For centuries, beauty has played a major role in society. Cosmetology, the practice of enhancing beauty through the application of makeup, has even become a full time profession. The word "cosmetic" originates from the Greek word "kosmētikos," which was first used to describe Greek slaves who adorned their mistresses in perfume. We know that as early as 4000 B.C.E., the men and women of ancient Egypt wore eye makeup regularly, which is no different from today's society. The first recorded cosmetologists were tribal hunters who smeared ash under their eyes to reduce the glare of the sun and animal urine to alter their scent. Warriors also used cosmetology in the manner that we now call camouflage [1]. Although primitive in its origin, this practice eventually led to cosmetic products such as eyeliner and perfume. Over the course of time, eye makeup has become more a part of women's tradition than men's, although some makeup, i.e., camouflage, is still used by the armed forces. Today, the extensive range of cosmetic products has necessitated changes in halacha, and has resulted in a potential increased health risk to the human genome. We can see that the long history of cosmetics has made an impact on Jewish society, as well as the world at large.

Despite its secular beginnings, the use of cosmetics is found both in halachic, midrashic and Talmudic literature. The Talmud (Yoma 75a) states that cosmetics came down daily from heaven with the manna. In Kings 2 (9:30) it is written that women placed puch on their eyes. Puch corresponds to the Greek phykos and it represents antimony sulfide [2]. The midrash (Psikta de Rav Khana p.135a) notes that puch and kochol are the same color; Rashi interprets kochol as blue in color. Jeremiah (4:30) states that applying puch to the eyes makes them seem larger. In fact, Jeremiah’s description is supported by modern day science. As Psychology studies have proven that eyeliner and mascara cause the eye to appear 6% larger and that eye shadow enhances the eye’s apparent size by 5% [3]. Not only did they have makeup in midrashic and Talmudic times, but they even had special instruments for makeup. The Mishnah (Kelim 13:2) provides a name, makchol, for the cosmetic stick used for makeup application.

In Biblical and Talmudic times, wearing eye makeup had a negative connotation, as it written in Kings 2 (9:30) that women of questionable morals wore eye makeup. The Mishnah (Sotah 3:3), though disapproving of the practice of eye makeup, recognizes that the use of cosmetics was a naturally accepted custom. As the use of eye makeup evolved over time, halachic ramifications also evolved. Some examples include: the prohibition of applying makeup on Shabbat, which compels women to apply their cosmetics prior to Shabbat (Tosefta Shabbat 9:13); and the permission to apply cosmetics on Chol Hamoed Pesach and Sukkot (Moed Katan 1:7).

Even though wearing eye makeup was frowned upon, halacha still recognized it as a mechanism to increase the attractiveness of a woman. Proof of this is found in the Talmud (Ketubot 4b), where it states that as a sign of mourning, eye makeup is not worn and that during menstruation women do not wear eye makeup to avoid enticing their husbands (Shabbat 64b). The Sages realized they could not stop the spread of the practice of applying makeup, but rather they could control certain aspects of this practice.

With the evolution of the cosmetic field, there has been an explosion in the types of eye makeup products produced from the simple blue powder puch to multiple colors and forms of mascara, eye shadow, and eyeliner. This did not just result in an increase in the variety of products available but also in an increase in the ingredients used to manufacture the product. Although as the saying goes, “beauty is only skin deep”, the effects of beauty products are more far reaching. Cosmetics now contain unnatural items that pose risks to the human body, which permeate the skin’s surface and descend as deeply as to effect our very genes. In 1938 the Food and Drug Administration (FDA) enacted the Food, Drug and Cosmetic Act of 1938 to control the application of these substances on the human body. Though this legislation did eliminate many toxins from being incorporated into eye makeup, there still are some harmful ingredients that pose genotoxic threats such as benzalkonium chloride (BAC), parabens, phthalates and titanium dioxide. These toxins are found in over 22,000 cosmetic products.

BAC is used as a preservative in cosmetic substances and it was found that upon exposure to BAC there was an increase in double stranded DNA breaks, which cause genetic mutations, and cell death [4, 5]. Parabens are another class of preservatives that are readily absorbed through the skin to inner tissues. Studies have shown that propyl paraben and methyl paraben also produce double stranded DNA breaks [6]. The stability of pigments and scents in cosmetics is maintained through the use of phthalates, industrial chemicals associated with health problems such as obesity, asthma, infertility, testicular dysgenesis, allergies, leiomyomas, and breast cancer. One study showed that elevated levels of phthalates in urine correlated with high levels of fragmented DNA [7]. Surprisingly, titanium dioxide appears in common eye makeup, even though it is a known genotoxic agent and carcinogen [8]. These added chemicals pose risks to the human body that are too great to ignore.
Consumers have the responsibility to check the ingredients of their cosmetics and to try to find products with the least harmful substances. Hopefully cosmetic companies will follow the derech hateva and take the natural path to create safe products, so we can keep the tradition of cosmetology alive without any detrimental health effects. Since the wearing of eye makeup has been around for centuries, its use will not disappear overnight. We do, however, have to protect ourselves from unnatural ingredients. Since cosmetics no longer fall down from heaven along with the manna, we must be careful in what we apply to our eyes.

Perhaps we should all go back to using puch, which is not genotoxic, but rather comes to us through derech hateva.

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