“An ordinary day,” I mused. This was to be a normal day at the lab for my student and me. Today we were continuing our quest to decipher the makeup of certain ancient colorants adorning various woolen fibers from sheared and washed fleece, yarns, and weaves. Leah was attempting to extract the coloring substance from the minuscule purple-colored fibers in preparation for subsequent analytical chemical and instrumental tests. “Something is not going right here, Zvi,” she exclaimed. I turned my eyes from the computer screen and asked her what was wrong. It seemed that the colorant on the fibers was so stubborn that it was not leaching into solution. Up to this moment, I and other assistants and students had worked on numerous fibers dyed with various shades of red, from scarlet (orange-red), to salmon, pink, bright red, crimson (bluish-red), brick-red, and red-purple. In the past, all of these reds yielded themselves to the attractive powers of the liquid potion – the solvent that strips the dye from the fibers, which is the prerequisite step in the overall scheme of dye analysis. However, today would be different.

My first reaction was that Leah did not follow all the requisite procedures that I had formulated for dissolving that pigment; perhaps she used the wrong solvent system, the temperature was not as high as it should be, or the time elapsed was not sufficient for the dye to dissolve. So, I gave her a typical “try it again” answer, and returned to my computer work. But something was still troubling me as to why that red dye was not being solubilized with the highly acidic alcohol concoction that we have been using. Leah was
an excellent student and chances were good that she did everything right. I couldn’t completely focus on my computer work, and so this time I had one eye on the computer screen and the other on her experimentation as she began to repeat the process. After the necessary time had elapsed for the possible dissolution of the dye, we both looked at the liquid inside the extraction vial and then looked at each other, puzzled. The liquid was colorless – no colorant was extracted from the fibers. Mystified at first as to why a reddish dye would not yield to the powers of the extracting solvent, I then trembled at the thought of what this could portend regarding the nature of that colorant. I had known from my and other scientists’ experimental work that there is only one pigment of a red-purple (maroon or bordeaux) or violet hue that would not budge when treated with that solvent system. It was never discovered on any textile from ancient Israel and its discovery would be historic.

This time I had to perform the analysis by myself in order to witness first-hand the awe-inspiring result that I anticipated should inevitably materialize. With hands nearly shaking and with much trepidation, I placed a few fibers from that minuscule purple fragment excavated at the famous Judean Desert archaeological site at Masada into a vial. When tiny droplets of the special organic elixir that is specific for that dye were added to the fibers, nothing developed for the first few seconds. But soon thereafter the colorant finally began yielding itself to the powers of that liquid, with the noble red-purple colorant forced to produce a beautiful sky blue solution. As the dissolving process had finally begun, I shuddered with astonishment and I must have uttered a divine exclamation of some sort. I hastened the stripping of the dye from the fibers by raising the mixture to a high temperature. Though more tests were needed to be performed on this dye solution, I nevertheless already knew that in my hands was one of the most important biblical treasures that have been found – a royal and priestly color of historic proportion. One key to the puzzle of the trilogy of sacral colors was now deciphered.

A PERSONAL HISTORICAL ODYSSEY

When he entered my office about a decade ago, I thought a cherub had descended from the sky. That was the first time I had met this great humanitarian, an enthusiastic supporter of the fusion between science and art for the sake of humanity. Clemens was, is, and will always be the cheerleader