ORIGINAL PAPERS AND DISCUSSIONS

THE MUTUAL RELATIONS BETWEEN ART AND TECHNOLOGY¹

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ABSTRACT

An analysis of the purpose of decoration and of the characteristics of bodies, colors and glazes which determine their acceptability for the purposes of the professional decorative artist. The author urges the establishment of an Annual Exhibition where American ceramic artists may exhibit their products along side those of the sculptors, mural painters and other artists.

With the recent institution of a decorative art section in this Society, which is to occupy itself with matters appertaining to artistic progress, a new responsibility must be borne by each, be he a chemist, technician or artist, if this country is to add a worthy chapter to the brilliant history of our craft. This recognition of artistic activity as a subject of general interest for our membership, has been tardy, possibly, for the reason that achievement in that direction has not compelled interest of recent years. Be that as it may; where results of the highest order depend upon a perfect adjustment of contributory effort (as they do in ceramics), the two main contributory activities, the technical and the artistic, can not advantageously develop apart; it is therefore essential, to define in a general way, the mutual relation of arts and technology, and to locate vital points of contact. I have attempted to discover where energy is lost through lack of comprehension of what the decorative sense seeks in certain technical achievements; and to draw attention to certain professional view-

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points of the decorative artist which determine the acceptability of bodies, colors and textures.

Beauty in any art, whether a fine or a decorative art, is realized in a measure through the development of the characteristic. In our art, the characteristic finds its clearer expression in plasticity, texture, and color quality, all of which are now only available as media of effect in such form as the technician produces them. The artist conceives an effect and is stimulated to a higher degree of attainment, or restricted in execution, proportionately to the adequacy or inadequacy of the technician's efforts. A technician who contrives any accessory without acquainting himself with the function it is to perform, is adopting the unscientific procedure of taking shots at a venture; yet unlimited instances can be cited in our industry where bodies and glazes are produced under precisely such circumstances. For that reason, if scientific effort is to realize its maximum decorative utility, the technician must direct his energy, and plan procedure, with a clear comprehension of those artistic standards by which his labor will be judged fruitful, or discarded as useless.

Ceramics, in common with all industrial arts, consists of two distinct but interrelated activities; the first of these, if we accord precedence in the order of evolution, concerns itself with the lower purpose, the utilitarian; the second, while recognizing the original incentive, is directed to investing the useful with beauty, as a major objective far surpassing the creation of convenient devices for mundane requirements.

Modern civilization has evolved obvious economic problems as a result of complex circumstances; for many years the energy and ingenuity of the technician have been almost exclusively concentrated on their solution. Far-reaching research and perfection of method in production have achieved the remarkable result that, in many branches of the industry, technical excellence exists as a matter of course, which none can afford to claim as a distinction; for the reason that it exists in the achievement of many. At this stage of progress, pre-eminence must be sought along a different path. The mechanical standard of faultless uniformity must be relegated to a place of secondary importance in an essentially commercial class ruled by competitive price;

in the first rank superiority will exist in aesthetic quality, evidenced in treatment. By treatment I do not mean the development of decorative expression alone, but include in that term the manipulation of such factors as texture and color in body and glaze, with the direct intent of stimulating intellectual processes, and creating forms of sense-appeal that are aesthetic by nature.

With this higher and more spiritual objective, all that which bears upon standardization or industrial economics, must naturally gravitate to the sphere of routine; the fortunate few who are endowed with the rare gift of aesthetic discernment, will enter a field where their achievement will be recorded in history and their handicraft be preserved as milestones on the road of progress.

Some may inquire as to the way in which the uninitiated may seek this new objective. The chemist, for instance, who is proficient in the creation of colors for decorative purposes, may have doubts as to whether his untutored chromatic sense is adequate to guide him to the limit of his capacity. Unfortunately, at the present time, decorative proficiency in the ceramic industry, of this and other countries, is far behind technical achievement; with the result, that there is no great progressive artistic movement which might be observed with the purpose of regulating scientific research in a clearly indicated direction, so that obvious decorative requirements might be anticipated by the technician. The indication is, that decorative ceramic development will, in the near future, be subordinate to the leadership in stylistic treatment of other more progressive crafts. By this I mean, that the decorative artist or architect who carries out the interior finish of a house, will encourage the purchase of such ornamental or dinner ware, or tile, as conforms to the prevailing vogue in treatment; and that the ceramic designer who disregards such preferences, sidetracks his product. The same condition exists in faience and terra-cotta; those designers in factories who are out of touch with the rapid exchange of preferences which are succeeding each other in architecture in our day, hold their product back to those markets where the minimum price has the maximum chance. What is the actual condition of our industry today, in those types of products where artistic quality in technique and treatment means more than cheapness? How does it appear from the

vital angle, the angle from which it is viewed by men whose approval can give it rank among the progressive industrial arts? Let us assume a hypothetical case: A man of prominence and distinguished attainment in the decorative arts is attracted to our craft by the desire to create effects as beautiful as those that fascinate him in historic ceramics. His first step will be to pass in review all that is available for decorative effect in current production, in pigment and texture. His initial impression will undoubtedly be, that the aspirations and ideals of those who create the media of effect, differ radically from those of the men who use those media, to produce the ultimate effect. The artist in selecting a group of pigments to create that entity of effect which is known as a "color harmony," seeks certain chromatic factors in the colors selected, which are the connecting links between color units. Those chromatic factors in colors, which I will describe as "common tone factors," exist between varying and different tints; these are of secondary importance if judged by their radiant energy, but are of vital importance in the establishment of mutual relations between color units assembled in groups for artistic effect. This factor which the decorative artist urgently needs to facilitate chromatic adjustment, and to add subtlety to character, is ignored by our color-makers and is encountered with just sufficient accidental frequency to prove that absence is due to non-perception, rather than to technical obstacles.

A further examination will reveal the fact, that the ceramic chemist's work in color is a series of separate and unrelated units, made without regard to characteristic color qualities capable of group formation, though he is quite conscious that the isolated color in decoration is not the prevailing method of use. The idea of creating palettes with a prevailing tonal relation does not appear to influence the majority of color-makers. The individual preference of most color-makers is to make colors of the intensest purity, carefully eliminating those underlying tones which the decorative colorist seeks first. That underlying tone in a composite color, is comparatively inactive, until placed alongside another composite possessing a tone element that corresponds to it; the affinity in those underlying tones constituting a relationship between the composite tones of a harmonious nature. There

are certain glazes I have in mind, which alone would be described as nondescript and lacking in individuality; but which, when included in a group of colors having a tonal relation to them, assume a quality of the greatest subtlety and beauty. Such tones would in all probability be rejected by the majority of technicians as failures, through lack of appreciation of their function in harmony and their decorative value. The prevailing inclination of the chemist for the maximum degree of radiant energy and tint purity, meets only the exceptional need of the decorative colorist. Such colors in the majority of cases could serve only as accents in an adjusted color group; the result of a group of units each with a distinct power for emphasis, is as unacceptable as over-emphasized music, action or speech. I would recommend that color-makers practice a new species of observation, which would be cultivated by placing colors alongside in pairs, in order that eye and brain be activated to detect the mutual affinity, repulsion and reaction of each upon the other. By the development of a sense of this description, results will be achieved by those whose temperament permits such notation, which will economize effort and contribute to artistic progress.

There is another extremely important point of observation to be developed in glaze making, which is one from which the decorative colorist judges the artistic value of a glaze: I refer to quality of texture. Texture is estimated by the artist from an entirely different standpoint from that of the technician; the former judges visually, the latter by touch. Texture in the artist's brain is indicated by the degree to which surface absorbs light rays, or reflects them. Variation in qualities of decorative effect demand a range of textures to be met by various surfaces, with the maximum degree of reflection and absorption as the two extremes. In the light-absorbing type, the area of intensest illumination is greater, lower in tone, and less scintillant than in the reverse class, a distinctive tone quality characterizes each type. If a constant study were pursued by technicians, to note the reaction of color to light, in accordance to its capacity for absorption or reflection, the great importance of this point of view in guiding color production can not fail to impress itself upon every observer.

I believe that at the present time technical achievement in

ceramics equals the total of experience in all ages; how is it that this vast fund of information is unrewarded with due credit, and its existence unsuspected by the art world or general public? Why is it that beautiful laboratory specimens of colors, which equal and often surpass their historic prototypes, should not enjoy a corresponding aesthetic prestige? The reason is simple and obvious. Individually, each is a unit of decorative effect, in the same manner that a musical sound is a unit of musical effect, and a numeral a mathematical unit. Such units possess interest only through the mental process of association, when placed in combination with other units of their kind; in the case of chromatic tone, or musical tone, the beauty of the unit is relative to the character of sense appeal, or imagination, that is stimulated through the manner in which it is associated in effect. For this reason the laboratory achievement, without decorative interest, can only possess a technical interest, and be enjoyed solely from a scientific standpoint; such limitation in appreciation excludes that class of individual for which the effort was originally undertaken. Can it therefore be maintained that the aesthetic objective in technical endeavor is a matter secondary or of negligible importance to the technician?

This consideration leads us to another serious question: How is adequate decorative quality to be developed? It is my conviction, resulting from an abundance of signs, and unmistakable evidence, that the United States will, during the coming century, lead all other nations in the decorative arts. In decorative metal-working already, particularly in wrought iron and bronze casting, the highest achievements of Europe are out-distanced. The most intricate weaves of Italy, Spain and France possess no difficulties that the American weaver can not master and reproduce; they are now seeking their individual form of art expression, which they will undoubtedly find. Furniture also is making astounding progress in technique and treatment. In every instance, progress is the result of the clear-sightedness of manufacturers, whose ambition to excel in their crafts caused the commercial standards of mechanical excellence to rank in their estimation as little better than mediocrities. In what manner can we revitalize our craft, that it may achieve beauty in the eyes of those whose high stand-

ards makes their approval a hall-mark of merit? The old method, which staked all on manual training, will not suffice today, and the demand for superior achievement is too urgent to put off meeting it until the next generation matures. The demand of the American public, the most discriminating of our time, can not be met by a mechanical training of young men and women to laboriously reproduce Sevres or Crown Derby; factory-hacks can not bring our industry on a par with others in which every effort is strained to attract versatile talent capable of developing vital energy from historic tradition. If we rely solely on factory tuition or technical schools conducted on similar lines, we will fail to emerge from mediocrity, for the reason that the spontaneous decorative expression which characterizes all historic styles, is only recognized there in the idiosyncracies found in the confirmation of decorative detail. The means for worthy artistic achievement are to our hand today if we care to avail ourselves. Let those members of this society who see the need for new life in American ceramics, group themselves together annually under the auspices of some such progressive society as the Architectural League of New York. At the annual League exhibition, where the best of other crafts is gathered together, let the Ceramic Society show the American sculptor, the mural painter and the American art world generally, that our technicians have produced media for beauty which can equal that of any historic period. I have had very many conversations with men foremost in the ranks of the various branches of high and of applied art in this country who long for the beauties of ceramic color in their works; such men are ready to respond to your call, and to create beauty with what are now but formulae. The expense involved in retaining or employing prominent American artists, convinced as they are of the possibilities, is trifling when set beside the prestige that would accrue from success—and as business men we need not be reminded of the cash value of prestige. Next year members of the society should be represented at the League Exhibition in association with distinguished American artists, and the naissance of American Ceramic Art should be recorded in the future histories of our craft.

The public has clearly shown its impatience with commercial

standards and its boredom with mere technical excellence; it wants *treatment*, and for a time has lavished enthusiasm in protest on the mishandling of clay by the peasant potter. When a premium is placed upon lack of technique by a highly educated class, as in this case, we must record deduction from an unmistakable sign, and alter our course. The present and future credit of American Ceramics depends upon an infusion of new blood; let the art world supply the red corpuscles.

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