Dorte Nielsen & Sarah Thurber

The secret of the highly creative thinker

How to make connections others don't

BIS Publishers

“Highly creative people are good at seeing connections.

By enhancing your ability to see connections, you can enhance your creativity.”

Dorte Nielsen

Introduction

It all began at an ad agency in London. It was the early 1990s—a golden age in advertising—and I was in the thick of it, working as an art director in the creative department in one of the largest ad agencies in the world. Things were good. With awards rolling in and accolades mounting, I got an invitation from my old school, the Graphic Arts Institute of Denmark, to run a series of guest lectures on creativity and creative thinking.

Colleagues scoffed at the notion of teaching creativity. "You've either got it or you don't," they said. Some closest to me warned that I was wasting my time and squandering my career trying to teach creativity to others. But my students' earnest desire to learn compelled me to try. Like many before me, I began to ponder the question "How can you teach people to become more creative?"

I became a stealthy observer. At the agency, I watched creative professionals hatch ideas and build award-winning campaigns. At the Institute, I watched students battle to produce original work. Over time, I noticed a striking pattern. It all seemed to boil down to just one thing.

People who are good at having ideas are good at seeing connections.

Could it really be this simple? Could teaching people to see connections be a way to help them be more creative?

The idea was a little unorthodox. Most creativity training focused on process and tools. Seeing connections is simply a skill—a teachable skill, one I suspected was fundamental to creative thinking. So I took a leap. I built a creativity curriculum on the cornerstone of seeing connections.

What started as a hunch developed into a series of exercises, which now form the backbone of a curriculum for highly creative thinkers.

This book serves up the findings of seventy years of research into the science of creativity and sets you on a path to pursue your individual creative potential. While most teachers aim to teach you things they know, our aim is to teach you how to come up with things nobody knows, things that you invent.

Everyone may be born with a different level of creativity, but everybody can learn skills that help creative thinking along. Making connections is such a skill. In fact it's an essential skill.

Making connections helps you see new options, create unusual solutions, and make the far-fetched combinations that lead to original ideas. Training your ability to see and make connections helps you build mental flexibility, agility, and adaptability. It also helps you come up with original ideas, which is a hallmark of creative thinkers. The truth about creative thinking is

People who are good at having creative ideas are good at seeing connections.

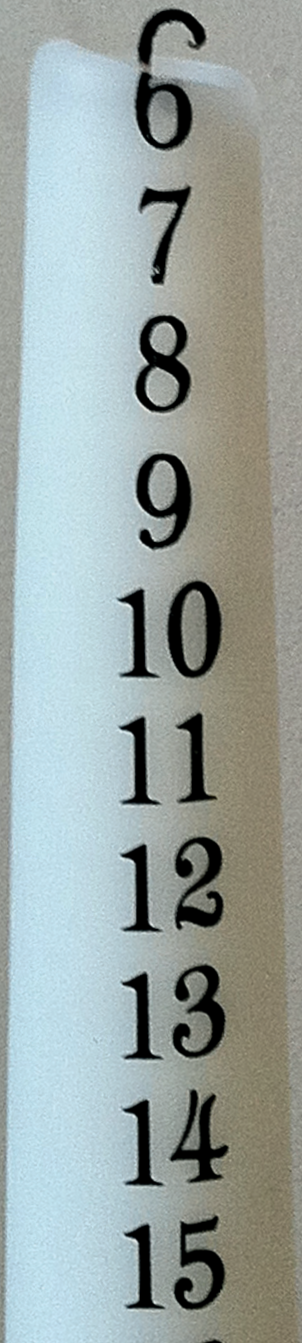
By training your ability to see connections, you improve your capacity to think creatively.

So we're going to help you crank up your connection-making machinery. First, we'll talk about the nature of connections. Then we'll share the research on how highly creative people think. We'll tell you what the neuroscientists have to say and walk you through a short course on creative thinking.

Finally we'll enroll you in our creative connections boot camp and take you through a series of exercises and tools that will sharpen your creative reflexes and build your creative confidence.

Like playing scales for musicians or running laps for athletes, seeing connections is a foundational skill for creative thinkers. Highly creative people have it as their default setting. Don't worry if you don't. Just like physical conditioning, these exercises will help make your mental muscles stronger, and allow you to see connections you couldn't see before.

At Christmastime in Denmark, Dorte's family lights an advent candle. She blew the flame out when she saw a connection between the wick and the Christmas countdown.



Twist Cone by Mads Schmidt

Connections are everywhere

Connections Hall of Fame

If there were such a thing as the "Connections Hall of Fame," George de Mestral, the inventor of Velcro®, would be in it.

The legendary tale goes that in 1948, Mestral was hiking with his dog in the hills of Switzerland and returned home to find both the animal and himself covered with burrs from the trail. His struggle to remove the burrs piqued his curiosity.

He put the burrs under a microscope for a closer look and discovered the tiny hooks at their tips. Mestral saw the connection between the burrs' hooks and the possibility of creating a synthetic fastening system.

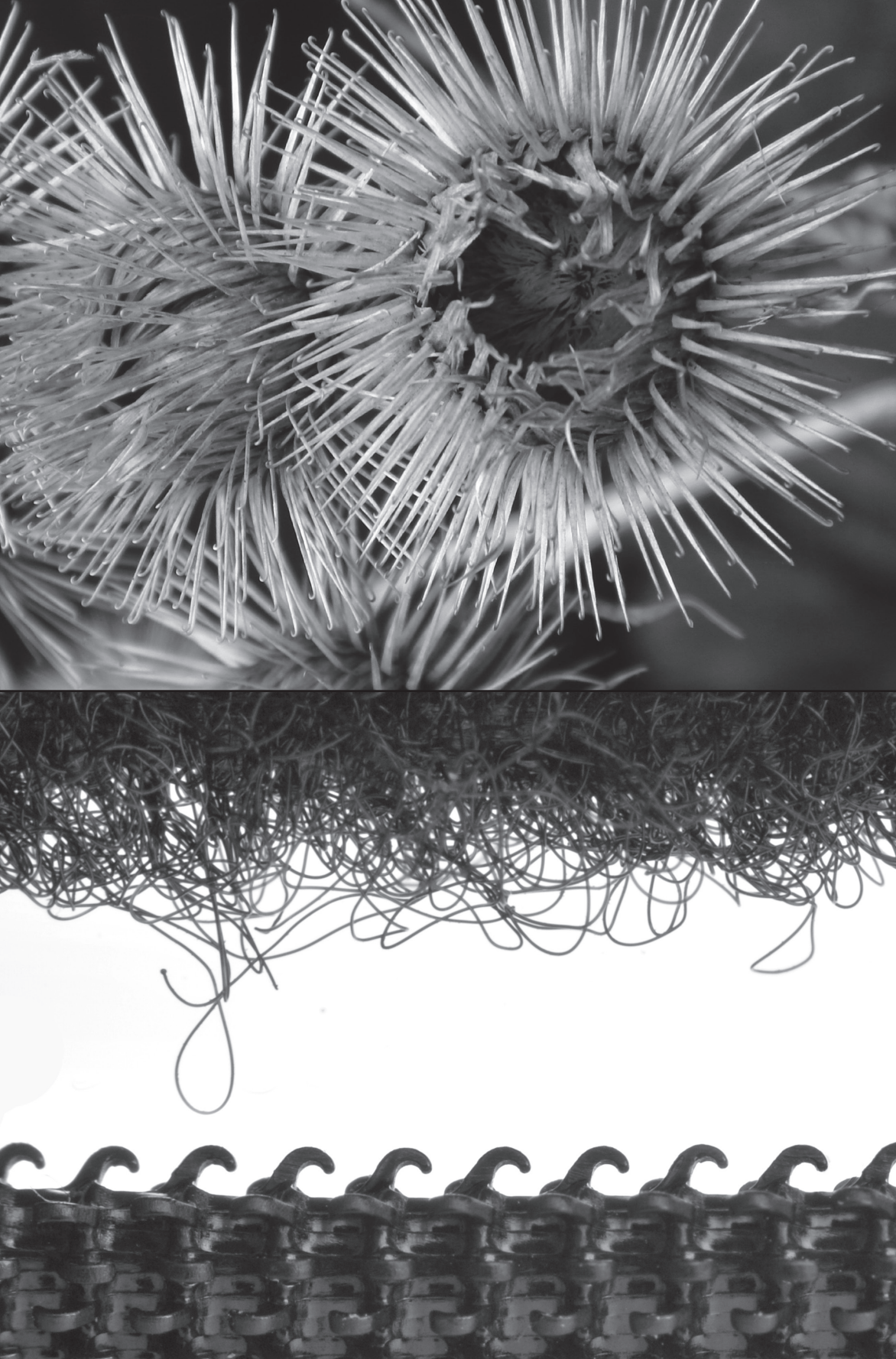
It's a classic story of connection making, but did you know that even the name Velcro is a connection? It connects the words "velour," the smooth fabric on one side of the fastener and "crochet," the pokey crochet-like hooks on the other. Vel + Cro = Velcro.

Biomimicry

Inspired in part by the Velcro story, today, scientists, engineers, and inventors, are now intentionally looking to nature for clues, solutions, analogies and insights. They call the practice "Biomimicry." Nature, they argue, boasts 3.8 billion years of experience in product design, recycling, sustainability, and complex systems. Why not look there for inspiration and new connections?

Indeed, the water repellent properties of lotus leaves have helped engineers develop self-cleaning glass. The communal activity of beehives helped business consultants understand organizational behavior. And a bird beak recently saved Japan's bullet train.

The story goes that when Japanese engineers proudly unveiled the latest model of the bullet train, they didn't anticipate the downside of speed. The new train came zooming out of tunnels so fast that it created



Synectics

While musicians were connecting songs to social activism, creativity researchers and consultants George Prince and William Gordon recognized the value of connection making in business. Early in their careers, they joined the invention design group at Arthur D. Little to conduct creativity experiments. They pioneered the use of video cameras to record collaborative brainstorming sessions. They scrutinized hours of tapes, looking for patterns that could reveal how groups arrived at creative insights.

They discovered that part of what allowed groups to make new, valuable connections was their ability to break the existing connections they had with current norms, assumptions and expectations. As in quantum science, Prince said, "all newness comes from chaos, where everything is disconnected and random and new connections can happen." But who would hire creative consultants who purposely created chaos in a business meeting?

It was Gordon who struck on the solution. They would use analogies to create mental excursions that would draw people out of their habitual thinking patterns and take them on a mental exploration "to make the strange familiar and the familiar strange." Prince explained: "Using excursions, we were creating a 'safe' chaos." They called the new problem-solving approach "Synectics," from the Greek, meaning the joining together of different and apparently irrelevant elements.

The Synectics approach is powered by making and breaking connections. A Synectics expert might help packaging designers solve the problem of potatochip breakage by asking, "How is a potato chip like a leaf?" Or challenge a psychiatrist to consider, "How is a personality like a snowflake?" Or prompt a computer programmer to seek insights by imagining, "How is the Internet like a plumbing system for information?" In each case, the mind, bumped out of familiar territory, begins to seek new connections and come up with new ideas.

How “normal” people think

Concept: Dorte Nielsen.

How highly creative people think

Concept: Dorte Nielsen.

Sparkling Idea by Sofie Engelbrecht Simonsen

Divergent thinking and leadership

Divergent thinking is fun and exploratory. It's full of dead ends, red herrings, and ideas that will never see the light of day. In case you think it's all mental fluff and frivolity, let us share one more research finding.

In 2002, researchers Vincent, Decker, and Mumford were curious to see if they could find a statistical correlation between creativity and leadership. They set out to find exactly how, or if, creativity and leadership connect. The team purposefully chose a group of leaders that fell outside of our cultural idea of who is "creative." In fact, they chose military leaders and analyzed their responses to military challenges. The findings came as a surprise to everybody.

Going in, the researchers assumed that leadership would correlate directly with experience and intelligence (of the IQ variety). What they found instead was that leaders are the people who come up with the best solutions. Simple enough. People vote with their feet. The best solutions will get the most followers.

Where do great solutions come from? Again, the researchers assumed the finger would point to experience and intelligence. But the strongest correlation was to great ideas: Great ideas produced great solutions.

Where do great ideas come from? Experience? Intelligence? This was the biggest surprise of all: according to the statistical analysis, great ideas come from divergent thinking, the ability to think fluently, flexibly and originally, the ability to explore untried, undervalued, untested, and unimagined options, the ability to do just the sort of thing we're talking about in this book.

The statistics showed that great leaders come from great solutions, great solutions come from great ideas, and great ideas come from divergent thinking. What ever happened to experience and intelligence? They still figure prominently in the play, but they work in direct support of divergent thinking, not in direct support of leadership.


NIKE
AIR

Exercise 1
Alternative uses

10-15 minutes

Thinking of alternative uses for an object is a way to train your mind to make new connections. It limbers up your thinking by asking you to stretch beyond the obvious uses and imagine the object outside of its usual context.

Challenge yourself to seek some really wacky uses. Remember humor is a great muse for creativity.

For each object, take exactly three minutes. Write down as many alternative uses as you can for a

Pot lid

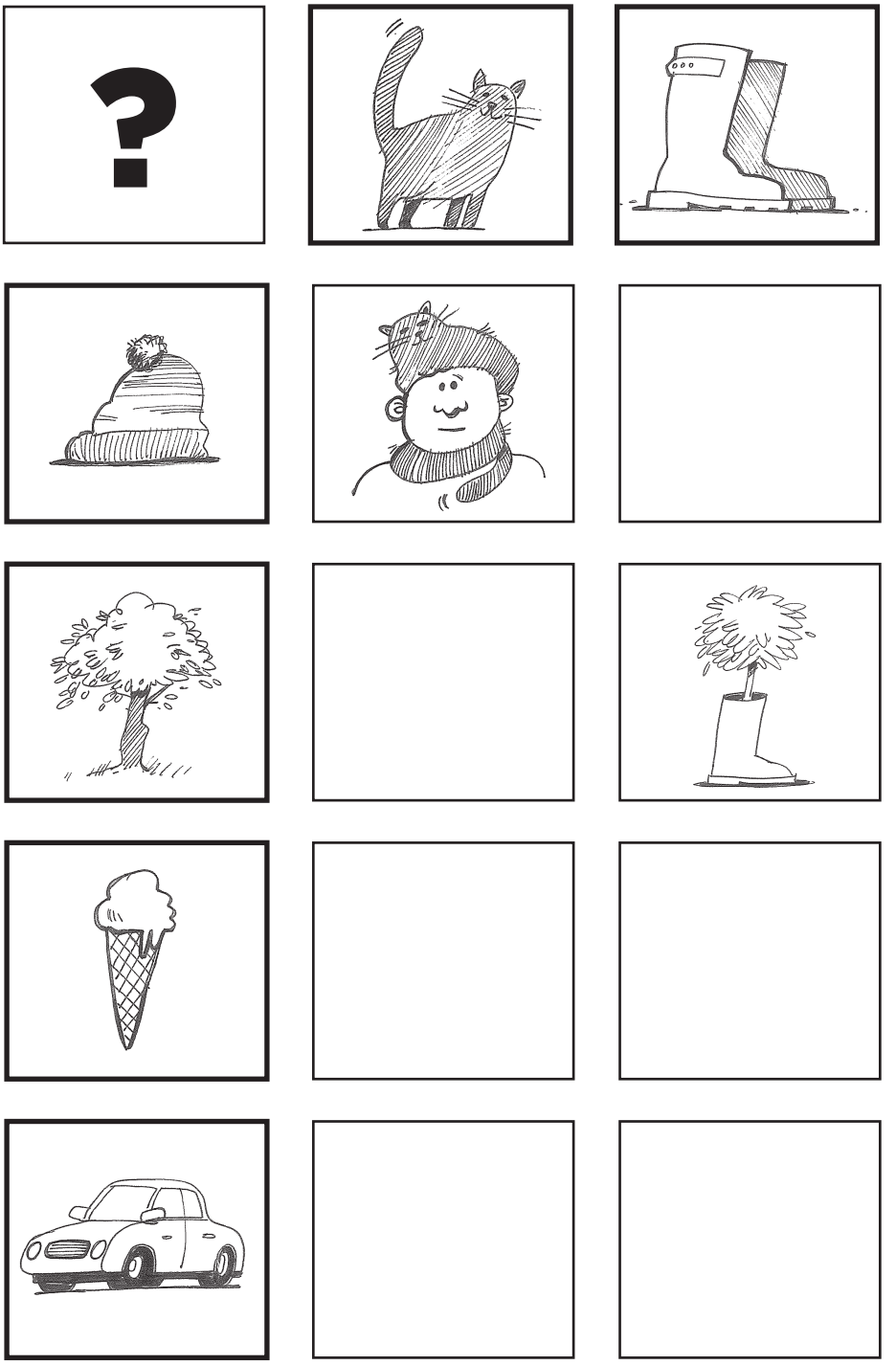
Bicycle tire

Empty ketchup bottle

Candle

Some researchers consider people's ability to think of alternative uses as a way to measure their creative ability. The more you train your capacity to think of alternative uses, the better you get. Save this exercise so you can check your progress at the end of boot camp.

Here's an alternative use for a coffin by Sune Overby Sørensen and an alternative and very practical use for a dog bone by Camilla Berlick.

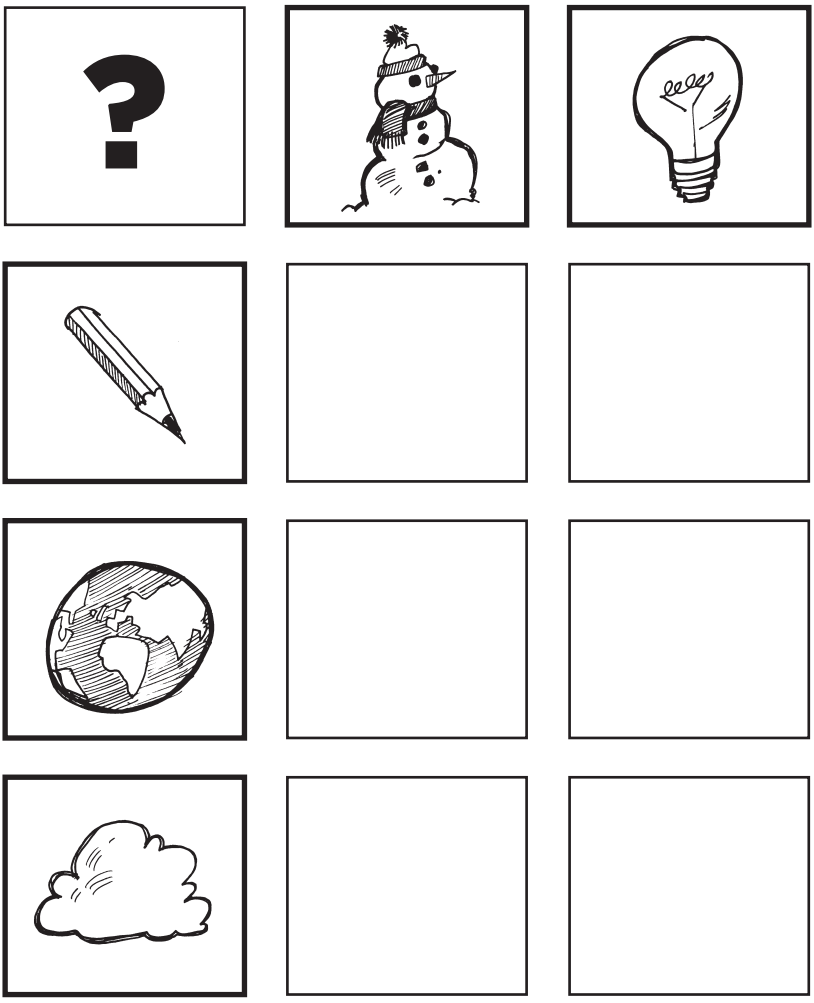


Here is an example of how this exercise can be done.

Exercise 3
Visual connections 1

10-15 minutes

Think of the grid below as a visual multiplication table. Your job is to look at each blank square and figure out how the two visuals connect. Draw a picture to illustrate your idea. Don't worry about the quality of your drawing. Just think and draw!



Exercise 10
The movie blurb

10-15 minutes

In this exercise, imagine you are writing a screenplay and you want to entice people to watch the movie. Look at the ten words below. Choose five. Discover a connection between them, and write a gripping movie blurb.

Here's an example of a movie blurb from *The Return of the Street Fighter* that you can use for inspiration: "Sonny Chiba returns as a mercenary. This time he's out to bust up a phony charity. But who can he trust? It seems everyone is in on the plot, even his trusty sidekick, Kitty. Soon Terry finds himself up against many unexpected enemies, such as his old karate teacher."

Exercise 11
Story window

10-15 minutes

Here are nine images. You will be asked to write a story using five. Think about how the various images could be connected. What is a story that combines the images? Notice how the story changes depending on which images you choose.









Once you decide on your five images, find a connection between the pictures that inspires you, and write the story.

What do Homer Simpson and your wife have in common?
This extraordinary observation of a connection went viral when it was posted on the Internet.

Exercise 14
In common

10-15 minutes

1. What do ski resorts and pantyhose have in common?
2. What do fluorescent tubes and librarians have in common?
3. What do Bermuda shorts and sermons have in common?
4. What do campsites and movies have in common?
5. What do babies and basketball players have in common?
6. What do freckles and bad neighborhoods have in common?
7. What do balloons and virgins have in common?
8. What do duct tape and gravity have in common?
9. What do Dracula and a lollipop have in common?
10. What do Alexander the Great, John the Baptist, and Winnie the Pooh all have in common?

Now try writing a few jokes of your own.

What do _____ and _____ have in common?

Part Four

Putting connections to work

Here are a few classic connection-making tools that will help you put your newfound skills to work. They will come in handy when the pressure is on to make creative connections in a real-world context.

Porcelain Helmet by Mette Nyhus Skammeritz.
Shark Tooth Knife by Thomas Jørgensen Parastatidis.

Creative connections tools

You're ready to take your connection-making abilities on the road. Our parting gift is a set of three tools to take along. Tools are meant to make a job easier. We've picked some tools that are particularly good at the job of connection making. They work the way your brain works. They are excerpted from *Idébogen [The Idea Book]* by Dorte Nielsen, and printed here with permission. Pull them out when you need to think creatively.

1. Mind Mapping
2. Cross Connections
3. Random Inspiration

In the next pages, we'll describe each tool in detail. The explanations may seem a bit elaborate. The first time you try them out, they might feel a bit forced. But keep at it. Once you get the hang of working with these tools, they'll feel like an extension of your brain, and it will all come naturally to you.