THE ARCHITECTVRAL RECORD

VOLVME L NVMBER III

SEPTEMBER, 1921

The HARKNESS MEMORIAL QUADRANGLE AT YALE

JAMES GAMBLE ROGERS ARCHITECT

By
Marrion Wilcox

YALE, mindful of the nobler traditions, has expressed them in these great stone buildings. Even our devotion to Light and Truth (the *Lux et Veritas* inscribed over the main gateway) is quickened. For, as one truth ever shows the way, as though with a light, to another truth, so especially may architectural truths — such inspiring manifestations of art as these—light the path to truth in other sciences beside that of the new æsthetics, to truth in many branches of human knowledge.

This applies to the Quadrangle as a whole. To the Harkness Tower it applies with particular force and in a special manner.

The Harkness Tower recalls certain towers in England and on the European continent. But it and they recall vividly the Hellenistic towering lighthouse, the Pharos, which was built about 280 B. C. at Alexandria. Light is a strikingly appropriate word. And further, although the word light is used figuratively in this explicit linking of the college motto and the significance of the Harkness Tower, I should fancy that, in connection with the tower, it may become possible for us to think of the word as meaning some-

The SPALDING SWIMMING POOL AT DARTMOUTH COLLEGE

RICH & MATHESIUS, ARCHITECTS

By LEON V SOLON

WHILE of recent years the swimming pool has been a standardized type of structure in so far as engineering construction and principles of sanitary maintenance are concerned, its development has now taken a new direction along which decorative treatment and coloring are endowing it with attractiveness and scenic quality. It is recognized as an essential item in the more pretentious clubs, recently built hotels, country estates and certain social institutions; there are even private houses in New York in which the basements have been sunk to a greater depth in order that the owners may enjoy a morning swim.

In the initial stages of the development of the swimming pool, the question of sanitary maintenance was the main preoccupation; this focussed itself on water filtration, the choice of non-absorbent material for the lining of the pool, the revetment of the walls, and the treatment of angles with the object of easy cleansing.

We find the element of attractiveness now sought by practically all pool designers. Up to recently the Y. M. C. A. adopted the most uncompromising forms of sanitary treatment for their institutions throughout this country, spending very considerable sums in total for pools. Of late, through the activities of Mr. McMillan, of the Y. M. C. A. structural department, much thought and care have been lavished upon creating interest with color, and on achieving distinction in proportion and design. A pool recently built at New Haven for the Y. M. C. A. by Murphy and Dana in association with Mr. McMillan, is an object lesson demonstrating the economic value of taste and design, where simple staple products are assembled for their color quality and their combined scenic effect. An excellent and interesting result has been achieved with a comparatively restricted appropriation, and the general purpose of the institution of which it forms an important item has been substantially benefited. It represents an unmistakable step forward, possessing a specific social value, by reason of the elimination of that repellant air and lack of the sense of welcome which formerly characterized the appearance of many popular institutions that were entirely or in part philanthropic.

The erection of the Spalding Pool, at Dartmouth College, commands our interest primarily by the spirit which actuated so munificent a gift. The donor, Governor Spalding, a Dartmouth man, desired that the structure should embody not only the highest degree of efficiency, but that it should charm the eye. The best of every tested method and contrivance has been incorporated to assure the smooth working of all accessory equipment, achieving an ideal condition in sanitary maintenance; complete success has rewarded the care and deliberation bestowed upon the problem by Mr. Keyes, the Business Director and former Art Professor of the College, and by the swimming pool

engineers, Messrs. Hasbrouck and King, the pool having now been in use for several months.

The architects of the building are Messrs. Rich and Mathesius. Mr. Charles Rich formed his initial connection with the College as a student, and for many years has been the college architect. Incidentally, it might be added, his reputation as one of the finest baseball players the College ever produced still survives in Dartmouth tradition.

The gymnasium, of which the Spalding Pool is an adjunct, was built about ten years ago; it is of quite imposing dimensions, measuring 360 ft. in length and 280 ft. in width. It contains a great hall in which football and baseball practice can be held simultaneously on the same floor. The value of such premises is inestimable to the standing of Dartmouth in intercollegiate games, as the exposure of the College site, set high in the hills of New Hampshire, is such that adverse climatic conditions might interfere with outdoor practice to an extent amounting to a serious handicap.

The internal dimensions of the swimming pool are 75 ft. in length by 30 ft. in width. As the pool has to be used for intercollegiate water-polo matches, it has been planned in such fashion that the regulation length of sixty feet has a minimum depth of six feet. In many pools, the shallow end extends into the 60-ft. area, with the result that the "backs" of one team are standing, which militates against that equality of conditions essential in match contests. The floor of the pool beyond the 60-ft. depth rises to a higher level, so that beginners may learn in safety.

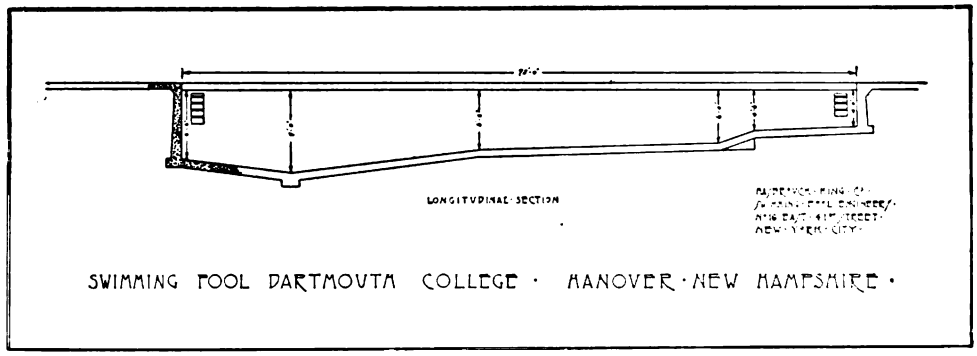
The surface of the pool is lined with square ¾" ceramic tiles made of a speckled green vitrified material, which imparts a deeper tone to the water; material of the same character and size, flat and curved, in varying colors, is used for the handrail, scum gutter and pool edge, on which are distance marks with numerals. The perfect alignment and finish of the tile-covered handrail is an excellent example of the tile-setter's craft, in view of the difficulty of making a revetment for so narrow and sharply curved a surface with such small units of tile. The promenade around the pool is covered with grey Ohio flint tile, a material that is highly vitrified and impervious to moisture; the units measure six inches square and are laid with a quarter-inch cement joint. This floor is finished with framing bands, running around the walls and pool; these are of a warm colored faience, glazed in Tuscan glazes corresponding to the coloring of the wall decoration. At irregular intervals an ornamental tile, similarly related, is introduced, to establish a decorative connection between floor and walls, which are of contrasting colors.

The general color plan of this interior consists of colors of opposite characteristics, conveying in the pool and promenade a sense of cool cleanliness by means of delicate greys and greens; a decided contrast is established in the mural treatment, where a sense of comfort is imparted with rich and mellow tones of browns, oranges and black, in the architectural and ornamental items, which are combined with panels composed of unglazed tiles of warm neutral tint.

As the visitor gets his first view of the great pool room, he is struck by the alluring freshness of the water and experiences an almost irresistible desire to go swimming, while the warm tones of the wainscot and rough plaster finish of walls and ceiling reassure those in whose minds qualifying doubts might arise.

The trim which moulds the windows and frames the paneling of the wainscot is of a simple Renaissance leaf and bead design of slight projection. It is made of faience, colored in rich umber and black, the former tone prevailing; the umber having that wide range of tone and color quality which only the Tuscan glazes can produce. These glazes are developed in an extremely high temperature, and have been proved to be unaffected by both climatic extremes, or to wear by friction, having three times the resistance of the harder marbles. An ornamental band of Tuscan tiles caps the base at a height of 1 ft. 3 inches. The

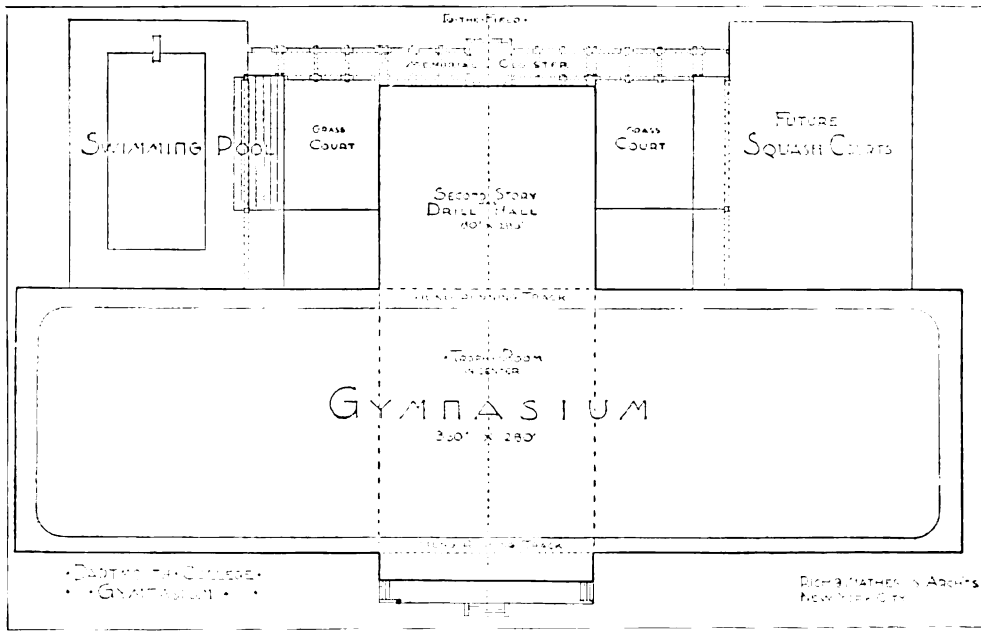
GYMNASIUM AT DARTMOUTH COLLEGE, HANOVER, N. H. RICH & MATHESIUS, ARCHITECTS.

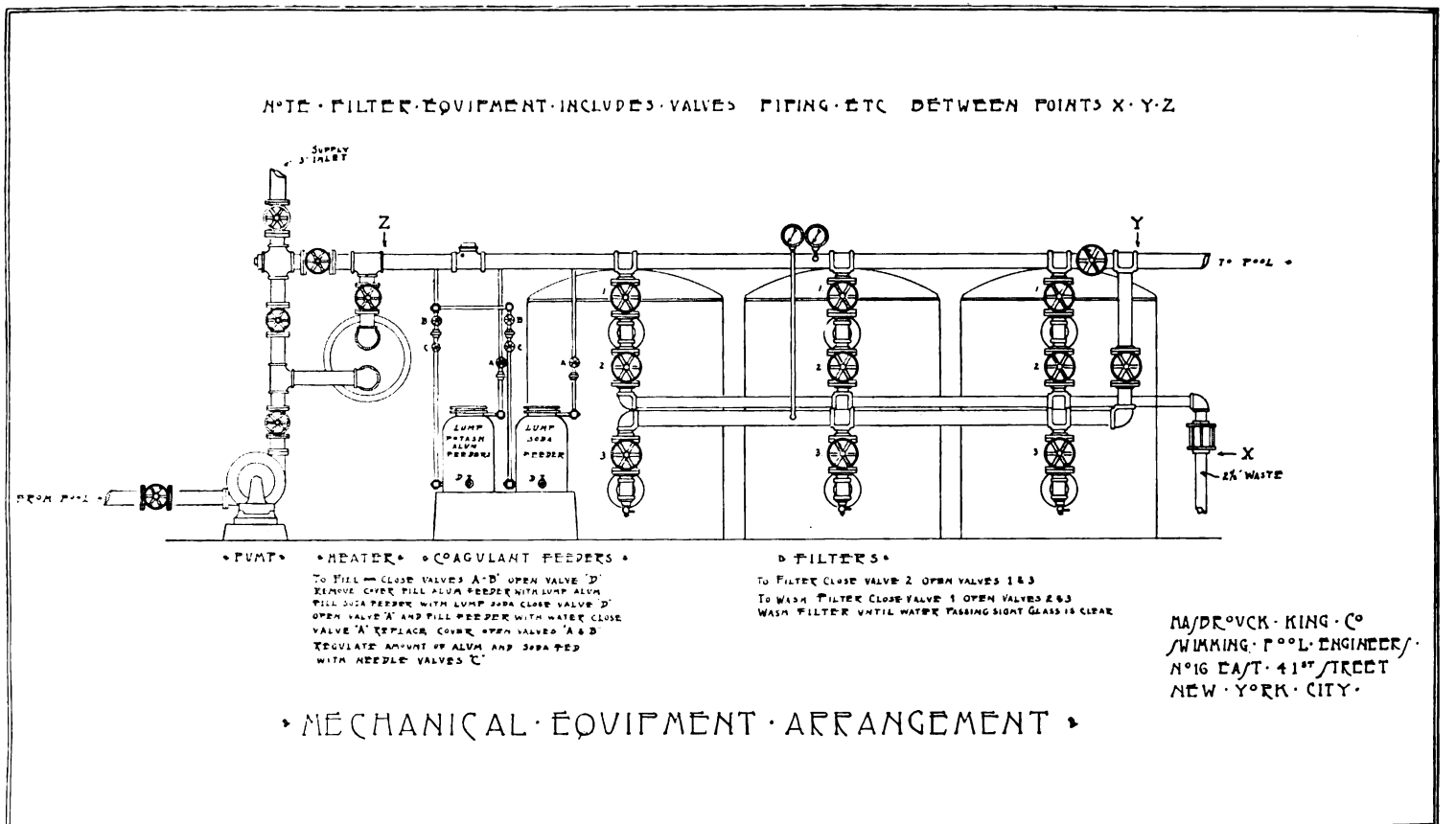


SWIMMING POOL DARTMOUTH COLLEGE · HANOVER · NEW HAMPSHIRE ·

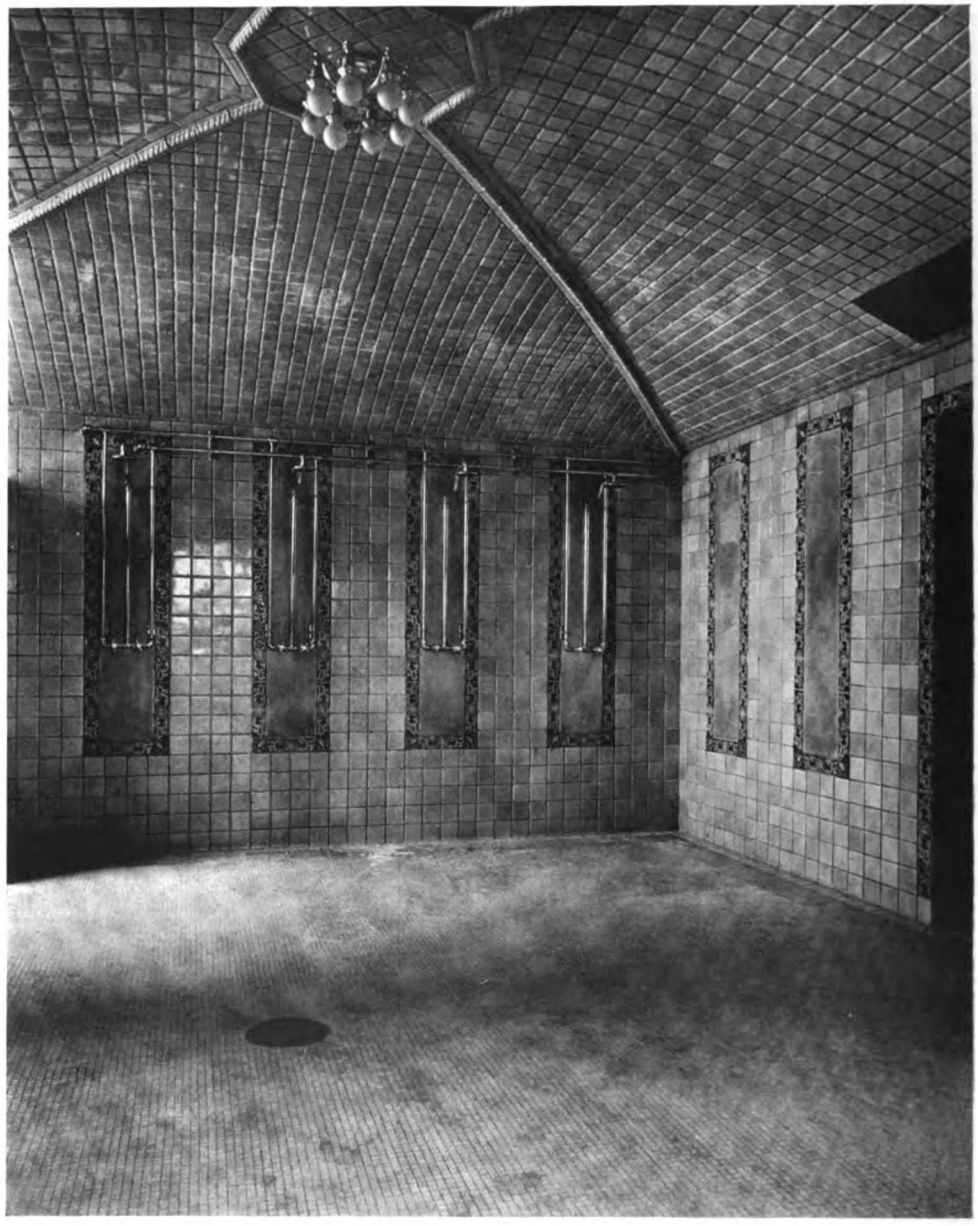
base is made of two six-inch tiles superimposed, of a blue-green Hispanic glaze, widely jointed. The four-inch Touraine granite quarry is used as a filler for the panels, of an "oatmeal" or unbleached linen tone; this has the property of absorbing light, as reflections from the water on shiny wall tiles would detract from the structural quality of the interior.

The main ornamental features are panels decorated with low-relief dolphins arranged to face a circular medallion, on which are inscribed the initials of the College. The modelling is treated in a manner intended to develop the maximum color interest in glazes, which changes their tone, texture, and color qualities with the varying degrees of thickness in which they lie upon the faience when in process of fusion under high temperature. The field of the ornamentation is of black glaze, which varies in its degree of matness and shininess; the ornamentation is decorated in a rich glaze, varying from a drab, lustreless umber, through intervening tones to a vibrating orange; the initials and bead border surrounding them are treated in mat Roman gold. The values of these points of interest are very considerable, emphasizing by contrast the virile simplicity of this interior. A faience panel records the donation of





SPALDING SWIMMING POOL IN GYMNASIUM AT DARTMOUTH COLLEGE. RICH & MATHESIUS, ARCHITECTS. HASBROUCK-KING COMPANY, ENGINEERS.



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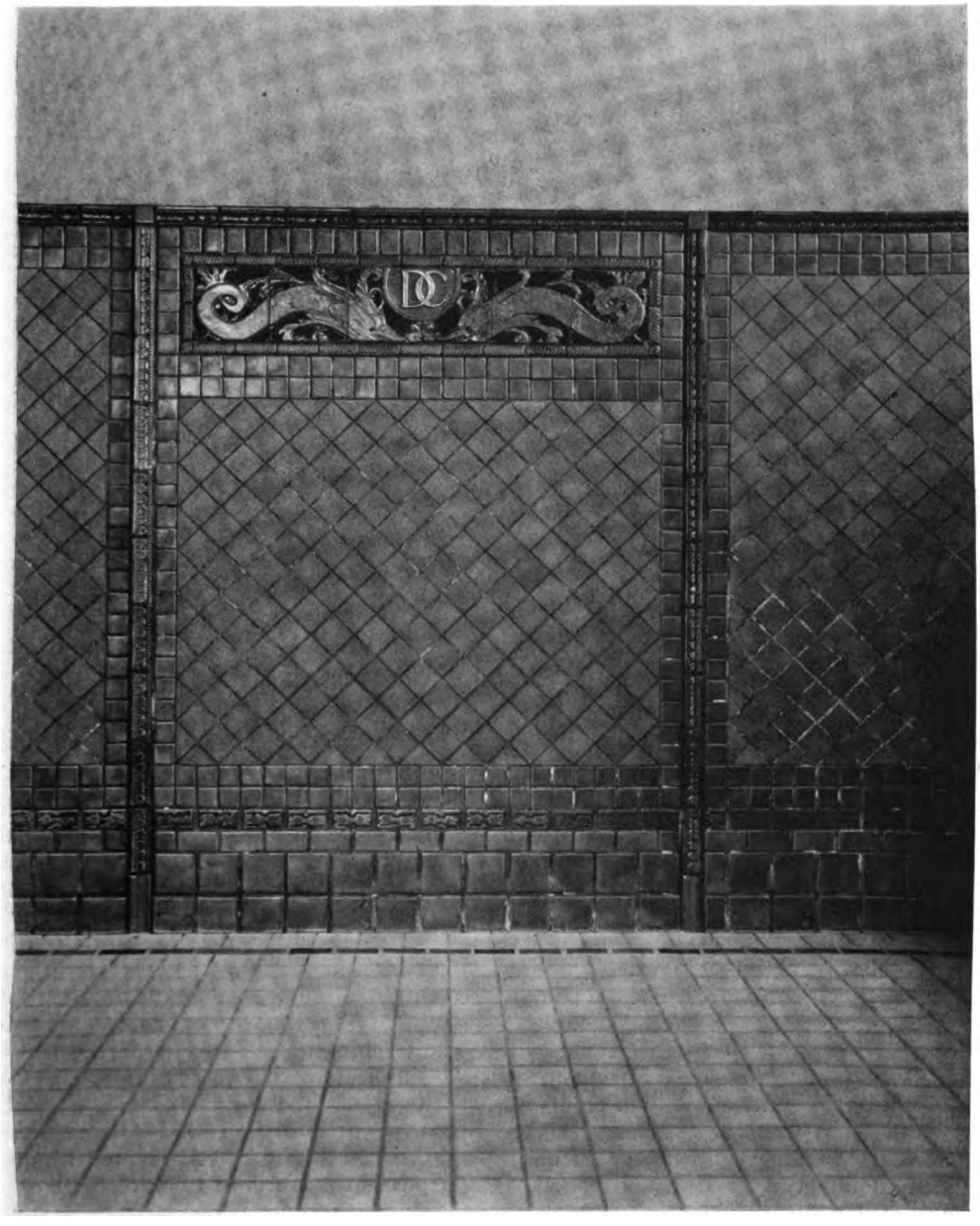

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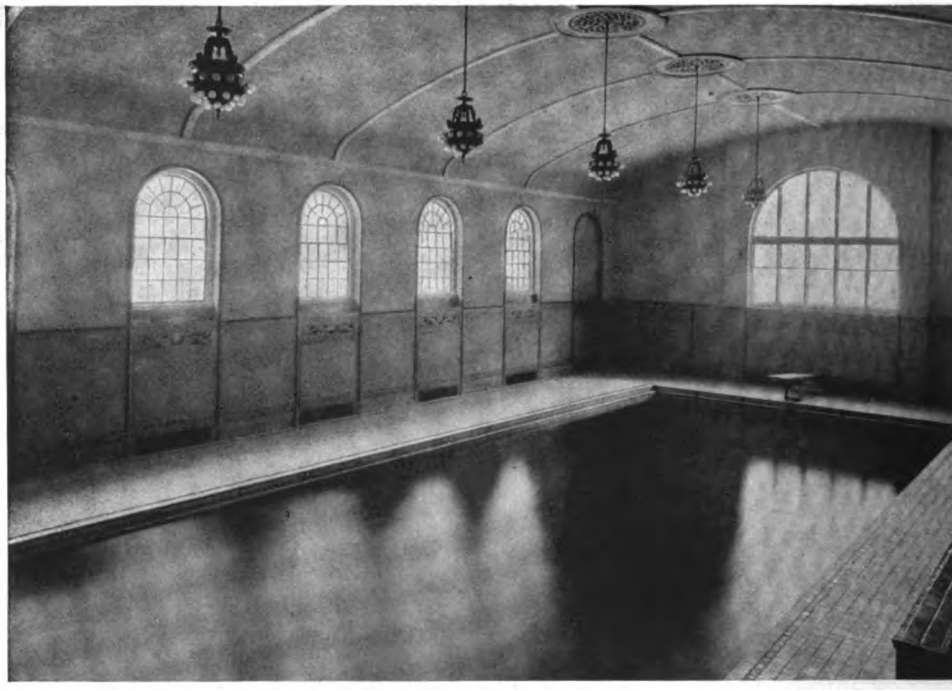
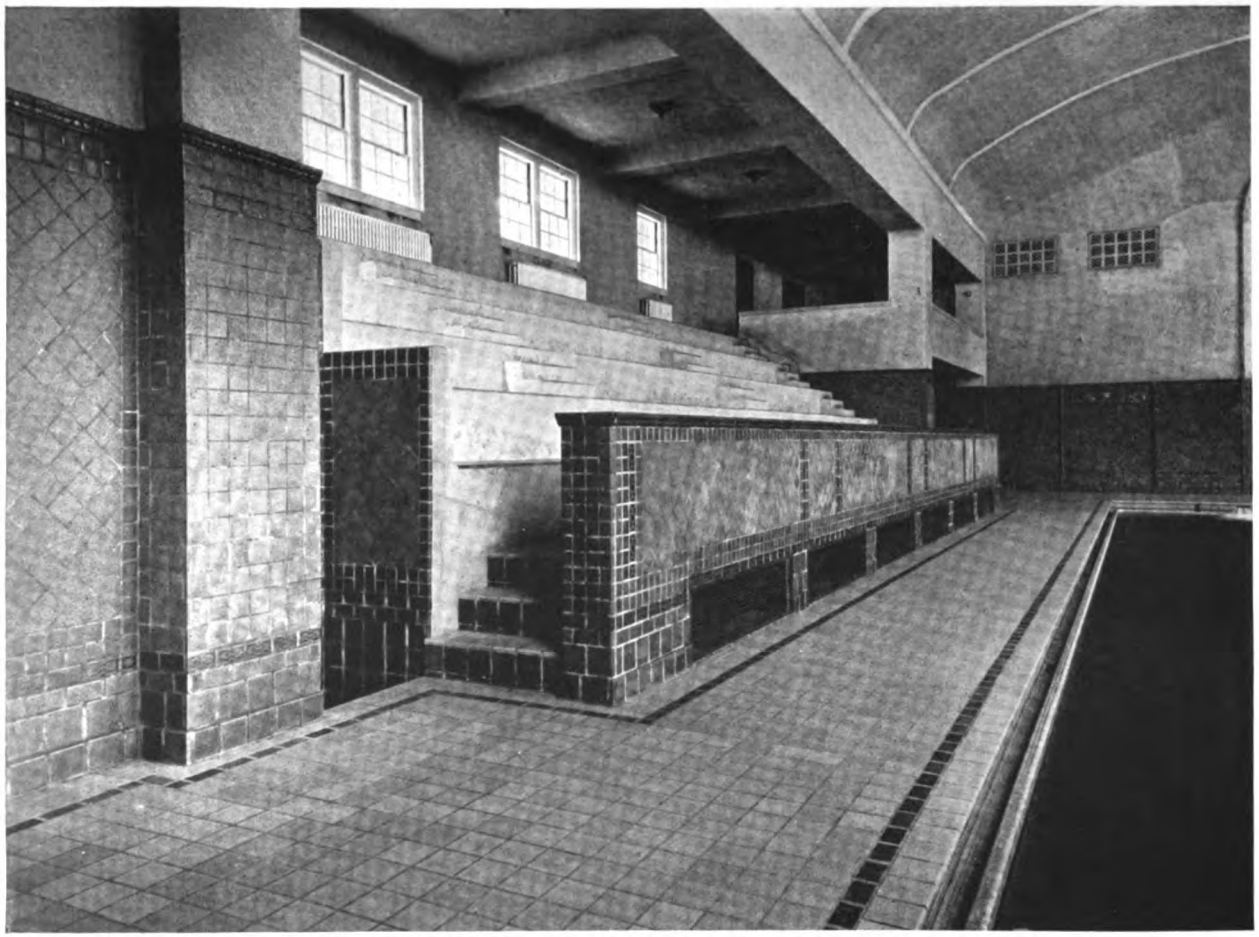


SPALDING SWIMMING POOL IN GYMNASIUM AT DARTMOUTH COLLEGE.
Rich & Mathesius, Architects.

the Spalding Pool to the College at one end of the hall; at the opposite end, the dolphins arranged in frieze-form fill a space beneath the great windows.

The engineers have avoided a procedure when constructing the cement containing-walls of the pool, which has proved detrimental to the waterproofing of many such structures, as a result of pouring the cement in successive operations. In this pool the floor and walls were cast in one operation, the pouring having taken eighteen hours to complete. the walls being nine feet high and eighteen inches thick. They have also eliminated another very detrimental factor, by devising a new method for constructing the forms in which the cement is poured, which dispenses with all wires which are generally used to counteract the lateral weight pressure of the newly poured cement. These wires naturally disintegrate by rusting, ultimately leaving holes penetrating the walls, to the great detriment of waterproofing, causing water pressure behind the containing walls.

Water filtration is an extremely important factor in pool planning. The system installed here, which we illustrate, consists of three pressure filters, measuring five feet in diameter. This is described as the three-group system, contrived to facilitate the cleansing of the filter beds in each unit periodically, without interfering with the constant process of purifying the contents of the pool. The washing of the filter is performed in the simplest possible manner, by reversing the direction of the intake, the water then passing out into the sewer after washing the filter. Filtered water is used for this purpose in preference to water from the main, which is always to a certain extent impure, causing a degree of contamination which would remain in the filter; the filtered water for washing is passed through at a predetermined temperature in order that the filter beds may not be chilled previous to resuming operation. This method is so efficient that it is unnecessary to change the water for many months, whatever the degree to which the



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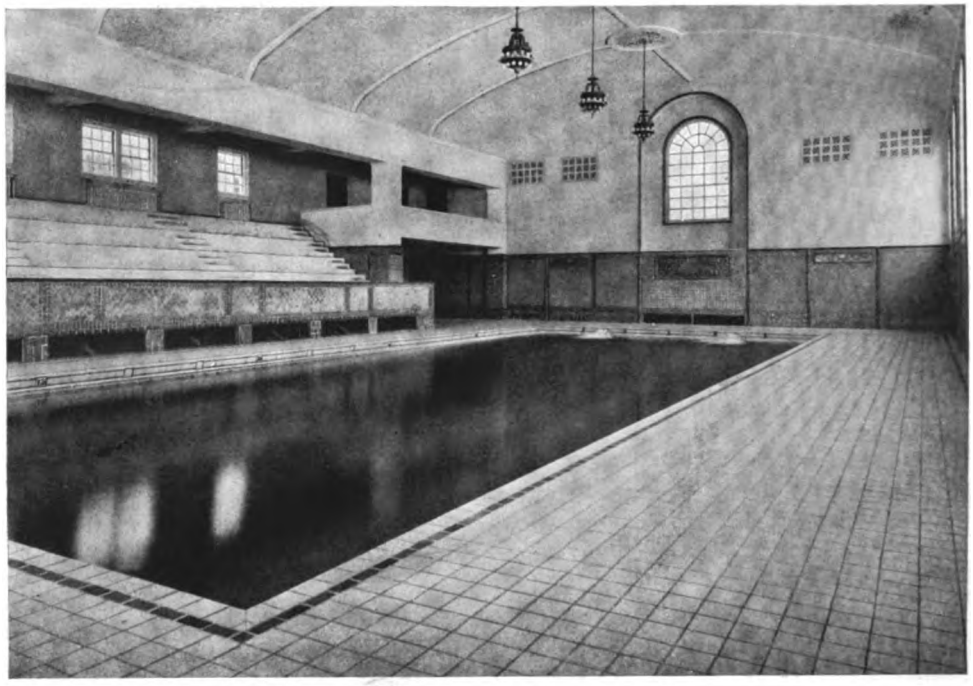

SPALDING SWIMMING POOL IN GYMNASIUM AT DARTMOUTH COLLEGE.
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pool is used for swimming; in fact, from the standpoint of purity, it need not be replaced for ten or eleven months, with the water in daily use; only that quantity of water which splashed over the scum gutter or is used for filter washing has to be made up, evaporation being a negligible factor. Constantly filtered water tends to depreciate in one respect only, viz., in its degree of alkalinity. To remedy this deficiency soda is added in fixed proportions by means of an item of equipment in connection with the filtration plant. The color of the water has also been a subject for study, as the majority of sources tend toward a brownish tone; this is rectified by the addition of alum, which has the property of clarifying water, being added, like the soda, during the process of purification.

The maintenance of a uniform temperature in the water is automatically controlled by means of live steam at five-pound pressure, in an instantaneous heater, worked in connection with the filtration plant.

The installation which we illustrate completely renovates the contents of the pool twice in twenty-four hours; the operation is constant. The final stage of the circuit is that of sterilization as the water leaves the filters to return to the pool; chlorine is the chemical used, having proved more efficient than any other for this purpose.

This pool has been arranged with one effluent drain only, planned on a unique principle devised by the engineers, which reduces to the minimum any difficulty that might arise from a stoppage of the waste pipe.

The shower-room is a luxurious adjunct to the pool. The walls and ceiling are faced with a hand-made faience tile with a cream colored glaze. The shower fixtures are attached to marble slabs; these are easily removable in the event of any defect arising in the plumbing. Each of these slabs and each doorway is framed with a decorative faience border of cloisonné glazes, in blue and white on a blackish ground.