The Art of Asking Questions

To humans, to AI, to self, to ...

Overview

- How questions work
- Importance of asking questions
- Question Formulation Technique

Read in 2010

...

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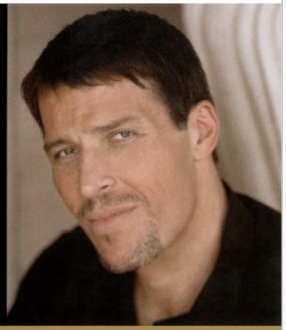
AWAKEN THE GIANT WITHIN

How to Take Immediate Control of Your Mental, Emotional, Physical and Financial Destiny!

#1 National Bestseller



ANTHONY ROBBINS

BESTSELLING AUTHOR OF *INNER STRENGTH* AND *UNLIMITED POWER*

8 QUESTIONS ARE THE ANSWER

"He who asks questions cannot avoid the answers."
—CAMEROON PROVERB

They needed no reason. They came simply because he was of Jewish descent. The Nazis stormed into his home, arresting him and his entire family. Soon they were herded like cattle, packed into a train, and then sent to a death camp in Krakow. His most disturbing nightmares could never have prepared him for seeing his family shot before his very eyes. How could he live through the horror of seeing his child's clothing on another because his son was now dead as the result of a "shower"?

Somehow he continued. One day he looked at the nightmare around him and confronted an inescapable truth: if he stayed there even one more day, he would surely die. He made a *decision* that he must escape and that escape must happen immediately! He knew not how, he simply knew he must. For weeks he'd asked the other prisoners, "How can we escape this horrible place?" The answers he received seemed always to be the same: "Don't be a fool," they said, "there is no escape! Asking such questions will only torture your soul. Just work hard and pray you survive." But he couldn't accept this—*he wouldn't accept it.* He became obsessed with escape, and even when his answers didn't make any sense, he kept asking over and over again, "How can I do it? There must be a way. How can I get out of here healthy, alive, *today?*"

It is said that if you ask, you shall receive. And for some reason, on this day he got his answer. Perhaps it was the intensity with which he asked his question, or maybe it was his sense of certainty that "now is the time." Or possibly it was just the impact of continually focusing on the answer to one burning question. For whatever reason, the giant power of the human mind and spirit awakened in this man. The answer came to him through an unlikely source: the sickening smell of decaying human flesh. There, only a few feet from his work, he saw a huge pile of bodies

Re-read in 2025

How questions work

1. Questions immediately change our focus
    - They are the laser of our consciousness
    - They concentrate our focus and determine what we do
    - Questions can be used as a tool to control or change our focus

2. Questions help us delete/unlearn unimportant stuff
    - Presuppositions program us to accept things that may or may not be true
    - One easy way to forget unimportant stuff is to ask more questions about the important stuff

3. Questions change the resources available to us
    - Our resources are limited (or expanded) only by the questions we ask ourselves
    - “How can I turn things around?”

Being aware of the questions we ask

- Learning to consciously control the questions we ask is difficult,
- But, we can begin by first being aware of the ones we ask

“The fix is implied by stating the problem.”

Gyanu Lamichhane, PhD
Johns Hopkins University

Research interests:
Antibiotics, Drug Resistance, M. tuberculosis

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Machines are for Answers, Humans are for Questions

Session 222b Tuesday Nov 7
11:35 – 12:05 Beauregard

Dr. Gilbert Houtekamer – IntelliMagic Founder, CEO

Reading

Science is expanding our ignorance

One of the things that science does is a really curious thing. Every time we use science to try to answer a question, to give us some insight, invariably that insight or answer provokes two or three other new questions. Anybody who works in science knows that they're constantly finding out new things that they don't know. It increases their ignorance, and so in a certain sense, while science is certainly increasing knowledge, it's actually increasing our ignorance even faster. So you could say that the chief effect of science is the expansion of ignorance.

In a curious way, **AI is all about answers**. So you could say that Google is increasing answers over time, but what's interesting is that answers are becoming cheap; they're almost free, and I think what becomes scarce in this kind of place that we're headed to is questions, a really good question, because a really good question can unleash new questions.

In a certain sense what becomes really valuable in a world running under AI's reign, are great questions, and that means that for a long time humans will be better at than machines.

> "Machines are for answers; humans are for questions."

The world that AI is constructing—a world of cheap and free answers—having answers is not going to be very significant or important. Having a really great question will be where all the value is.

NOTE: The original article has `Google` instead of `AI` throughout.

Original 2014 article: A Conversation with Kevin Kelly

Kevin Kelly
Founding executive editor of *Wired* magazine

Edge *To arrive at the edge of the world's knowledge, seek out the most complex and sophisticated minds, put them in a room together, and have them ask each other the questions they are asking themselves.*

CONVERSATION : TECHNOLOGY

The Technium

A Conversation with Kevin Kelly [2.3.14]

Introduction by: **Kevin Kelly**

AI research itself is realizing the bitter value of asking the right questions

The biggest lesson that can be read from 70 years of AI research is that general methods that leverage computation are ultimately the most effective, and by a large margin.

Reading

The Bitter Lesson

Rich Sutton | March 13, 2019

The biggest lesson that can be read from 70 years of AI research is that general methods that leverage computation are ultimately the most effective, and by a large margin.

In computer chess, the methods that defeated the world champion, Kasparov, in 1997, were based on massive, deep search. At the time, this was looked upon with dismay by the majority of computerchess researchers who had pursued methods that leveraged human understanding of the special structure of chess. When a simpler, search-based approach with special hardware and software proved vastly more effective, these human-knowledge-based chess researchers were not good losers. They said that ``brute force" search may have won this time, but it was not a general strategy, and anyway it was not how people played chess. These researchers wanted methods based on human input to win and were disappointed when they did not.

A similar pattern of research progress was seen in computer Go, only delayed by a further 20 years. Enormous initial efforts went into avoiding search by taking advantage of human knowledge, or of the special features of the game, but all those efforts proved irrelevant, or worse, once search was applied effectively at scale.

This is a big lesson. As a field, we still have not thoroughly learned it, as we are continuing to make the same kind of mistakes. To see this, and to effectively resist it, we have to understand the appeal of these mistakes. We have to learn the bitter lesson that building in how we think we think does not work in the long run. The bitter lesson is based on the historical observations that:

1. AI researchers have often tried to build knowledge into their agents,
2. this always helps in the short term, and is personally satisfying to the researcher, but
3. in the long run it plateaus and even inhibits further progress, and
4. breakthrough progress eventually arrives by an opposing approach based on scaling computation by search and learning.

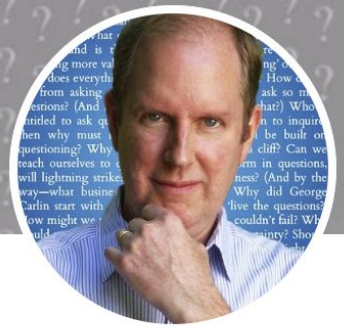
The eventual success is tinged with bitterness, and often incompletely digested, because it is success over a favored, human-centric approach.

Original article: The Bitter Lesson

What can we learn from the bitter lesson?

- Ideally, we give AI the problem and ask it to solve it
- Will it work? Probably not

- We should all learn to be a “questionologist”



Warren Berger · 2nd

Innovation Speaker • Author • Questionologist

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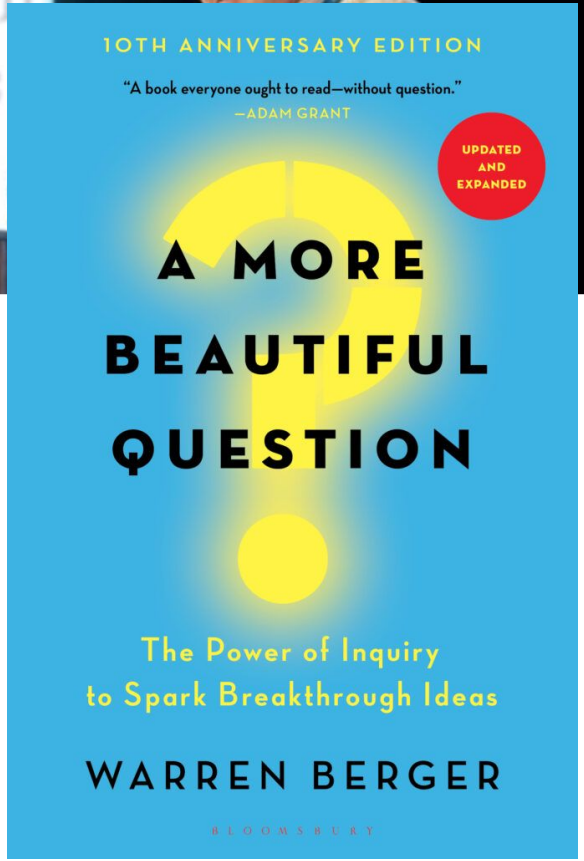
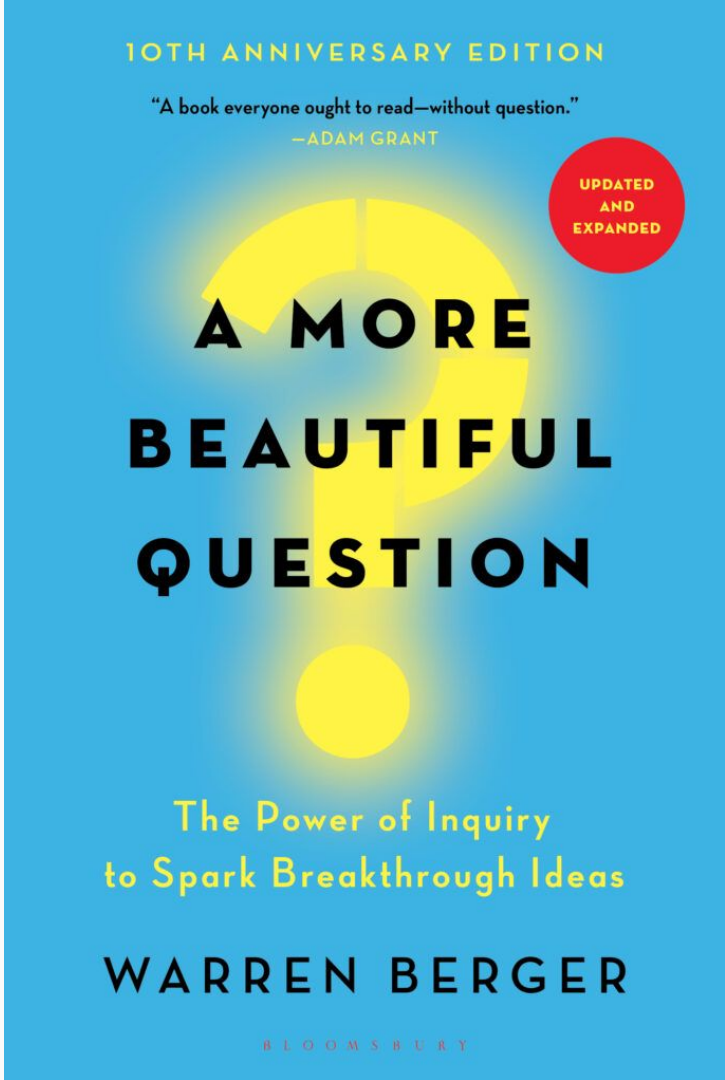


Key takeaways

Kahoot

Asking more beautiful questions

badricomnp



Question Formulation Technique

Asking better questions leads to better thinking, better solutions, and deeper learning.

https://sites.lsa.umich.edu/equitable-teaching/question-formulation-technique/

How was QFT born?

In 1980s, in dropout prevention program in Massachusetts.

Parent explained that they did not attend school meetings because they did not even know “what questions to ask”

- It helped parents ask better questions

Students did not engage enough in the class, leading to less overall learning of topics being taught.

- It improved student engagement

https://sites.lsa.umich.edu/equitable-teaching/question-formulation-technique/

What is “question formulation technique”?

- Developed by the Right Question Institute (RQI)

- Structured method for generating, improving, and using questions
- Drives learning, problem-solving, or decision-making
- Designed for:
  - students,
  - professionals, and
  - teams

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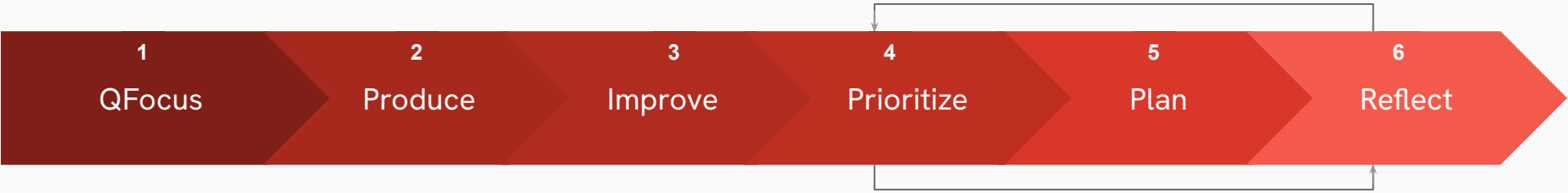
The “question formulation technique”



Source or Focus of the question. Does not include producing the questions. It can be an image, a video or a text	Produce as many questions as possible regardless of complexity or simplicity	Classify & convert questions : simple or complex, open ended or close ended, remove duplicate questions.	Rank the questions based on priority and remove questions with high irrelevance or very low priority	Decide how you’ll use those questions (e.g., for research, brainstorming, debugging, or guiding a project).	Refine questions and repeat the loop if required
Chair	What is the size? What is the color? …	What is the size? (open ended) => make it closed ended => dimensions …	What is the size ? - 1 What is the color? - 4 How many legs? - 3 How many wheels? - 2 …	For research (data collection, analysis)	What are the dimensions of the chair *(height, width, depth)*? → makes “size” measurable. …

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QFocus options (pick one)

1. Tail Risks of AI

- **Low-probability but high-impact risks** of AI systems
- Scenarios that may be **unlikely**, **but** if they occur, they could cause **severe or catastrophic consequences**

2. AI in Healthcare

3. Job Risks & AI