

## Father(s) of Microscopy

I have never been a big fan of the “father of” term. Does any science or field of knowledge, microscopy included, have any one father? The term, of course, signifies that there was one particular person who founded or developed something that became important to society.

During a recent trivia game I came upon the question: “Who is known as the father of microscopy?” Simple question, if we know the subject and there is only one correct answer. If this were a crossword puzzle the number of letters in the last name would be a giveaway. Eleven letters beginning with the letter L from the 16th century could only be Leeuwenhoek. He is best known not only for his contributions to the creation and refinement of the instrument’s brass and glass components but also for his groundbreaking discoveries through the lens. But what if the question is worded differently and Leeuwenhoek is not the correct answer? What if the crossword answer is five, six, seven or 10 letters in the last name and there could be more than one answer? In other words, who is the father of biological, mineralogical or chemical microscopy? Is there a father of modern microscopy?

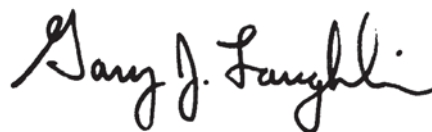
In the century following the invention of the Leeuwenhoek microscope, there were many possible new contenders for the title, including Divini and Torricelli, the Janssens (a father-and-son team) and Lippershey, and perhaps the more famous historic figures, Galileo and Hooke. If these were not fathers, were they then the *sons* of microscopy?

Fast forward to the middle of the 19th century when the microscope made further advancements and the emphasis was more on the application of the microscope to the solution of analytical problems. This was the dawn of analytical microscopy, when Raspail, a Frenchman, coined the term “chemical microscopy” for the application of the microscope to chemical problems.

Did that make him the father of chemical microscopy? I suppose it did, but Behrens, who in the middle of this same century worked mostly with the classification of chemical compounds based on crystallography and microscopy, may have been a more fitting father — or was he a son of chemical microscopy? And what about his “sons,” Kley and Chamot? We know that Kley remained in the Netherlands with Behrens, but Chamot adapted Behrens’ system of qualitative inorganic microscopical analysis and brought them to Cornell University. He had become the father of chemical microscopy — in America. Chamot’s enthusiasm and branch of microscopy then spread to his students, Mason and McCrone. Today, it’s not uncommon to hear McCrone called the “father of modern microscopy” — and we should include “in America” so as not to offend any international readers.

Incidentally, most of the microscopical research and problems that come to us today are chemical in nature. The McCrone Research Institute offers popular courses such as “Applied Polarized Light Microscopy” and “Chemical Microscopy,” which are based on the interaction of light and matter and use many of the analytical methods that originated in the middle of the 19th century.

So who else can be honored as a “father of microscopy”? And what about “mothers of microscopy” — are there any of those that we need to mention? We welcome your nominations and feedback.



Gary J. Laughlin, Editor