

# The Baker Street Steps

## Seeing and Observing

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**Holmes:** You see, but you do not observe. The distinction is clear. For example, you have frequently seen the steps which leap up from the hall to this room.

**Watson:** Frequently.

**Holmes:** How often?

**Watson:** Well, some hundreds of times.

**Holmes:** Then how many are there!

**Watson:** How many? I don't know.

**Holmes:** Quite so! You have not observed. And yet you have seen. That is just my point. Now, I know that there are seventeen steps, because I have both seen and observed.

– from “A Scandal in Bohemia”  
Sir Arthur Conan Doyle

## Mindful Interaction

“...What I couldn't understand then was that Holmes... had been *honing a method of mindful interaction with the world*. The Baker Street steps? Just a way of showing off a skill that now came so naturally to him that it didn't require the least bit of thought.”

– from the prelude to  
“Mastermind: How to Think Like Sherlock Holmes”  
Maria Konnikova, 2005, Viking Press

## Seeing<sup>2</sup>

1. verb: to perceive with the eyes, and extended uses.
2. transitive<sup>1</sup>: to be or become aware of by means of visual or observable signs; to perceive visual evidence of
3. transitive: to perceive and know through divine power or omniscience; to perceive the true nature or condition of
4. transitive: to perceive or apprehend with the mind; to understand or come to understand; to recognize or be aware of
5. transitive: to discern or recognize a particular quality, characteristic, of a person or thing

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<sup>1</sup>transitive verb: must suggest action and have a direct object

<sup>2</sup>OED, 2019

## Observing<sup>3</sup>

1. transitive: to act in accordance with, fulfill; to keep, maintain or follow
2. transitive: to take note of or detect scientifically; to watch or examine methodically without experimental or therapeutic intervention; to perceive or learn by scientific inspection or Measurement
3. transitive: to take notice of, be conscious of; to notice, perceive, see

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<sup>3</sup>OED, 2019

# Scientific Method<sup>4</sup>

noun: A method or procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses.

Examples of use:

criticism is the backbone of the scientific method

the process is based on presently valid scientific methods

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<sup>4</sup>OED, 2019

# The Computing Sciences

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The book, *The Science of Computing: Shaping a Discipline*<sup>5</sup> by Matti Tedre argues the challenges of defining computing as an academic discipline because it embodies all of these notions of identity; traces the historical traditions of computing across mathematics, engineering, and science. Discusses computing as a natural science and the algorithmization of sciences.

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<sup>5</sup>Chapman & Hall/CRC, 2014, ISBN 1482217694 9781482217698

# The Computing Sciences

So, where does that leave us?

How are we to think about *science* and *computing* as a single thing, and internalize this as an identity; such as *Professor Celia Schahczenski is a computer scientist?*

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How are we to think about *science* and *computing* as a single thing, and internalize this as an identity; such as *Professor Celia Schahczenski is a computer scientist?*

One approach is to leverage the scientific method in the practice of developing artifacts within the computing discipline.

## Computing Sciences as a transitive verb

Recall: *Scientific Method*

A method or procedure that has characterized **natural science** since the 17th century, consisting in **systematic observation**, measurement, and experiment, and the formulation, testing, and modification of hypotheses.

Consider:

The computing sciences are *everywhere*! There is virtually no human endeavor to which a computing science has not been applied or leveraged<sup>6</sup>. Therefore, those identifying as *computer scientists* must develop a unique set of abilities to *synthesize* knowledge from a wide array of areas with their computing knowledge to create computing artifacts to solve problems.

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<sup>6</sup>simple searches on Google scholar for *computer science research*

## Observation is Key to the Scientific Method

*“To acquire knowledge, one must study;  
but to acquire wisdom, one must observe.”*

*– Marilyn vos Savant*

- “See” like a scientist - be observant, critical, skeptical, seek objective verification - don't always trust your senses, but always trust your intuition (at least initially).
- Observation is not a talent, it is just a way of living life<sup>7</sup>.

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<sup>7</sup>Observe, Don't just see!, Cosire, June 18, 2014

# Nurturing your Observation Abilities

## Experience New Things

Engage your attention on things new and interesting and unique to you. Remember - be mindful - about paying close attention to the details of the environment, the experience, will help enrich the experience, increase knowledge.



# Nurturing your Observation Abilities

Meditate.

Mindful meditation is the act of clearing your mind to pay attention to the moment and the world around you. Many think meditation is a withdrawal into the self, when in reality is an opening up to the world around you. Helps focus your attention - on breathing, on specific sounds, on feelings of temperature, on heart rate, etc.

# Nurturing your Observation Abilities

## Logic Makes you Sharp!

Practicing logic puzzles will aid in honing the logical and reasoning faculties. Enhancing logic and reasoning will help you become a critical thinker, and help you be scientific skeptic - demanding rigor, evidence, and a rational framework before adoption of new ideas; but remaining open to accepting ideas that are counter to belief.

## Nurturing your Observation Abilities

### Practice Memory Recollection

Sit in the evening and keep a written or electronic journal and recollect the major events and their outcomes for the day. Allocate only 30 minutes to remember your daily accomplishments, what did not get accomplished and what you are likely needing to get done in the coming day, week, month, etc. Taking this time to be reflective, to recollect important and meaningful events, especially associated with a mechanical task like writing, will help embed these recollections into you memory more concretely, allowing you to not just recall them more easily, but synthesize them in future thoughts.

## Nurturing your Observation Abilities

### Learn through Trial and Error

Be fearless! Do not be afraid of making mistakes. Instead, analyze the mistakes - use your logic and reasoning abilities to understand why the mistake was made, what contributed to the mistake, how can you counter these moving forward, and most importantly, given the outcome different than what was anticipated, is there any value in the “mistake”!

Consider “mistakes” of fame: Post-it-not, the computer mouse, etc.

# Questions

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