

How to Use
Everyday Ingenuity
to Solve Problems
Big and Small
Barry Nalebuff
and Ian Ayres

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Why Not?



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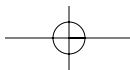
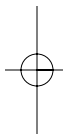
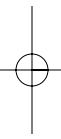
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To Helen and Jennifer,

who politely suggested that we
put our modest proposals into a book—
and then lock that book away in a drawer.

We followed half their advice.



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The Way Things Never Were

Some men see things as they are and say, "Why?"
I dream of things that never were and say, "Why not?"

—Robert F. Kennedy, after George Bernard Shaw

A Wake-up Call

The phone jolts you from a deep sleep at 2:00 A.M. Not only does it wake you up, but the high-pitched squeal in your ear tells you that it's a fax machine that has dialed your phone by mistake. And you can bet that the fax will automatically redial your number every five minutes. What can you do?

Think of all the ways that you could solve this problem. No, that's not a rhetorical question—we really want you to think of some solutions. We know it's not the world's most pressing problem, but we've just started. Let's see how much we can do without any formal training.

Start with simple solutions that don't require any new products or services. Write them down. Then figure out what is wrong with these answers and how you might overcome these problems.

When you've done that, then see if you can figure out a way to solve the problem before it happens again. How could you prevent future wrong numbers from waking you up at night? Take some time to think these questions through before you read on.

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Simple solutions might be to turn down the ringer all the way, unplug the phone, or put a pillow over it. But none of these options is very satisfactory. They block everyone from calling you—even important callers. And you end up short a pillow.

If you have both caller ID and call block, you could identify the offending number and then program your phone to block the call. But you'd have to be pretty awake to do this. It would be much easier if this two-step process were automated and you could just press *69 to block the last number from calling.

If you have a home fax machine, you could plug it into your regular phone line, get the offending fax, and be done with it. Or, if you have a service called delayed call forwarding, then an even better option exists. With delayed call forwarding, only calls left unanswered are forwarded. You could forward calls to your office fax number and then let the phone ring one more time and go back to sleep.

These are all reasonable proposals, but the best solution is one that prevents the problem from arising in the first place. You need to intercept the call before it wakes you up the first time.

This sounds like a role for an answering machine. But once again, while this measure stops the call from disturbing you, you still need to find a way to let the emergency call through.

There *is* a way that an answering machine—or better yet, voice mail—could do this. The caller would get a prerecorded message and have to type in a code to get through.

But what if the person doesn't know the code? If the goal is to prevent wrong numbers, faxes, and friends who call too late, then no code is even necessary. We don't have to be fancy. They'd call and get the message:

Hello, you've reached the Trumps. We're home but don't wish to be disturbed right now. If this is an emergency, you can hit 0 and our phone will ring. But it had better be good.

Many office voice mail systems already do this (press 0 and you'll be connected to an attendant).

The final step would be to automate the timing. If alarm clocks and heating systems can be programmed to turn on and off at reg-

ular hours, why not voice mail? You would set the phone to automatically roll into voice mail at 10:30 P.M. and out of voice mail at 7:30 A.M.¹ The result wouldn't be perfect, but it would prevent all but the most determined wrong numbers from waking you up.

In the end, it all seems so logical. Perhaps the only mystery is why the phone companies don't offer this service today.

The core goal of this book is to teach you simpler ways for finding these kinds of solutions. Here, we stumbled our way to one of them. We did it by putting together bits and pieces of solutions that were already out there. What is most important, we didn't have to start from scratch and we didn't have to rely on any new technology. In chapter 3, we'll return to this late-night call problem and resolve it using our problems-in-search-of-solutions methodology.

Innovations That Are Just Waiting to Happen

The why-not attitude lets you see potential improvements that are just waiting to happen. And once this mind-set is activated, it's hard to turn it off. You start seeing potential solutions everywhere. We start by tackling smaller problems in familiar settings:

Why not have firms call you back rather than have you wait on hold?

Why not sell generic first-class postage stamps that remain valid when rates go up?

Why not have a fixed-rate mortgage that automatically refinances when interest rates fall?

Don't stop there. You can use the same techniques that this book cultivates to make progress on larger and seemingly more intractable problems:

How can we get people to contribute more to charity?

How can we improve corporate governance?

How can we make driving safer?

How can we reduce the costs of strikes?

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You may like some of our ideas. We certainly hope you will. But that's not the main purpose of this book. What we really want is to get you hooked—hooked on a way of thinking that leads you to come up with solutions to problems, big and small.

We know you can do it, because the types of solutions we have in mind don't depend on high-tech breakthroughs. These are ideas that could be implemented today—or could have been implemented five years ago—if someone had only had the inspiration and gumption to do it.

The whole of science is nothing more than
a refinement of everyday thinking.

—Albert Einstein

Why Not? taps into a new emphasis on a rather old-fashioned kind of American ingenuity. Think, for example, about the innovation of “right turn on red” or the secret ballot. (Okay, the secret ballot was Australian ingenuity.) Think about the innovation of one-way tolls or rolling luggage. Prewashed lettuce, the ultimate low-tech invention, has become a multibillion-dollar business. Frozen, pre-chopped onions save time and tears. You can now buy government bonds with interest rates indexed to inflation. There are plenty more great ideas like these just waiting to improve the quality of our lives.

Many of our why-nots are counterintuitive—or maybe we should say temporarily counterintuitive. Ideas that never before occurred to us often reveal and explain themselves with as little as a single question:

Why not open coffeehouses inside public libraries?

Why not have cell phone contracts that automatically switch you to the plan that's best for you?

Why not market DVDs that give parents the option to show the PG-13 airplane/TV version of an R-rated movie?

Until recently, the economy looked to technology as the engine for innovation. Many great ideas have been born there. But the

A Good Cover-up

Liquid paper was invented in 1951 by Bette Nesmith (mother of the Monkees' Mike Nesmith). Working as a secretary, she wondered why artists could paint over their mistakes, but typists couldn't. In her blender, she mixed up a batch of water-based paint to match the company stationery and brought it to work in a nail polish bottle. With the small brush, she could paint over and fix typos. Some twenty-eight years later, Gillette bought her company for \$48 million.²

emphasis on high-tech, biotech, and the Internet has meant that ideas hatched from everyday ingenuity have often been overlooked.

History is littered with great inventions that are simple refinements of everyday thinking. It was Ben Franklin, not an actuary, who in 1752 founded America's first fire insurance company. He also invented the library step stool, the rocking chair, the lightning rod, bifocal glasses, the odometer (to measure postal routes), and the Franklin stove. He even proposed daylight savings time. All this innovation is in addition to his work on electricity (and his role in drafting both the Declaration of Independence and the U.S. Constitution).

Pacific islanders invented a new swimming stroke, the Australian crawl. The butterfly was invented in the 1950s as a way to win the breaststroke when someone realized that the forward portion of the stroke would be faster above water than below.³

Wayne Gretzky invented a new offense for ice hockey. He stood behind the opponent's goal and thereby forced all the defenders—including the goalie—to swivel their heads back and forth to keep an eye on him and his teammates. Blind spots were created upon which Gretzky quickly capitalized. He would shovel a quick pass to an open teammate in front of the net or, if an opponent skated behind the net to attack him, Gretzky would dart out the other side to score himself. Gretzky's innovation remains one of the hardest plays in hockey to defend against.

These sports examples are instructive because these revolutionary strategies could have been implemented literally decades earlier. The solution was there all along, waiting to be found.

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Jonathan Swift's *Gulliver's Travels* is a handbook for innovation wrapped in a children's story. By highlighting peculiar Lilliputian customs, such as limiting the length of any law to the number of letters in the alphabet or treating fraud more severely than theft, Swift challenged his readers to consider new ways of doing things. It took the Adelphia, Enron, and WorldCom scandals of 2002 for us to see that the Lilliputians were ahead of the Securities and Exchange Commission when it came to the punishment of fraud.

Innovation is not something that needs to be left to the experts or rocket scientists. Innovations are not just top-down, but bottom-up and sideways. In fact, nonexperts sometimes have the advantage of not being constrained by the accepted wisdom. It's easier to think outside the box when you don't even know where or what the box is. Not knowing "that's just the way it is" or "that was tried once but failed" may help the nonexpert conjure new ideas that the expert would not have discovered.

This theme of empowerment is also connected to a theme of optimism. *Why Not?* is a sustained argument against complacency. Our examples give lie to the kind of fatalism that holds that nothing can be done about existing problems.

We aim to make it socially acceptable for people to speak up and add their own two cents about how things should work. The world should be one big suggestion box.

Later chapters will talk about specific tools for generating new ideas. But first let's jump into another exercise. You already solved the problem of a late night-phone call. Let's tackle something a little more challenging. This exercise leads toward an innovation but starts from the other end. That is, we look at some unusual solutions that people have employed and ask where else they could work.

Problem Solving on the Fly—Just Say No

The issue of capital punishment has long been controversial. Jewish law has what at first seems to be a backward position: If the jury's vote is unanimous, the accused cannot be put to death. According to the sage Maimonides:

*If in trying a capital case all the members of the Sanhedrin forthwith vote for conviction, the accused is acquitted. Only when some cast about for arguments in his favor and are outvoted by those who are for conviction is the accused put to death.*⁴

While most everything in the Talmud is subject to several interpretations, the one we find most compelling is that this rule helped ensure that a criminal defendant was accorded a certain due process. The required lack of unanimity was only *temporary*. According to Aaron Schreiber:

*[A]fter the deliberations of the court, and before any judgment was reached, the judges were required to spend the night together in pairs, searching for a possible defense for the criminal defendant.*⁵

The sages were concerned that the defendant be given a proper opportunity for acquittal. They wanted to make sure that someone played the Henry Fonda role in *Twelve Angry Men*. The non-unanimity rule was a way of enforcing that someone on the jury make the case for acquittal. If everyone rushes to convict, then there is a question of whether both sides of the argument were really heard.

Jewish law is very similar in spirit to the role of an *advocatus diaboli*, or devil's advocate, in the Roman Catholic Church. For the church, elevating someone to sainthood is a momentous decision. For more than five hundred years, this canonization process has followed a formal procedure in which one person (a postulator) presents the case in favor and another (the promoter of the faith) presents the case against. Prospero Lamertini (later Pope Benedict XIV, 1740–1758) described the promoter's charge:

It is [the promoter of the faith's duty] to critically examine the life of, and the miracles attributed to, the individual up for sainthood or blessedness. Because his presentation of facts must include everything unfavorable to the candidate, the promoter of the faith is popularly known as the devil's

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*advocate. His duty requires him to prepare in writing all possible arguments, even at times seemingly slight, against the raising of any one to the honours of the altar.*⁶

There's a common thread to these two momentous decisions. In both cases, procedures were created to ensure that a debate occurs—that both sides of the argument are made and that all the facts are on the table.

Where else might this approach apply? In universities, the life-or-death decision is tenure. Frankly, we suspect that requiring one person to present the case against would be a useful check in the process. It can be difficult to argue against a candidate who you can predict will be promoted. The difficulty is that you have to live with your colleagues. If a person were *required* to play this role, however, it would not be held against him or her. This is the idea of a loyal opposition. In the end, the naysayer might well vote in favor of the candidate, but the discussion will have been fuller for having heard all the arguments. One good way to ensure that the process is played honestly would be to take a particularly harsh view of any negative facts that were not presented by the committee report.

Improving tenure decisions would be nice, but there are bigger problems that the preceding approach might well solve. Think about where people make big decisions that are often based on too little informed discussion.

Does corporate governance come to mind? In the boardroom, there is great pressure to go along and get along. If you challenge the CEO and lose, you might even feel compelled to resign.

In the 2002 battle over the HP-Compaq merger, we saw plenty of debate. But the opposition by dissident board member David Packard illustrates the problem of disloyal opposition. The goal is not to have disputes spill out into the press and the courtroom. Rather, the idea is to require someone on the board to present the counterarguments: why we shouldn't make this merger; why this compensation package is too high or too low; why we shouldn't build a new plant.

Instead of having a board populated with yes-men (and yes-women), the Jewish and Catholic examples suggest that there may

be room for “no-people” as well—people who are duty-bound to make the strongest argument against the proposal. Of course, one criticism is that if we have someone whose job it is to speak out against, then the rest of us can free ride. We can let the devil’s advocate do the hard work for us when in fact everyone should come prepared to discuss both sides.

A good board already does all this. That is because the best CEOs look for a board that will challenge their assumptions and conclusions. But this type of boardroom debate is far too uncommon. People who dissent are often quickly cut out of the information loop. Thus it is critically important that the devil’s advocate be someone who is truly a trusted party—a loyal opposition.

It turns out that companies located in countries with a civil-law tradition (as opposed to a common-law tradition) have something akin to the devil’s advocate role in the office of the commissioner. This corporate position exists in Mexico, France, Italy, and Chile. The process doesn’t work all that well, however, as the person is too low in stature to have the required powerful voice. In the United States, the idea of creating an independent lead director is a step in this direction, but not as big a step.

Stepping back, what’s important about this exercise is that we generated a why-not proposal for governance through a reverse direction. We didn’t start with the problem and say, “How do we solve it?” Had we done so, we might not have thought about the role of a devil’s advocate.

Instead, we started with an unusual solution from Jewish and Catholic law that has stood the test of time and then found a new application. Typically, the underlying problem being addressed arises in more than just one context. Thus, after finding the solution, we figure out what type of problem it is really solving and then look for other arenas in which similar problems arise.

Preemptive Strike

Let us make a preemptive strike against what the nattering nabobs of negativism say: If that’s such a good idea, why hasn’t someone already done it?

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This is a fair question. It is a test used by all venture capitalists. The mistake is to jump to the conclusion that if it hasn't been done already, there must be something wrong with the idea.

It is absurd to suggest that all the good ideas have already been thought of, and yet, this refrain keeps reemerging. The Spanish Royal Commission rejected Christopher Columbus's proposal to sail west with the view that "[s]o many centuries after the Creation, it is unlikely that anyone could find hitherto unknown lands of any value." Lord Kelvin predicted in 1900 that "[t]here is nothing new to be discovered in physics now. All that remains is more and more precise measurement." John Horgan's *End of Science* made a splash in 1997 and then sank into oblivion (right before the genomics revolution).

This "nothing new under the sun" theme is also captured in the old joke about two University of Chicago economists going for a walk. One sees a twenty-dollar bill lying on the ground and starts to bend over and pick it up, but the other stops her, saying, "It's a counterfeit. If it were real, someone would have picked it up already." Concluding that an idea must be flawed because it hasn't already been done is rather like presuming any money on the sidewalk must be a fake.

You might be saying to yourself, okay, there will, of course, always be some good ideas waiting to happen. But if the particular ideas that you're touting in this book are so good, Ayres and Nalebuff, why haven't you already done them?

This is certainly the kind of question we ask when a stockbroker touts a new stock. Do you drink your own Kool-Aid?

In our case the answer is yes, quite literally. Except it's Honest Tea. Inspired by a why-not idea, one of us (Barry) cofounded a company that makes barely sweetened bottled iced teas. In 2003, the company turned five, which is a respectable age measured in beverage industry dog-eat-dog years. With sales of \$5 million, it's even profitable. (You can learn more about Honest Tea in chapter 8.)

We have also worked to make home-equity protection, three-year business schools, and automatically refinancing fixed-rate mortgages a reality. Unlike buying stocks, it is hard work to put ideas into practice. And no one can do everything.