

# The Powers of Observation

Proper use of the basic principle of the scientific method not only helps develop solutions to difficult questions, it teaches people who use it to reason analytically in each step of their investigation and/or project. People must use a certain pattern of thought to lead from one step to the next in any endeavor. If they leave out steps due to preconceived notions of results, they are doing a disservice to their work. It is necessary to use good, sound, scientific reasoning to ensure success. Above all else, the powers of observation are integral.

American jurist William Wirt once said, “Perhaps there is no property in which men are more distinguished from each other, than in the various degrees in which they possess the faculty of observation. The great herd of mankind pass their lives in listless inattention and indifference as to what is going on around them, while those who are destined to distinction have a lynx-eyed vigilance that nothing can escape.”<sup>1</sup>

A familiar character with notoriously astute powers of observation is the fictional detective Sherlock Holmes. In Sir Arthur Conan Doyle’s Sherlock Holmes story, *The Red-Headed League*, Holmes states about Jabez Wilson, whom he has just met, “Beyond the obvious facts that he has at some time done manual labor, that he takes snuff, that he is a Freemason, that he has been to China, and that he has done a considerable amount of writing lately, I can deduce nothing else.”<sup>1</sup> Holmes was able to deduce all these points about the man after what the untrained observer would classify as a single glance. He



“Not invisible but unnoticed, Watson. You did not know where to look, and so you missed all that was important.”

stated of his method of detection, “You know my method. It is founded upon the observation of trifles.”<sup>2</sup> Holmes also said to Dr. Watson, “Not invisible but unnoticed, Watson. You did not know where to look, and so you missed all that was important. I can never bring you to realize the importance of sleeves, the suggestiveness of thumbnails, or the great issues that may hang from a bootlace.”<sup>1</sup> Holmes was a proponent of the basic theorem that **everything** is significant.

Thomas Edison spent years observing electrical and mechanical phenomena while inventing the electric light bulb. He performed many experiments before he found the correct solution to the problem. He once wrote, “The average person’s brain does not observe a thousandth part of what the eye sees. It is almost incredible how poor our powers of observation, genuine observation, are.”<sup>1</sup>

The same principles of observation apply in engineering. A good engineer will use their training and intellect to decide what details of a project are truly significant. Missing important details no matter how small, during an investigation, can lead to incomplete or erroneous conclusions.

When photographing evidence, the photographs should substantiate what the engineer can see but not be a substitute for thorough engineering. When looking through the camera lens, the photographer should be consciously aware of what story the resultant photographs will tell. Each image is a chapter or sub-chapter of the

story. Photographs must be taken to tell every possible story. It takes training and mental discipline to resist telling and illustrating a specific story, before knowing what the true story is. Once the engineering is completed and an educated conclusion is reached, photographs must be available to substantiate the conclusion. Insurance investigators may capture a required set of overall photos from each claim. We have all seen those photosets. The problem with performing at that level is the photos are “documentation” rather than “investigation”. It is dangerous when working backwards from a general set of photographs to assume the photographs will, upon later inspection yield the substantiation to prove any preconception.

Educators at the Brooklyn Museum of Art originally developed what they call an “Object Observation” exercise as a strategy for honing their skills as careful “lookers” and gallery teachers. NYC Museum School teachers refined the exercise further for use with students. After studying an object for 10-15 minutes, students present their objective and subjective observations and their questions to others in the group as an exercise.<sup>1</sup> In observation, it is necessary to eliminate false assumptions and misleading generalizations. By focusing on the actual rather than the presumed, educated observation leads to proper solution.

How does a person become an effective observer? The first way is by consciously practicing the discipline of looking and remembering. Effective observation depends on a properly trained memory. In science, vision is worthless if not retained.

Photography is a mechanical means of retaining vision. A properly executed photograph is one of the only ways to capture and stop time. Luckily, the camera was never intended to replace vision because it cannot. But, the trained photographer can substantiate and even enhance vision with photographs.

The photographic kit will change by specialty. Obviously, the sports photographer will carry different tools than the portrait or evidence photographer. Evidence photography is its own sub-discipline. The protocol of evidence photography relies upon the documentation of the effect while eventually focusing on the root cause. No matter the magnitude of the event, the documentation always tunnels down to the examination of something under magnification.

<sup>1</sup> [http://www.madwed.com/Quotations/Quotations/Transfer\\_3/\\_Mirth\\_\\_Misanthropy\\_\\_Mischie/body\\_\\_oaths\\_\\_obedience\\_\\_obligati.html](http://www.madwed.com/Quotations/Quotations/Transfer_3/_Mirth__Misanthropy__Mischie/body__oaths__obedience__obligati.html)

<sup>2</sup> Doyle, Sir Arthur Conan, *The Adventure of The Red Headed League*

<sup>3</sup> Doyle, Sir Arthur Conan, *The Boscombe Valley Mystery*

<sup>4</sup> Doyle, Sir Arthur Conan, *A Case of Identity*

<sup>5</sup> <http://members.aol.com/ELECTRPOW1/POWER1.HTM>

<sup>6</sup> <http://www.nysut.org/newyorkteacher/2000-2001/010314museum-exercise.html>