

## RHYTHM IN DESIGN; OR, THE ANALYSIS AND APPLICATION OF HARMONIC FORM.

BY F. BLIGH BOND.

I WILL now enter properly on my theme, starting with this definite and all-important contention as the groundwork of the whole—namely, that there exists in the human mind a power of perceiving harmonic ratio in line, and interpreting it as beauty, precisely as it interprets the effect of harmonic vibrations in sound (as music) and in rhythmic motions; and that it is this power which, consciously or otherwise, lies at the root of all our perceptions of abstract beauty in line and form, and of the sensations of pleasure which may be derived from contemplating it. The existence of such a power may be doubted by some, and no doubt the suggestion may be repugnant to many others, who would prefer to believe that no mechanical laws can bind their sense of the beautiful, which they would regard as belonging to a domain higher than any exact science could carry us, and perhaps an endeavor to lay down such rules would seem to them almost like sacrilege—a degradation of ideal things to a commonplace or materialistic level. The reality, to my view, would be the very contrary, and if, by any effort of mine, I could lift this subject ever so little out of the hazy and chaotic condition it is in at present, and show, beyond all possibility of disproof, that the same fixed and immutable principles underlie our perception of harmony or rhythm in form as in music, I should feel I had helped to lay the foundation for a future appreciation and enjoyment of rhythm in design of a conscious, intelligent, and reasonable character.

I wish to emphasize, by a further allusion to music, my answer to those whose sense of the ideal freedom of artistic design would take alarm at the idea of any mechanical or fixed law obtruding itself into their Elysium. I would ask them to consider whether, if such a law be demonstrated, it need after all involve any restriction or degradation of their ideal freedom of design. Would it not rather furnish them with an intelligible and secure basis on which to raise their work, and give them a test of the correctness of their instincts in interpreting beauty in form? Has the art of music suffered at all from the discovery or application of the physical laws on which musical harmony is founded? Certainly not. The best composers distinctly owe their success in finding expression for their ideas, and thus in producing lasting work, to that ability to translate and interpret the dreams of their genius which is given them by a sound education in the grammar and machinery of harmony.

There have been many schools of musicians, and their respective teachings have no doubt varied within wide limits, but I venture to assert that they would all be in agreement on the necessity of a complete grasp of musical theory, harmony, thorough-bass and counterpoint, and also a knowledge of the physical side of music, of the relationship and nature of different vibrations, before a pupil could expect to become a master, or venture to launch his compositions before a critical musical world.

Why have we no such grammar, no such system of harmony in design, when the perception of harmony in form and discord in form is equally with us, and equally intense in some of us, and, as I verily believe, only

awaits systematic education to emerge from the unconscious to the conscious stage? Surely this is a matter for surprise.

There is a broad and marvellous field of delicate and subtle perceptions lying open to us, inviting our investigation, offering rewards of great delight, and how many among us have eyes to see what is there? I fear many of us are gazing into it through the medium of empirical ideas and the distorted views of quack designers. We hear, and heed too much, the sentimental vaporings of artists and art critics, and of all those who, having approached the subject of design from its emotional or poetic side, have discerned no system, or at best only the scattered fragments of one. Are such to be our guides towards a rational understanding of harmony in form? Is this chaos to last?

If the artist or architect could but learn a coherent system of music in form, how vastly would he, and the public for whom he caters, be the gainers, by the increased certainty and lucidity of his work, and the strength and delicacy of his interpretations, and he personally, in the power and delight which his knowledge would then afford him of creating things of beauty.

I have stated that I consider the perception of harmonic ratio in form to be a power latent in us all, though undeveloped, and I think the truth of the proposition can be easily established by reference to some of the simpler harmonic forms, in which the instinctive recognition of harmonic quality and mathematical correctness is developed in most of us to a great degree of refinement, so much so that we are able to recognize the very slightest visible deviations from the perfect form. I refer to the circle and the ellipse. What is true of these simple forms is equally true of the more complex, because these are of essentially the same nature, and we can easily educate our perceptions to be sensible of an error in a complex curve, by care and attention. The power is capable of development to any extent, and only needs systematic cultivation, whilst its increasing refinement and delicacy of operation yields a proportionate degree of pleasure and satisfaction, undreamed of by those who have not studied the subject. We ought in the future to be the possessors of a large number of new perceptions of great delicacy and exactness, and to feel and be stirred by music in form as we now feel it in sound. We ought to be able to discern and reject at a glance, as discord, any deviation from harmonic laws or incongruous or unsuitable juxtaposition of different orders of forms, just as in music we not only take care to observe the laws of harmony, but also take pains that in the orchestration of a piece, the "timbre" of the sound given by the different instruments is properly apportioned and blended, and also that the performance is not marred by the introduction of incongruous movements, such as would present a contradiction in mood or feeling.

Our sense of harmonic correctness in line will, I believe, become capable, after education, of being applied with so great an exactness that almost a hair's breadth deviation will appear to us as an unsightly crippling of the perfect form.\* The truth of this proposition may be made familiar by some means of systematic experiment, such as are offered us by the various kinds of harmonographs for the transcribing of musical or

\* The substance of this essay was comprised in a paper read before the Bristol Society of Architects in January, 1899, but it has since been to a great extent rewritten, and is reprinted in abstract form from the Journal of the Royal Institute of British Architects.

\* I am informed by a friend who has considerable knowledge of India, and experience of native workmen, that the trained castes of designers who produce that truly harmonic and mathematically perfect work in inlaid marble or wood, which delights the whole artistic world, are not in the habit of using any mechanical or mathematical appliances for the working out of their rich designs, but prefer to trust to the safe guidance of their marvellously developed instinct.