this is the challenge of design thinkers. How should we approach it? What tools do we have that can lead us from modest incremental changes to the leaps of insight that will redraw the map? In this chapter I'd like to focus upon three mutually reinforcing elements of any successful design program. I'll call them insight, observation, and empathy.
Page 41	Insight is one of the key sources of design thinking, and it does not usually come from reams of quantitative data that measure exactly what we already have and tell us what we already know. A better starting point is to go out into the world and observe the actual experiences of commuters, skateboarders, and registered nurses as they improvise their way through their daily lives. In a design paradigm, however, the solution is not locked away somewhere waiting to be discovered but lies in the creative work of the team. The creative process generates ideas and concepts that have not existed before.

Page 45	At Intel's campus in Beaverton, Oregon, a high-powered team of researchers led by Maria Bezaitis uses observational tools refined in academic social science to study a range of issues that will affect the company's business not at the end of the current quarter but in ten years: the future of digital money; how teenage girls use technology to protect their privacy; patterns of street life in the emerging multinational metropolis; the burgeoning community of people who live in "extreme homes" such as RVs. The psychologists, anthropologists, and sociologists in Bezaitis's People and Practices Research Group have fanned out around the globe in search of insights into cultural transformations that may or may not remain local phenomena.
Page 47	I have had many opportunities to observe this model of ethnographic practice among my colleagues at IDEO. In a project for an NGO called The Community Builders, the largest nonprofit developer of low- and mixed-income public housing in the United States, we assembled a team consisting of an anthropologist, an architect, and a human factors specialist. Together they interviewed builders, planners, and municipal authorities, and local entrepreneurs and service providers, but did not stop there. The real insights happened when the team arranged to stay overnight with three families at different income levels and with different life trajectories who lived in Park Duvalle, a mixed-income community in Kentucky.
Page 48	On other occasions, it is our clients themselves who take the lead and provide cues as to where we might look for insight.
Page 54	A third layer—beyond the functional and the cognitive—comes into play when we begin working with ideas that matter to people at an emotional level. Emotional understanding becomes essential here. What do the people in your target population feel? What touches them? What motivates them?
Page 57-58	The movement from insight to observation to empathy leads us, finally, to the most intriguing question of them all: if cultures are so diverse and if the twentieth-century image of "the unruly mob" has given way to the twenty-first-century discovery of "the wisdom of crowds," how can we tap that collective intelligence to unleash the full power of design thinking? The designer must not be imagined as an intrepid anthropologist, venturing into an alien culture to observe the natives with the utmost objectivity. Instead we need to invent a new and radical form of collaboration that blurs the boundaries between creators and consumers. It's not about "us versus them" or even "us on behalf of them." For the design thinker, it has to be "us with them."
Page 59	My colleague Jane Fulton Suri has even begun to explore the next stage in the evolution of design as it migrates from designers creating for people to designers creating with people to people creating by themselves through the application of user-generated content and open-source innovation. The idea of "Everyman the Designer" is a compelling one, but the ability of consumers to generate breakthrough ideas on their own—as opposed to replicating existing ideas more efficiently and cheaply—is far from proven.
Page 59-60	What lies in the middle is an enhanced level of collaboration between creators and consumers, a blurring of the boundaries at the level of both companies and individuals. Individuals, rather than allowing themselves to be stereotyped as "consumers," "customers," or "users," can now think of themselves as active participants in the process of creation; organizations, by the same token, must become more comfortable with the erosion of the boundary between the proprietary and the public, between themselves and the people whose happiness, comfort, and welfare allow them to succeed.

Page 63	One way to help design thinking diffuse throughout an organization is for designers to make their clients part of the experience. We do this not just to give them the thrill of peering behind the wizard's curtain but because we find that we invariably get much better results when the client is on board and actively participating. It is one thing to witness the power of design and even to participate in it, quite another to absorb it into one's thinking and patiently build it into the structure of an organization. Those of us who have spent long years at design school still find it hard to shake off dearly held assumptions about how to get things done.
Page 64	In chapter 1, I introduced the idea that a design team should expect to move through three overlapping spaces over the course of a project: an inspiration space, in which insights are gathered from every possible source; an ideation space, in which those insights are translated into ideas; and an implementation space, in which the best ideas are developed into a concrete, fully conceived plan of action. Again, these are overlapping "spaces" rather than sequential stages of a lockstep methodology. Insights rarely arrive on schedule, and opportunities must be seized at whatever inconvenient time they present themselves.
Page 66-67	Convergent thinking is a practical way of deciding among existing alternatives. What convergent thinking is not so good at, however, is probing the future and creating new possibilities.
Page 67	If the convergent phase of problem solving is what drives us toward solutions, the objective of divergent thinking is to multiply options to create choices. These might be different insights into consumer behavior, alternative visions of new product offerings, or choices among alternative ways of creating interactive experiences. By testing competing ideas against one another, there is an increased likelihood that the outcome will be bolder, more creatively disruptive, and more compelling.
Page 69	Designers carry out research in many ways: collecting ethnographic data in the field; conducting interviews; reviewing patents, manufacturing processes, vendors, and subcontractors. They can be found jotting notes, taking pictures, shooting videos, recording conversations, and sitting on airplanes. They are, hopefully, looking at the competition. Fact collecting and data gathering lead to an accumulation of information that can be staggering. But then what? At some point the team must settle down and in an intense period of synthesis—sometimes over the course of a few hours, sometimes over a week or more—begin to organize, interpret, and weave these many strands of data into a coherent story.
Page 70	Synthesis, the act of extracting meaningful patterns from masses of raw information, is a fundamentally creative act; the data are just that—data—and the facts never speak for themselves. Once the "raw material" has been synthesized into a coherent, inspiring narrative, a higher-level synthesis kicks in. It is far from unusual for a project brief to contain seemingly conflicting goals— low cost and high quality, to use an obvious example, or an accelerated time frame together with an interest in an unproven technology.
Page 71	Individuals, teams, and organizations that have mastered the mental matrix of design thinking share a basic attitude of experimentation. They are open to new possibilities, alert to new directions, and always willing to propose new solutions.
Page 75	As with each of the stories I've told, there is a moral to be drawn from this one: don't let the results of bottom-up experimentation dissipate into unstructured ideas and unresolved plans. Some companies provide suggestion boxes intended to harvest the bottom-up creativity of the organization. They tend to fail, leaving management to wonder why ungrateful employees pour coffee into them if they are hanging on the wall or flame them if they are online. At best they tend to yield

	small and incremental ideas. More often they go nowhere because there is no obvious mechanism for acting upon suggestions. What is needed is a serious commitment from the top of the corporate pyramid, and it will be repaid by better ideas from the base.
Page 76	To harvest the power of design thinking, individuals, teams, and whole organizations have to cultivate optimism. People have to believe that it is within their power (or at least the power of their team) to create new ideas, that will serve unmet needs, and that will have a positive impact.
Page 79	Brainstorming is not necessarily the ultimate technique for idea generation, and it cannot be built into the structure of every organization. But it does prove its worth when the goal is to open up a broad spectrum of ideas. Other approaches are important for making choices, but nothing beats a good brainstorming session for creating them.
Page 80	Instead, designers learn to draw so that they can express their ideas. Words and numbers are fine, but only drawing can simultaneously reveal both the functional characteristics of an idea and its emotional content.
Page 82	The techniques of the design thinker that I have been describing—brainstorming, visual thinking —contribute to the divergent process of creating choices. But accumulating options is merely an exercise if we do not move on to the convergent phase of making choices. Doing so is critical if a project is to move from a rousing exercise in creative idea generation toward a resolution. Just for that reason, however, it can be one of the most difficult tasks that a design team faces. Given the opportunity, every design team will diverge endlessly. There is always a more interesting idea just around the corner, and until the budget runs out they will happily turn one corner after another. It is here that one of the simplest tools available for convergence comes into play: the Post-it note.
Page 82-83	Once everyone is gathered together for a project review, there needs to be a process for selecting the ideas that are strongest and hold the greatest promise. Storyboards help—panels that illustrate, almost like comic strips, the sequence of events a user might experience in checking into a hotel, opening a bank ac-count, or using a newly purchased electronic device. Sometimes it helps to create alternate scenarios. But sooner or later some level of consensus is called for, and it rarely comes about by debate or executive fiat.
Page 84	I have saved for last the single most powerful tool of design thinking. This is not CAD, rapid prototyping, or even offshore manufacturing but that empathic, intuitive, pattern-recognizing, parallel-processing, and neural-networking Internet that each of us carries between our ears.
Page 89	Since openness to experimentation is the lifeblood of any creative organization, prototyping— the willingness to go ahead and try something by building it—is the best evidence of experimentation. We may think of a prototype as a finished model of a product about to be manufactured, but that definition should be carried much further back in the process. It needs to include studies that may appear rough and simple and encompass more than just physical objects. Furthermore, it's not necessary to be an industrial designer to adopt the habit of prototyping: financial services executives, retail merchants, hospital administrators, city planners, and transportation engineers can and should participate in this essential component of design thinking, as we shall see.
Page 91	Prototypes should command only as much time, effort, and investment as is necessary to generate useful feedback and drive an idea forward. The greater the complexity and expense, the more "finished" it is likely to seem and the less likely

	its creators will be to profit from constructive feedback—or even to listen to it. The goal of prototyping is not to create a working model. It is to give form to an idea to learn about its strengths and weaknesses and to identify new directions for the next generation of more detailed, more refined prototypes. A prototype's scope should be limited. The purpose of early prototypes might be to understand whether an idea has functional value. Eventually designers need to take the prototype out into the world to get feedback from the intended users of the final product. At this point the surface qualities of the prototype may require a bit more attention so that potential consumers are not distracted by the rough edges or unresolved details. Most people, for example, will find it difficult to visualize how a washing machine made of cardboard will work.
Page 94	A simple scenario structure useful in the development of new services is the "customer journey." This structure charts the stages through which an imagined customer passes from the beginning of a service experience to the end. The starting point may be imaginary, or it may come directly from observations of people purchasing an airline ticket or deciding whether or not to install solar panels on a roof. In either case, the value of describing a customer journey is that it clarifies where the customer and the service or brand interact. Every one of these "touchpoints" points to an opportunity to provide value to a firm's intended customers—or to derail them for good.
Page 95	After spending countless days riding trains with customers, the team created a simple customer journey that described the entire travel process. The journey, for most customers, had ten steps, which included getting to the station, finding parking, buying tickets, locating the platform, and so on. The insight that proved most striking was that passengers did not take their seats on the train until stage eight—most of the experience of train travel, in other words, did not involve the train at all. The team reasoned that every one of the prior steps was an opportunity to create a positive interaction, opportunities that would have been overlooked if they had focused only on the design of the seats. Admittedly, this approach made the project far more complex, but that is typical in the move from design to design thinking. It may not be easy to reconcile the many interests that come into play in getting from Washington to New York, but Amtrak managed to do so and has created a more complete and satisfying experience for its customers. Despite its numerous and well-publicized problems with tracks, brake systems, and wheel sets, Acela has proved to be a popular service. The customer journey was the first prototype in that process.
Page 96-97	Traditionally, one of the problems with architectural design is that full-scale prototyping is virtually impossible because it is just too expensive. Instead, an imaginative team of "space designers" rented an old warehouse in a dicey part of San Francisco's Bayview district, where they built a full-scale mock-up of the entrance lobby and a typical guest suite of foam core. Their mock-up was not intended to showcase the aesthetic qualities of the space. Rather, it served as a stage on which designers, the client team, a group of hotel owner-operators, and even "customers" could act out different service experiences and explore in real space and real time what felt right. All the visitors were encouraged to add Post-its to the prototype and to suggest changes. This process yielded a host of innovations that included personalized guidebooks with local information tailored to repeat clients and their specific needs as well as a huge wall map in the lobby where guests could use magnetic tiles to mark interesting restaurants or other landmarks—a sort of "open-source guestbook." This full-scale space for acting out whatever occurred to

	them gave the design team a rich set of ideas for further testing. Moreover, they had a much better sense of how good the ideas were. No amount of survey work or virtual simulation would have achieved the same result.
Page 100-101	HBO, famous for bringing us shows such as The Sopranos and Sex and the City, had by 2004 come to realize that the TV landscape was changing. It had earned its dominance in cable TV by delivering premium content, but the company could see that new delivery platforms such as Internet TV, mobile telephony, and video on demand were destined to become more important. HBO wanted to understand what the impact of these changes might be. After a lengthy process of research and consumer observation, a strategy emerged based on creating seamless content that would spread across all of the emerging new technology platforms: desktop PCs, laptops, mobile phones, and Internet protocol television (IPTV). HBO, we concluded, should be willing to loosen its identification with cable TV and become "technology agnostic," bringing content to customers whenever they wanted it and wherever they were. Instead of making a TV program and then thinking about what to do with DVDs or mobile content, shows should be created with these other channels in mind from the outset. We understood that this ambitious agenda challenged some fundamental premises. It required HBO not only to gain a deeper understanding of how audiences relate to media but also to break down some of the entrenched silos that existed within the company itself.
Page 101	To create a compelling vision of the customer experience, the project team built prototypes and installed them in a walkthrough experience on the fifteenth floor of HBO's New York headquarters. This enabled senior executives to see firsthand how customers might interact with TV content that they could access from different devices. For technical and analytical grounding, they constructed a future road map that ran the entire length of a wall and displayed the elements of technology, business, and culture that the company would confront as the program moved forward. Touring the fifteenthfloor environment we'd created, Eric Kessler, vice president for Marketing, got it: "This isn't about the future of HBO On Demand. It's about the future of HBO."
Page 103-104	Having spent the previous two decades creating a human-centered design process for our clients, it would have been odd indeed if we had not applied it to ourselves. That is precisely what we did. During "Phase One" the project team fanned out across the landscape, talking to designers in each of our offices, our clients, our network of collaborators, and even our competitors to gain insight into how the field was evolving, where we were weak, and where we were strong. These discussions led to a series of workshops and our first prototypes, which took the form of a cluster of "Big Ideas" that captured the future as we saw it. One of these was the idea of "design with a small d"—using design as a tool to improve the quality of life at every level, as opposed to creating the signature *objects* that grace the pedestals of art museums and the covers of lifestyle magazines. Another was the idea we called "One IDEO," the notion that our future depended on our acting not as independent studios but as a single interconnected network. A third idea was to abandon our original "studio" model—which reflected the way designers are organized—and replace it with a new, untested structure of "global practices" intended to reflect the way the world itself is organized.
Page 104	We decided to stage a global event that, for the first time since we had expanded beyond our base in Silicon Valley, would bring together every employee of IDEO in one place: senior mechanical engineers from Boston, newly hired graphic

	designers from London, model makers from San Francisco, human factors specialists from Tokyo, and even our beloved receptionist Vicky in Palo Alto converged upon the Bay Area to jump-start what we soon began to call IDEO 2.0. Standing up in front of that audience of 350 peers, colleagues, and mentors to launch the event remains the high point of my career. Little did I know that the kickoff was the easy bit.
Page 104-105	The launch—three days of lectures, seminars, workshops, dancing, and a mass version of the old computer game Pong with 350 simultaneous players—was a huge success. The following year, however, was one of the toughest I have ever experienced. As the prototypes unfolded, we learned that a story needs to be repeated many times before people understand how it applies to them and many more times again before they change their behavior. We learned that leadership teams that had been successful with small local groups might not easily project their ideas across seven locations. We learned that visionary designers who had been accustomed to complete creative autonomy did not happily adapt to the idea of market-driven practices
Page 105	There are many approaches to prototyping, but they share a single, paradoxical feature: They slow us down to speed us up. By taking the time to prototype our ideas, we avoid costly mistakes such as becoming too complex too early and sticking with a weak idea for too long.
Page 112	The real meaning of the "experience economy," then, is not primarily entertainment. The hierarchy of value they describe in their influential book—from commodities to products to services to experiences—corresponds to a fundamental shift in how we experience the world, from the primarily functional to the primarily emotional. Understanding this shift, many companies now invest in the delivery of experiences. Functional benefits alone, it seems, are no longer enough to capture customers or create the brand distinction to retain them.
Page 115	Design has the power to enrich our lives by engaging our emotions through image, form, texture, color, sound, and smell. The intrinsically human-centered nature of design thinking points to the next step: we can use our empathy and understanding of people to design experiences that create opportunities for active engagement and participation.
Page 116	Earlier on I discussed the popularity of Whole Foods Market, one of the most successful retailers in the United States. Whole Foods Market continues to grow not just because of the growing market for organics but because it appreciates the importance of experience. Every aspect of the stores—the fresh produce displays, the free samples, the wealth of information about the preparation and storage of food, the variety of "healthy lifestyle" products—is designed to draw us in, to invite us to linger and participate. In the flagship store in Austin, Texas, Whole Foods has even experimented with allowing customers to cook.
Page 121	Creating an experience culture requires going beyond the generic to design experiences perceived as uniquely tailored to each customer. Unlike a manufactured product or a standardized service, an experience comes to life when it feels personalized and customized. Sometimes this feeling can be achieved through technology, in the way that Yahoo! allows people to customize their search pages. Most often it comes from the ability of experience providers to add something special or appropriate at just the right moment.
Page 128	The best and most successful experience brands have a number of things in common that may provide us with some secure guidelines. First, a successful experience requires active consumer participation. Second, a customer experience

	that feels authentic, genuine, and compelling is likely to be delivered by employees operating within an experience culture themselves. Third, every touchpoint must be executed with thoughtfulness and precision—experiences should be designed and engineered with the same attention to detail as a German car or a Swiss watch.
Page 132	Mostly we rely on stories to put our ideas into context and give them meaning. It should be no surprise, then, that the human capacity for storytelling plays an important role in the intrinsically human-centered approach to problem solving, *design thinking*.
Page 132-133	We have already seen hints of storytelling at work: in ethnographic fieldwork; in the synthesis phase, in which we begin to make sense of large accumulations of data; and in the design of experiences. In each case, we are talking about adding not just a new widget but a whole new dimension to the designer's tool kit: the "fourth dimension," designing with time. When we create multiple touchpoints along a customer journey, we are structuring a sequence of events that build upon one another, in sequential order, across time. Storyboards, improvisation, and scenarios are among the many narrative techniques that help us visualize an idea as it unfolds over time.
Page 145-146	Effective storytelling, as part of a larger campaign of using the element of time to advance an integrated program of design thinking, relies on two critical moments: the beginning and the end. At the front end, it is essential that storytelling begin early in the life of a project and be woven into every aspect of the innovation effort. It has been common practice for design teams to bring writers in at the end to document a project once it has been completed. Increasingly they are building them into the design team from day one to help move the story along in real time. At the far end, a story gains traction when it is picked up by its intended audience, who feel motivated to carry it forward long after the design team has disbanded and moved on to other projects.
Page 148	"Design" is no longer a discrete stylistic gesture thrown at a project just before it is handed off to marketing. The new approach taking shape in companies and organizations around the world moves design backward to the earliest stages of a product's conception and forward to the last stages of its implementation—and beyond. Allowing customers to write the last chapter of the story themselves is only one more example of design thinking in action.