LECTURE NOTES ON BUILDING APPRAISAL.

The problem in the placing of appraisal or value upon a building erected on any given piece of real estate is necessarily a problem of individual judgment. That judgment can find certain guides, from comparison, from cost records, from city or building history, which, in so far as they go, are each extremely valuable toward approaching accuracy, but in its last analysis, the individual judgment which takes into consideration all of the steps or methods of arriving at value is the safest guide.

Just why the appraisal of a building is difficult may be seen by a brief resume of the history of a building's construction. To begin with, certain plans and specifications are prepared by an architect. These plans and specifications give in both a lineal and verbal form the description, quantitative and qualitative, of that building as it is expected to be when it is completed. The plans are the quantitative description of the building: they give the size or measurement of the building itself and of the elements of the building; they give the lineal description of the form of these elements, and they give the opportunity to estimate the exact number of these elements. The plans are not as such a qualitative survey. The specifications represent the qualitative description of the building. They define the character and grade of material. They name the exact materials to be used, the proportions of them to be used, the grade of lumber, the kind of wood, the kind of flooring, the type of floor construction, the methods of workmanship representing a lower or a higher degree of skilled labor required.

Now, the problem of arriving at the value of a building becomes, of course, more difficult to estimate according to the degree of size and elaboration which the building represents. The problem of appraisal of a small home can be much more accurately determined than the problem of a large commercial building or hotel.

Carrying this thought into our examination of how an original cost on a building was determined, let us go back to our plans and specifications. The plans for a large building include a large number of very carefully drawn sheets representing the building in its floor plans, in its elevations or vertical description, in its various sections through walls, through stairways, through large rooms, showing floors, ceilings, walls, etc., in many small and large details showing the exact form of doors, windows, stairways, elevator enclosures, plaster and marble treatments. The specifications and their parts represent a long detailed description of the various requirements of the building, from 100 to 200 pages of carefully written technical data. In addition to these drawings and specifications, a large number of accurate engineering drawings, embracing on one side the structural engineering, the exact location, size and bending of all the reinforcing rods in the reinforced concrete, the exact size, shape and weight of each of the structural steel members and the nature of its connection to another, and an equally
large number of drawings showing the mechanical features of the building, the plumbing, heating, electrical work, each shown, including its piping, outlets, switches, a vast amount of definite detail that has to be located in regard to space in the building prior to the building's erection.

Another point that I am trying to make clear to you is that all this record as such appears to be extremely accurate and to the best of the ability of the engineers and architect engaged in its construction. It is accurate in all respects, but with regard to a building which is not as yet a reality at all. It is the exact description of an imaginary building. Now, the cost of this imaginary building is arrived at by methods of competitive bidding. These plans and specifications are made available to a number of contractors and contracting organizations for their information so that they may in detail take off, as they call it, that is, make up a list of the description of each quantity of material required for the building. It does not stand to reason that each of such lists made from the same set of plans represents an absolutely accurate statement of the quantity which the building contains.

Now, we go a step further. In the contractor's office, the quantities of the different kinds of material are taken off to a large degree by what we call sub-contracts, the contractors engaged in the supplying of labor and material, or material only, pertaining to one branch of the work. These sub-contractors in turn take off their quantities, and it stands to reason that each of them does not arrive at exactly the accurate total required in the building in all cases. Thus the estimate of the imaginary building is arrived at by the contractor totalling his own estimates of the part which he intends to build with the estimates of the sub-contractors for the parts which they intend to build and adding to this total some margin for the cost of office overhead in the instance of a contracting organization, plus a margin of profit. This same process is carried out in a number of competing contractors' offices. Finally they submit the result of this estimating competitively and the lowest of the bidders is usually given the contract to build this building. If we review what we have found to be the method of arriving at the first cost of a building, we find that there has been at all stages the effort to measure in terms of given quantities all labor and material under imaginary conditions placed as yet in an imaginary building. Therefore, the process of original cost is not in itself the true cost of the building, more certainly not the true value of the building. It is, however, the prevailing practice and the method by which first cost is determined. This is the figure from which your appraisal starts. It is usually possible for you to arrive, through the data in the contractors' offices and the architects' office, as to what was the contract cost of any building of reasonable dimensions which you may seek to appraise.

Let me call your attention to the fact that with this method which you accept as accurate because of it being the best available
under the prevailing practice, you have still only the estimated cost of an imaginary building. You should know that any building which has been built to any form, say that in general it further conforms to what it pictured in its plans and specifications, you are not aware of the degree to which it represents 100% of that quantity and quality expressed in its plans and specifications, and such an opinion could probably not be arrived at except from the conscientious personal expression on the part of both the architects and engineers who had the work in charge throughout its entire construction, and such an opinion you might find very difficult to secure. Consequently, you have, as a basis of your record, under the best circumstances, the so-called contract cost of the building.

Now then, let me deviate from the technical side for a few moments. When a building is planned in general it represents the placing into a physical, lineal and qualitative form certain requirements which an owner or one who desires to build the building conveys, as his needs, to the architect. The widest discrepancy as to whether these needs are the average or normal needs of that kind of a building are found in domestic architecture, that is to say, the widest degree of individual expression on the part of persons desiring to build is found in the field of residential occupancy. One owner, for his own individual purposes, may have a desire for a certain character of house, the usefulness of which may be the very minimum to any normal individual. Consequently, regardless of the contract cost of that residence, its true value for appraisal must be based on the normal need of space and area in a residential building of approximately the same cost. This same thing is true, although people have failed to realize it, in general public and commercial architecture. It is perfectly possible in one office building to arrive at a certain number of cubic feet in the final design of the building embracing the same floor area, building the same number of stories, and yet in one plan to have at least 30 greater rentable area than in another. It is further possible to find in one plan the use of the rental area in a manner which will be more attractive and more appealing to the clients seeking space for rent than in another, and whether or not these maximums appear in favor of a building or against it is due to two features, first, the individual peculiarity of choice on the part of the owner without knowledge of planning, and second, the degree of haste or the degree of extreme care which the architect applies to the preparation of the plans.

It is, therefore, utterly impossible to even approach the degree to which each of these features should prevail in the appraisal of any building carefully. I doubt if any trust company or any company engaged in lending large sums of money against large structures would consider such a loan such a loan prior to a careful analysis on just such points as I have referred to.

It is not my effort to give you any panaceas or remedy by
which to estimate the value of any building in this city or to assume an accurate knowledge of the building worth. Any effort to make such a resume of building worth within the limits a list which you should require in notes as being of value to you, would very likely lead you further astray than they would lead you toward accuracy. I should recommend in any such case where an appraisal is needed, first, there should be secured from the records in the best manner possible the original contract cost of the building; secondly, the building itself should be examined and the plans, if possible, should be examined by a competent structural engineer. The plans, and the building should be examined by an architect. From these several sources should be secured all the information pertaining to the building that can be secured. Each of them will in all likelihood be a conservative opinion.

Buildings usually cost slightly more than their first contract shows. Engineers usually slightly undervalue an old building; architects tend to see the degree to which a building has deteriorated as being slightly more rapid than is really the case. Then the thing for you to do is to become thoroughly acquainted with the building and its tenants, find out to what degree it is not serving the purpose in all respects for which it was built, finally the individual judgment arrives at the value.

Now, the things which affect this individual judgment are the things I had much rather talk to you about. We have seen in eastern cities a total change of character occurred in a fully developed city street. We have seen first a change from fine old early homes, well preserved, highly treasured, streets beautifully kept and parks in excellent shape changed to slums. We have seen the automobile transport these citizens to suburban centers, wider space, finer homes, and the old homes discarded, boarding houses, tenements and slums made out of remodeled houses. We have seen early banking centers changed into warehouse and wholesale districts, and we have seen highly developed retail trade districts become too congested or too distant, and later up-town retail districts supplanted them completely. This, of course, affects the individual judgment and the individual values. What nature of building then, tends to hold its original value longest? I believe we can answer this very frankly. All modern buildings in cities are of a fire-proof nature, which tends, as far as material is concerned, to outlast time. Its technical duration as a building is extremely tiny, provided a fixed permanency of purpose and a fixed permanency of custom in the purpose for which that building was built is continuous. But these are the things which are not continuous. Therefore, we can easily see that the building which retains its value longest is the fire-proof building possessed of the least internal specialization, of the highest freedom of re-adaptability to a change of purpose with moderate cost, and of an originally low value as far as internal subdivision and ornamentation is concerned, which may in the course of time become useless or obsolete.
The entire problem of appraising the value of an existing building, therefore, requires judgment as to the permanency of purpose or permanence of utility which exists in the building, as well as permanency of fitness of location. There are in all cities locations marked or raised to a premier position because of important public monument. By this I mean the permanent location of great railway terminals, suitably built and showing intentions of permanent building; great city libraries, city court houses, in some cases fully developed civic centers which have in their development the intention of permanency and growth to accommodate the city as it becomes larger and larger. Value of buildings near or adjacent to these centers suffer less migration and change than those in purely commercial centers.

The prevailing method on your part of arriving at a value has to do considerably with the earning power of the building. That is to say, it has to do with the return which can be had from the space existing in the building, and as to the ratio that that return bears to the cost of land and building. It is rather more easy for you to arrive at an estimate of value for a given time where the building is one of the character of store or office building in which a certain basis of rental can be reasonably presumed to be a normal expectancy for that space. This, however, must be only for a reasonable length of time because it does not follow that the prevailing rents at the time of the appraisal, except in case of leases, have any assured continuance for an indefinite period.

I doubt whether the degree to which modern building, which piles up large structures on relatively small amounts of land and involves great cost in building, is sufficiently seriously studied from the investment point of view. In most cases the immediate return is taken to be the safe permanent return, or nearly such. The two further facts which are absolutely needed at this point are, first, that as the land increases in value, if it does increase, it becomes a burden to the investment rather than an advantage and if it decreases in value, there is very likely a loss of rental returns which is even more disastrous. The net initial return, therefore, should be relatively high in order to secure a reasonable permanency in the investment. Too often large city development shows a very low initial return. While occasional fluctuations add to this return, it does frequently detract from it to the point of making the investment a poor one. The conditions in the American cities, and particularly in the South, are more in need of study in this particular now than would have been true had it not been for the war. Prior to the war building costs were at least 60% lower than they are today. Buildings erected prior to 1916 had the advantage of this low building cost. These buildings, where they have met the requirements of post war developments have been very profitable, but the larger activity in southern cities has occurred since 1916, and has been at a very large cost. It means that they are carrying development of very high first cost against the uncertainty of building costs returning to their pre-war level. For a reasonable period of time no one can expect such a return to lower prices, but eventually it is bound to come. This shows how
very important it is that the initial investment at the present time should show a high interest return in order to retire the excess cost within a reasonably short period of years.

The depreciation on all developed property is a subject which, I notice from the text book which you are using, is very completely handled. It is of course a large factor in all building appraisal. As I have mentioned earlier, the actual material depreciation in modern building is relatively slight. The obsolescence, however, of many features in modern building is extremely rapid. There has never been a time when there were as many new and attractive developments in the use of material in building as has been true for the past two or three years. Each one of these developments is toward more attractive and scientifically proper conditions in building, each of such inventive construction tends to educate the public to a higher demand. It is this increasing demand for modern features in buildings of all sorts that creates an obsolescence in older buildings of increasing rapidity. You know that you are not able to interest a client in the purchase of a frame residence built in 1917 with much more success than you would in one built in 1900 or in 1890. The change of the public's idea of what constitutes the reasonable minimum in a small house has been tremendous. The individual owner has learned the advantages of steam heat, of hard wood floors, tile bathrooms, of electric ranges, of brick in place of wood for the exterior of his home, of many things that were considered quite impossible to the small house builder of 1913 and of 1900. The same thing is true in a much more detailed way in modern large building practice. The service demanded in a modern office building is vastly different from that offered and expected in an office building built in 1900. In fact, New York is already replacing buildings built as late as 1900 with entirely new and much more elaborate structure.

Now, the question is, How far can this state of things continue. Certainly the inventive skill of the American people is going on more rapidly just as long as there is more improved building and more demand for innovation. Consequently, we have not any reason to expect the curbing in any fashion of this development except in the overbuilding of cities and in the overbuilding of cities one immediately finds the greatest loss and the most complete disorder in the value of real estate and developed real estate. Once there is permanently shown to be too much available space, all basis of revenue bearing in building based on an intelligent figure of its value of cost becomes impossible.

It is not my intention, as I have mentioned before, to try, except in so far as I may answer any questions which you may wish to ask me at the close of this talk, to try to place before you a long list of costs on buildings by the square foot or the cubic foot, or by the room, or any other of the methods by which appraisals are sometimes made by architects, all of which, even if the architect understood in his own practice are extremely and if understood by the layman, tend to even wider discrepancy. It is rather my intention to show you that the hazard of large building for other than a specific purpose is a difficult one. A large building for
rental purposes accepts the hazard at the time of its beginning. A large building for private purposes, housing simply a definite known need of an industry or corporation, is necessarily a part of the machinery of that business or industry. It invariably plans to develop and expand as the industry develops and expands, and it absorbs its cost as part of the cost of its manufactured article. This type of building is, of course, the same, necessary development, and is one on which the appraiser very seldom is called into service.

The final point which I want to leave in your mind minds is one in which the architect, above all things else, should be interested, and it is the one which real estate men must learn to know as having a real and definite value. The architect's purpose is to create beautiful buildings. The more intelligent careful study of specific requirement and the delivery of the maximum efficiency in a plant do not fulfill the architect's duty. His duty is to develop a certain known problem into material form, and in that material form to express a beautiful building. I notice in your text book a charming little picture showing the change of an old two-story tenement district by the mere re-staining and re-building of the fronts of these two-story buildings into attractive apartment fronts, artistically designed, and changing what looked like an old alley into a charming little street. The change, as far as expenditure is concerned, is reported as being very moderate, yet the change, as far as rental value is concerned, is being very great. That condition prevails in all building. The unsightly building, no matter how efficiently planned, will sooner or later lose a popular patronage when one as efficiently planned, but possessing beauty is built and made available for use. Probably this quality will safeguard a building against deterioration, as far as value is concerned, longer than any other item. The whole history of building has preserved to us the beautiful buildings of all peoples wherever preservation of building has been possible, and yet numerous thousands and thousands of examples which represented the poor building of these same people have practically entirely disappeared. Beauty in building is governed entirely by the laws of taste and proportion, and the knowledge of such laws and the judgment of such taste are reasonably customary in American work. Consequently, as buildings which possess beauty appear in American cities, they at once cause and what is more important, reasonable criticism and judgment by the people. This growing judgment, which is steadily growing every day in all large cities in America, means that the value of any building as far as you can arrive at it in your own individual judgment, must be affected by the degree in which it possesses the quality which makes it distinctly a pleasure to many people, and creates for them a popularity because of such feeling of emotion. Consequently, you can actually set and measure such qualities in money. I recall a small attractive home which I built in a city in North Texas in 1913. A lot of rather large dimensions, rough, wholly without beauty, was secured at $4500.00. It was in an excellent neighborhood, and expensive homes had been built reasonably near to this site. Streets had been paved and such improvements had all existed prior
to the beginning of this building. The house, a simple Italian house of modest dimensions, cost $18,000.00. A great deal of care was taken to design the house to take advantage of the lot and its irregularities, one of which included an old dried up stream at the extreme rear of the lot and some thirty-five or forty feet below the level of the house. Two stone bridges and a small dam were built, walks, gardens, etc., were laid out. A great deal of careful planning was done and the result represented in money a total expenditure for lot, house and all improvements slightly over $27,000.00. In 1915 the owners were offered $100,000.00 for the place. Real estate in the neighborhood had of course gone up slightly, but not in any such proportion. The lots, after people had become aware what could be done with them, would probably have sold for $30,000.00. Had it been as bad as it was when it was first taken it would probably have sold at that later time for $10,000.00. The increased cost of building would probably have doubled the cost of the house and made its cost with planting approximately $50,000.00 instead of $25,000.00. But to these actual costs, which could not have been done even in 1917, after estimating the land and building at a value of $50,000.00, there had been added a value of $40,000.00 due to the attractiveness of the place and to its appeal as such. In mentioning such facts concerning the value of beauty in building, we should mention equally with it the fact that the ill-shapen or dowdy is frequently just as destructive of value, and in many cases in which a great deal of expense is represented in building, in ornamentation, decoration, choice of materials which are beyond the normal cost required for the structure, and yet each one tends to detract from its final value from the mere fact that they make it unpleasant unattractive and discordant to public good taste, and as that taste becomes more refined, as it does every day in American cities, such buildings constantly suffer a loss in their value as far as this interest is concerned. On that they must necessarily suffer a very considerable change by a purchaser before they can be brought into a sufficient harmony to create for them a popularity which will fulfill the maximum use of the building for its purpose.

When Mr. Timmons asked me to talk to you on one of your class evening, I told him that I would of course be very glad to do so, but that the nature of my talk would probably have very little to do with the actual class work in which you are engaged. I can say a great deal that would be extremely valuable to all of the architects in the course, particularly as Mr. Timmons has spoken of it to me and the progress which you are making in the course. I think that I can truthfully say that all of the architects would greatly profit by such a study as you are making and that a judgment of value in building, especially in existing building, is a very great asset to any business man. It should be, of course, a greater asset to an architect in trying to reach a sane judgment of value in a building which does exist, but which he has yet controls in its period of formation and at which times such judgment can, of course, be of more value in trying to safeguard and protect the investment which the building represents.

Wm. Harold Mathen

(about 1917)