over the dentine contours and the presence of organic protein pigments allows light to be reflected, refracted and transmitted. The translucent and opalescent characteristics of enamel impart value as well as areas of intense color and/or opalescent effects to the underlying dentin giving sparkle and vitality to the tooth. The thinner the enamel, the more light is refracted and reflected, thus increasing the luminosity and hence the value giving a whiter appearance.

Combined Effects of Enamel & Dentine

The observed color of a tooth is achieved through the combined optical effects of enamel and dentine. Therefore, it is imperative to understand the influence that each component makes on the tooth’s basic properties.

The opaque dentine, exhibiting the attributes of hue and chroma, has the tendency to decrease the value of enamel, thus moving the overall color towards the grey. If the enamel is very thin and the dentine very saturated (such as in the cervical area) then the hue of the dentine dominates the overall perception. Vanini postulates that the sum total of all opalescent, translucent or enamel effects fall into one of three categories:

- Intensive effects
- Opalescent effects
- Characterization

Intensive effects present discrete but intense areas in the enamel surface, usually of a milky/white nature. A typical example of an intensive effect is the specimen associated with hypermineralization (fluorosis) of enamel structure. The opalescent category attempts to classify the distribution and appearance of typical enamel opalescent effects. The presence of the blue halo in many teeth, both anterior and posterior, is typical of opalescent effects. This halo can actually be classified by describing its physical appearance, such as crazes, linear cracks, split mamilons, window or comb. A fifth division will occur in the elderly patient where loss of enamel has occurred around the incisal edge that shows loss of enamel due to functional wear. Accumulated stains also darken the tooth.

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A complete list of references is available from the Publisher.

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