

life richer and higher. All physical beauty is essentially geometrical.

That musical harmony has its foundation in geometrical proportions of the vibrating body or bodies has been known from the time of Pythagoras, and his knowledge was probably obtained from the more ancient peoples of Egypt, Phœnicia, or Chaldea, among whom he traveled.

The nature of light, and of color, has been so little while known that we have no such developed geometry of color as the geometry of harmony which has furnished the principles for the guidance of musical art for many centuries. But such is the similarity, as physical phenomena of sound and light, as to cause, nature and propagation, and such the functional correspondence of the senses by which they are perceived that we should expect a geometrical basis of beauty in color, and, indeed, it is in some measure known.

That the third kind of physical beauty, form, is geometrical, needs no more than statement. Its principle is proportion. The elements of this are relative size, relative dimensions, relative angles, relative curvatures, or general relations of forms to one another.

Several writers have shown that a science of proportions formed the basis of the education of artists in Greece during the three centuries in which "works of sculpture, architecture and ornamental design were executed, which surpass in geometrical beauty any works produced in the two thousand years that have since elapsed, * * and which are still held to be the most perfect specimens of formative art in the world." This science, a method or key, which it is said Pythagoras brought to Greece from the east, was lost, and the arts of design declined. But long after its application to sculpture and decoration was lost, architecture shows some evidence of its use. Its preservation in this art has been ascribed to Freemasonry, of which it may have been the craft secret while the order remained a working

guild; and Moses (claimed to be a founder of Masonry) may have learned it from the "wisdom of the Egyptians," as perhaps did Pythagoras.

A scientific development of the principle of geometric beauty, by which harmony of form may with certainty be produced, beside its financial value, would greatly promote the progress of art and of culture, guiding one to produce and the other to demand greater excellence.

Why we are pleased with sounds, or colors, or forms governed by geometric laws, and displeased by others, is an enquiry of great interest, partly psychological, which cannot have space here.

Of that beauty which, born in the material world without us, makes its impress upon our minds through the senses, harmony of sound, music, is the lowest of the three kinds. Its organ, the ear, is inferior to that of the others, the eye. It affects the emotions only, through sensation simply, is purely sensuous, and does not persist long enough for rational recognition. It is the beauty that the infant, the uncultured savage, and even the unfortunate without intellectual powers or with dethroned reason, all appreciate. So low in the scale of organization and development must that one be who can not apprehend this lowest of the three physical beauties that Shakespeare says: that "he that hath no music in his breast, and is not moved by the harmony of sweet sounds, is fit for stratagems, treason, and spoils; let no such one be trusted." Painting ranks next. It addresses the mind through the eye. It is still, to a great extent, sensuous; but it persists and, finally, makes its appeal to the imagination also, and to the higher intellectual powers. Except as a sensuous pleasure, it is little appreciated without a good degree of mental power and culture. Of highest rank in the triad of physical beauty stand sculpture and architecture, formative art. Their address is through the highest of the senses. They are