

True Colors

By Jim Long

"I will lay thy stones with fair colors and lay thy foundations with sapphires." - Isaiah 54:2

Anyone watching an observant Jew, standing in prayer at the Kotel, fondling the *tzitzit* (fringes) on the corners of his *tallit* is witness to an age-old commandment that reinforces the reality of G-d and the fulfillment of his word in Numbers 15:37:

"HaShem said to Moses saying, Speak to the Israelites and say to them: Throughout the generations to come you are to make *tzitzit* on the corners of your garments, with a blue cord on each *tzitzit*. You will have these *tzitzit* to look at and you will remember all the commands of the Lord, that you may obey them and not prostitute yourselves by going after the lust of your own hearts and eyes. Then you will remember to obey all my commands and will be consecrated to your G-d.' "

Clearly, the express purpose of the *tallit* and the *tzitzit* is to remind the Jew that he has taken on the yoke of the Torah and its 613 commandments. For instance, there are five knots on the four corners of the *tallit*. Interestingly, the Hebrew word *kanaf* is usually translated as "hem" but a more accurate rendering would be "corner" or "wing." The four corners of the garment signifies that no matter what direction of the compass one turns, one is reminded of the five books of the Torah. It is but one example in which the various windings and knots employed in the *tzitzit* call to mind the manifold aspects of the Torah.

Tzitzit is related to the word *hatzatzah*, which means, "looking at". One must look at the fringes of the prayer shawl. These two words underscore the visual dynamic so important to this injunction. Only by looking can the commandment be properly realized. The *gematria* (numerical value) of the word *tzitzit* is 600. There are five knots and eight threads that must be observed. By adding all of these values we get the sum of 613,

the number of commandments in the Torah. On Shabbat, a Jewish man is not required to don his *tefillin* (phylacteries), but wearing the *tzitzit* is a daily requirement, even the seventh day. This holy mnemonic device would insure that an observant Jew would remember the Torah every day. Since the commandment of the *tzitzit* immediately follows the account of a man being stoned for desecrating Shabbat, it is quite possible that Moses instructed the Israelites in this matter following that event.

The focus of this article is, however, on the colorful aspect of this tradition. Let us return to the command in Numbers 15:37 and note that, "you are to make *tzitzit* on the corners of your garments, with a blue cord on each *tzitzit*." Why a blue cord and what particular hue of blue?

There are various Hebrew words for the color blue but the Torah specifies that this particular hue is known as *tekhelet*. It was the blue employed in the coverings, curtains and other fabrics fashioned for the Holy Tabernacle, the *Mishkan*. On one level, the Tabernacle and all of its holy accoutrements represented the created universe. It is not surprising that when the *Zohar* refers to the *tekhelet*, it states, "*this color had to appear in the Tabernacle for this reason: 'And G-d said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters.'*" (Genesis 1:6) Exodus 24:9 illustrates how the *tekhelet* also symbolizes the Throne of Judgement when, "*Moses and Aaron, Nadav and Avihu, and the seventy elders of Israel went up and saw the G-d of Israel. Under His feet was something like a pavement made of sapphire, clear as the sky itself.*" The Midrash relates that it was on a blue sapphire brick that HaShem wrote the eternal Torah containing 613 Commandments. Since it is seen under the Throne, the Jew is to gaze upon the blue cord in his *tzitzit* and remember the Throne.

As the Jews pray on Rosh Hashanah, "*There is no forgetting before your Throne of Glory.*" The Rambam, in his *Mishneh Torah* reveals that "*it is the color of the clear sky visible under the sun.*"

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Apparently, *tekhelet* is a sapphire blue, the color of the sky. And like much of the material used in the Tabernacle it was costly, if not rare. This blue, along with the colors of scarlet and purple also possessed the quality of being permanent. Because permanent, rich colors were hard to duplicate in antiquity, the precious dyes were available chiefly to the ruling class and are still associated with royalty today. The *tekhelet* dye was made from the gland of snail found in the Mediterranean. One legend tells that the creature only surfaced every 70 years. Due to the vibrant richness of this dye and its colorfast property it was a rare commodity. Though the Talmud describes the *tekhelet*, the actual type of snail and the exact process is not detailed. Eventually the *tekhelet* was lost for nearly 1300 years. Until recently, an observant Jew could not fulfill the directive of gazing upon the blue cord.

A group of researchers based at Kfar Adummim, located between Jerusalem and the Dead Sea, have rediscovered this ancient process. In 1991, Dr. Baruch Serman, Dr. Ari Greenspan, Joel Guberman and Rabbi Eliyahu Tavger founded the *P'Til Tekhelet* Association to pursue the research and restoration of the special blue for use in the *tallit* and eventually the Third Temple.

The team had found that the snail used in the process was a species known as the *Murex trunculus*. Their quest had been sparked by the work of Otto Elsner and Ehud Spanier at Haifa University. Elsner had discovered by accident that the dye extracted from the *Murex trunculus* exhibited different color characteristics when exposed to cloudy or direct sunlight.

Speaking in a videotaped interview with our friend Graham Humberstone last year, Dr. Ari Greenspan noted, " *We take the gland out of the snail. As soon as the gland is exposed to oxygen, the liquid in that gland undergoes a fascinating chemical transformation from a clear liquid, to a yellow, to a green, a greenish blue, aquamarine, then blue and ultimately ends up a dark purple.*" Greenspan goes on to describe the rest of the process wherein the purple liquid is ground and dried into a powder. By exposing this new compound to sunlight, the blue described in the ancient Jewish sources is achieved.

Dr. Baruch Sterman, writing in the publication B'Or Ha Torah (Issue #11, Shamir Publications, Israel), revealed one of the most dramatic aspects of the *tekhelet*. The molecules of any specific color can be measured in exact wavelengths. This measurement is read in increments called nanometers. When the molecules of the blue color called *tekhelet*, extracted from the *murex trunculus* snail are measured, the reading peaks at exactly 613 nanometers. What a marvelous co-incidence that this number matches the total number of commandments in the Torah written by the finger of G-d in sky-blue sapphire.

Our own efforts, here at Vendyl Jones Research Institutes, were directly influenced by the *tekhelet*. It was the reference to a "blue mound" in the Copper Scroll that eventually led to the buried spices of the Qetoret. During the 1988 excavation, on the North side of the Cave of the Column complex, Vendyl and dig volunteer Johnny Powell were held awestruck as a shaft of light, penetrating into a deep chamber, projected a sky-blue aura onto the cave floor. The intensity and hue of the light came from the brilliant sky at Qumran. Many of our volunteers can attest to the deep, vivid blue sky over our dig site on a sunny day.

The observant Jew can now fulfill the *mitzvah* of Numbers 15:37. He can meditate on the "twist of blue" and recall the eternal Torah, hewn from sapphire under the Throne of Glory. And very soon the non-Jew, who loves G-d, Torah and Israel can look forward to the days when, " *ten men of all languages and nations will take hold of one Jew by the corner of his garment and say, 'Let us go with you because we have heard that G-d is with you.'*" - Zechariah 8:23