



BUILDING.



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N.B.—Readers will observe that our title has been altered to "Building."

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Hole and Corner.

During May, 1916, there appeared in the *Cape Times* an amazing report—afterwards stated to have been an unauthorised disclosure—of the proceedings at a meeting of the "Provisional Committee," dealing with the proposal to erect new buildings for the Cape University at Groote Schuur. The Committee appear to have been concerned to assure the appointment of an architect they had in mind, and the discussion comprised a series of arguments as to why the competitive system of obtaining designs was not, in that instance, advisable. Who it was that had urged the fair and open method of procedure did not appear, the report was occupied with the Committee's justifications. The nature of those justifications can be gathered

from the correspondence which thereafter ensued between the representative professional bodies in the Transvaal and the University authorities, which correspondence we now deem it advisable to publish.

On the 9th June, 1916, the Transvaal Institute of Architects wrote to the Cape University Council, as follows:—

"The attention of the Council of this Institute has been directed, by the members, to the published report of a meeting held by the Committee of your Council in connection with the new University Buildings.

My Council gathers from the discussion that the Committee is disinclined to avail itself of the competitive method of procuring suitable plans, and proposes to place the work in the hands of a gentleman nominated by

(name suppressed, as it is not in the writer's intention to deal with personalities.—M.J.H.) "I am asked to express to you the profound sense of disappointment and discouragement which will be created amongst the large body of architects in this Province by such a blank denial of opportunity in connection with a work so essentially national.

The reasons offered by members of your Committee for adopting the proposed methods of procedure are, as reported, firstly, that the competitive method is never satisfactory, secondly, that there is no architect in South Africa capable of carrying out the work.

In regard to the first reason, while it is true that certain public competitions in South Africa have been baulked of honest result baulked with intent by interested parties for the sake of personal interests, such a contretemps could never have occurred had the advice of any constituted association of architects been sought and acted upon. It is palpably unfair to accept notorious abuses of the competition system as in condemnation of the system itself.

The second reason—as stated—that there is no architect in South Africa capable of carrying out the work—is a sweeping assertion reflecting upon some four hundred architects resident in this country, very many possessing qualifications and experience such as would entitle them to high status in any country whatsoever. The reasons advanced against the holding of a competition are not justified by experience or fact.

This Institute earnestly hopes that a further consideration will lead to your Committee to decide upon procedure by means of open competition—the only procedure which experience has shown to be consistent with any due regard for the many public interests involved. Not the least of those interests are those of the encouragement of South African art and the development of its public architecture upon lines which shall reflect the highest available contemporary skill, and in those interests the Transvaal Institute of Architects feels called upon to ask for a fuller consideration of this important question."

A letter of similar purport was written by the President of the Association of Transvaal Architects.

Institute and Association both received the following reply, dated June 28th, 1916:—

"Your letter, dated the 9th inst., has been placed before the Architects Sub-Committee of the Provisional Committee of the University of Capetown, and I am directed to state that the views expressed by you relative to the competitive method of procuring plans for the proposed University Buildings will receive serious consideration."

Months elapsed without further reply, but further press reports appeared, stating that the work had been entrusted to a certain architect, resident in South Africa, who would be sent for a two years' travel, during which he would study the latest developments in University planning, preparatory to the consideration of his own design. The Association of Transvaal Architects then wrote asking for official information as to the decision which had been arrived at, receiving this reply, dated 1st May, 1917:—

"In reply to your letter dated the 27th inst., I beg to inform you that the Provisional Committee of the University of Cape Town has given serious consideration to the views expressed by you in your letter of the 28th June last, relative to the competitive method of procuring plans for the proposed University Buildings at Groote Schuur. After a prolonged discussion of this question the Provisional Committee decided not to invite competitive designs."

The Association of Transvaal Architects does not propose to let the discussion end with this discourteously brief letter from the University authorities. The "serious considerations," which actuated the decision arrived at, are of sufficient public interest to warrant statement in full detail. A principle is involved which vitally affects the advancement of architecture in South Africa. It is, of course, improbable that the Cape University Buildings will ever form the subject of public architectural competition, but the profession has all to gain—and nothing to lose—by awakening public opinion on the question *now*. Every member of the profession can "do his bit," by—say—acquainting his member of Parliament with the facts and, further, by educating his neighbours of the public as to the rights and wrongs of the question. These methods of appointing the architect of a public building have become of frequent recurrence, and threaten to become an established abuse. If, as hitherto, one public building after another is to be given away—in the matter of design—as within the personal gift of influential individuals, some of our ablest men will say good-bye to South Africa. There is a fair and proper way to get the product of the best brains in the design of a great public building—the way of open public competition. Of other ways, all less satisfactory, that adopted by the Cape University authorities seems to come well under the heading given to this article.

M.J.H.

University of Capetown.

QUESTION OF CONSTRUCTING BUILDINGS.

OPPOSITION TO COMPETITIVE DESIGNS.

A meeting of the Architects' Sub-Committee of the Provisional Committee of the University of Cape Town was held in the S.A. Association Board-room on Tuesday last, when there were present: Rev. J. M. Russell (in the chair), Sir David Graaff, Sir Wm. Solomon, Sir Maitland Park, Mr. J. W. Jagger, Prof. J. C. Beattie, and Prof. C. E. Lewis.

COMPETITIVE DESIGNS.

The Committee first discussed the question whether it would be preferable to invite competitive designs or to definitely select one or more architects and ask them to carry out the work. Sir David Graaff stated that in his opinion the calling of competitive designs would not give the best results, because the Committee would not have sufficient to do with the actual designing of the plans. A plan would be selected and the buildings constructed accordingly, whereas if one or two architects were appointed the Committee could be in frequent consultation with them as the plans were in preparation, and alterations could be made from time to time as they proceeded. Sir Wm. Solomon stated that his chief objection to calling for competitive designs was that the work to be undertaken was of a very special nature, and he did not feel that there were any architects in South Africa specially qualified for such work, whereas if an architect were appointed the Committee might arrange that before proceeding to draw up the plans, the selected architect might proceed to Europe and perhaps America to see what had been done there in the way of University buildings. In the case of competitive designs this could not be done, and in any case the Committee, as laymen, would have to call in expert advice to help in judging the designs sent in.

Sir Maitland Park thought there were only two or three names among South African architects that would commend themselves to the public as men who could undertake such a big building scheme, and if it were put out to competition he doubted if all these men would compete, and the field of choice would be restricted by the elimination of these men, and on these grounds he was opposed to calling for competitive designs.

Mr. Jagger supported the opinion that competitive designs were undesirable, as in his opinion such a method had not given entire satisfaction in the past.

On the motion of Sir Wm. Solomon, seconded by Sir Maitland Park, it was resolved that the Sub-Committee report to the Provisional Committee that it recommended that competitive plans should not be invited.

APPOINTMENT OF ARCHITECT.

The Committee then proceeded to discuss the question of the selection of an architect. Sir David Graaff stated that he personally would prefer that two architects should be appointed. He understood that the trustees of the Wernher Beit Bequests favoured the appointment of a certain architect from the artistic point of view, but he and other business men would prefer to have also an architect who was strong on the practical side, with a view to obtaining full value for the money expended and good practical details.

Sir David Graaff also urged the advisability of having a model of the proposed buildings made for the inspection and criticism of the Committee before deciding on the plans.

Mr. J. W. Jagger supported the suggestion of the appointment of two architects. Mr. Murray (Secretary for Public Works) then joined the meeting by invitation.

On being asked by the Committee, he expressed the opinion that he was opposed to the calling of competitive designs. He informed the meeting of the experience he had had in connection with the appointment of consulting architect on Government buildings. He stated he thought that there would be less objection on the part of a designing architect to the appointment of a consulting architect if the latter were one of the Government officials than if he were a private architect.

After Mr. Murray withdrew, Sir David Graaff stated that he was more than ever convinced that the Committee should have the advice of a second architect.

Mr. Jagger stated that he was strongly in favour of appointing a consulting architect from the first who should advise the Committee on the plans and inspect the work as it proceeded and report to the Committee from time to time.

After further discussion the meeting considered that if a consulting architect were appointed it could be made part of the agreement with the architect selected for making the designs.

Two letters were read and handed in for record, one from Sir Lionel Phillips to Sir Thomas Watt, recommending the selection of Mr. J. M. Solomon as the architect, and one from Mr. Baker, stating that he would like to be of service in connection with the plans for the proposed University buildings, and that he could arrange to be in South Africa for two or three months a year.

It was decided to adjourn the meeting till Friday, May 26th.

(From the "Cape Times" of Monday, May 29th, 1916, page 8.)

Rand Conciliation Report.

BUILDING CRAFTSMEN'S WAGES.

This report, which has been made after the most exhaustive enquiry, is one of the most important events in the history of building in South Africa. It exhibits a growing state of affairs which calls for immediate action on the part of all concerned, not only in their own interests, but in that of the State itself. It clearly proves an appalling amount of sweating in the building trades, and this state of things appeared mostly, as the report says, "in the semi-fashionable suburbs, where the residents seek to emulate a higher social scale," and less in prosperous working class districts, like the Southern Suburbs of Johannesburg. We have only one comment—and that entirely friendly—and that is that the report did not go far enough, and call on the Government to institute a Wages Board, and a minimum wage by Act of Parliament. There is no other complete solution of the problem, and unless this state is to go down into a morass of ill-paid inefficiency and hopeless poverty, architects' associations, builders' federations, and trade unions must combine for once to secure what Australia and New Zealand have had for years, *i.e.*, 1. A standard of average efficiency. 2. A minimum standard wage for the average efficiency, and 3. A standard individual minimum wage for the old and the slow, fixed by the Wages Board after enquiry into each individual case. This Wages Board should be a permanent body, dealing with all trades and industries, and composed of master and men, with a chairman unconnected with either, and elected by them.

In Melbourne, this has worked wonders for the well-being of the people and improvement of trade. A clergyman of very broad sympathies and sense was the chairman, and was conspicuously successful. Sweating ceased out of the land, being chased from its dark lairs by the force of public opinion. In Tasmania, to-day, a labourer earns from 6s. to 8s. per day instead of 15s. per week in old times. Instead of living a hopeless and gray life, his family are able to improve themselves. It may be argued that the backveld will never pass a Wages Law for the whole Union. If that be true, a solution could be found by an Act, allowing districts, like the Rand, to apply the terms of the Wages Law to their own areas by local option.

Matters require a change, and the first step is for each Society concerned to pass resolutions calling for a Wages Law. In no other way will the "grinder of the face of the poor" be stopped, and the open dealing of the Master Builders' Associations in trying to pay a fair wage be properly supported.

Without a proper economic foundation, based on the right to live and move and have our being under moderately decent conditions, the existence of even the upper orders of workmen is threatened by an unregulated struggle, which under present circumstances places a premium on inefficiency and servility, and a low method of living, to which no free people should be compelled.

E. W.

National Service.

The Association Council is willing to send forward names of members to Architects' War Committee in London, where such members desire to be enrolled in the National Service Scheme of Advice to Mr. Neville Chamberlain as to the most suitable employment for architects.

Land Investment.

By I. F. ATTERBURY

The following rough notes on land investment have not been prepared with a view necessarily of covering the subject exhaustively. An adequate treatment would require the patient collection of a mass of detail which, while of interest, could only be of cumulative importance. Rather have they been set down at odd moments snatched from a busy man's time and with the idea of stimulating an interest in those forces and conditions which affect the values of one-half of the wealth of the world. Neither has it been possible to consult authorities, if there are any, and hence if the discussion here presented is somewhat discursive rather than logical and definite, such fault may, at the option of the reader, be either ascribed to the incessant and inevitable overlapping of the more or less arbitrary sub-divisions of the subject or to a lack of that wide grasp necessary to its correct treatment.

It may be said further that these observations on land investment are not put forward as containing a special message freighted with golden promise for investors, nor as a didactic lecture on land values, for the obvious reason that even the friendly critic might say:—"Your rules look good, why do you not apply them yourself and grow rich." Manifestly under such circumstances there can be no occasion for a display of dogmatics.

There are comparatively few investors in landed properties, who, when cross-examined closely, are able to give clear and cogent reasons for an investment in a particular property. And, more especially does this apply to speculative ventures. Increment is a fleeting will o' the wisp, a mirage luring the thirsty investor on, and continuously raising his hopes only to dash and dissolve them in the end. An attempt to forecast and correctly estimate the many vagaries of this interesting phenomenon has led to many astounding errors of judgment in the past, on the part of otherwise prudent business men, and will doubtless continue to do so in the future.

Recognising these difficulties and uncertainties which dog the footsteps of even the wariest investor, yet it is true that many mistakes of this nature are due to bad judgment and ignorance of surrounding conditions; to lack of sufficiently patient investigation; to inability to give due weight and importance to current and prospective events and development; to a lack of the sense of correct proportion; in other words, to a lack of accurate knowledge of the fundamental principles affecting, controlling and directing the movement of land values.

However difficult it may be to apply these so-called principles in practice, as individual need may arise, they are none the less capable of approximate definition and analysis.

These notes deal chiefly with city and suburban properties, and attention will be confined to this form of land, excepting to a brief notice of farm property later on.

A little reflection on the part of the investor who has had some experience in land investment will lead him to classify possible investments in city and suburban properties somewhat as follows:—(1) The purchase of homes, having no regard for possible income; (2) the purchase of land for business purposes, disregarding possible income excepting that which should result to the business from its more or less advantageous position; (3) the purchase of properties for the actual or possible income only; (4) the purchase of properties for purely speculative purposes, having regard to increment only; (5) the purchase of properties affording the advantages of both income and speculative investment.

These different form of investment include all with which the ordinary investor is likely to concern himself and which therefore need concern us now.

Real property or estates in land may be defined from the investor's point of view as:—(a) Land itself; (b) buildings or improvements on land; (c) both land and the improvements thereon, or to be erected thereon.

These distinctions are drawn advisedly and should be maintained rigidly. For various reasons buildings or so-called "improvements" may in practice be or become actual incumbrances. The rule therefore is that whereas vacant land always tends to increase in value in any rising community, improvements, and especially buildings, always decrease in value, even from the very moment of their completion. It may well be and in practice often occurs, that the decrease in value of improvements exceeds the increment on the land they occupy. Such properties are a bad form of investment.

Many grave mistakes are made, not indeed in the purchase of a particular property, which in itself may be fully justified at the price paid, but because of the unjustifiable use to which it may be applied by the new owner. No purchase is justified except it be economically improved, or held for prospective increment without improvement.

Another distinction should be kept in mind, in the purchase of any type of property, and that is that price and value are not always co-incident or synonymous. In the fluctuations of demand and supply, it very often occurs that a purchasable article or commodity commands a price much above value in the open market. So land, which is also a marketable article may be bought and sold both above and below its value as an income producer, or, as a speculative investment. For example, the shares of a well and favourably known public company, or a central and highly valuable building plot, may command in the open market a price far above value, or a lack of demand at the moment of sale may result in a sale at a price much below value. In such cases it is often the insistent and confusing speculative demand which clouds the judgment and thus obscures all elements of value in the mind of the buyer who fixes his eye on the demand and, casting discretion to the wind, plunges for a rise.

This is merely a form of gambling and should be eliminated in dealing with ordinary investments. Permanent investments should not be made in times of great market activity, but always at the lowest ebb of demand. The rule is to buy in a passive market and sell in an active one, the success or failure of the dealer depending on the accuracy of his foresight in timing the arrival of activity and depression.

While prices are directly affected and controlled by demand, the ultimate value, or it may be more correct to say that demand itself is affected by many contributory and often diverse conditions. Growth of population is a consideration of the first importance. It is held by some experienced dealers that there is a fixed ratio between growth of population and growth of value, and that given an increase of 25 per cent. in the growth of a city, a general advance of 25 per cent. in value is justified—that the rate of increase in each case is the same.

The writer is not disposed to deny the approximate accuracy of this contention, except it be to the incidence of its application. Increase of population does not affect an increase of value in a uniform degree throughout the whole community. In a city laid out on a level plain, and developed uniformly and systematically along its radial lines and with no section having residential or commercial advantage over another, all properties lying equa-distant from the common centre would increase or decrease in value at the same rate. But the exigencies of town building does not bring about such mathematical conditions of development, and would not should occasion offer the oppor-

Land Investment by I. W. Atterbury.

tunity. Towns and cities are built according to human needs, very often in a most erratic and inexplicable manner. Reference is again made further along to the effect of increase of population on central and suburban properties.

The development and growth of an urban community is influenced by many considerations which should receive the careful attention of the investor. The sudden accession of important manufacturing and industrial enterprises employing many working people; the location of Schools, Colleges and Universities; the special favour granted a particular City by the general Government, for example, the selection of Pretoria as the Union Administrative Capital foreshadowing a great future growth for the City; the building of roads, bridges and streets; the extension of railways and tramways; the expenditure of vast sums on drainage, sewerage, light and power, water, parks and amusement resorts; in general, the pursuit of an enlightened and enthusiastic policy of town advancement, extension and development. All these things, each in its own way, tend to a rapid increase of population and a consequent advancement of property values.

Coming now to details of growth, it will be observed that a particular property may be directly and indirectly affected by many and often diverse influences. When the investor is called upon to decide whether or not he shall buy, he is then faced with conditions and not theories.

Much may depend on the local "atmosphere," the "habit" and "manner," the general appearance of the quarter or suburb under consideration. One locality is cheerful, cosy and inviting, although it may be bare of improvements. Another, even adjoining the first, is cold, repellent and forbidding in manner, although it may be well improved. The ability to correctly appraise these important distinctions and differences and translate them into their proper values pro. and con., marks the difference between failure and success.

Improvements directly affect the appearance of a district giving it tone and position, or the reverse, according as their character enhances or diminishes the natural advantages afforded. High class improvements erected away from the business centre frequently have the effect of greatly disturbing current values. To illustrate:

Suppose a strong Mercantile Company should acquire the south-west corner of Market and Pretorius Streets, Pretoria, and should erect thereon an enormous modern Department Store of splendid proportions, and affording far greater convenience and comfort to the shopping public than that hitherto available; so much so indeed, as to permanently attract and secure the patronage of a large and important section of the community who had always prior thereto confined their attention to Church Street. Should this happen, the inevitable result would be to greatly enhance values of all property adjoining and about the new store, and for some distance along both Market and Pretorius Streets. Conversely, it would also tend to decrease values in the present Church Street retail quarter in proportion to the traffic and trade so diverted. The erection of Messrs. Norman Anstey & Co.'s new store, at Joubert and Kerk Streets, Johannesburg, will add substantial value to nearby properties, drawing, as it does, from both Pritchard and Eloff Streets. In this case, however, the diversion is so slight that the effect on frontage values will be nominal, excepting that immediately about the new store.

The incidence of value is thus effected in a similar manner in all growing cities where the centre of interest or rendezvous is transient. Many a fortune has been wrecked in a fruitless attempt to thus transfer the trade centre in order to profit by the resulting increment. It requires a strong mastery of local

conditions and a clear grasp of the elements of urban growth to carry through to success so daring an enterprise.

Referring again to the rule that price is regulated by demand, it is also true that price is influenced by concentration of demand. In other words, a particular owner may hold a monopoly of supply. That is to say, for various reasons his property is more suitable as a trade position, or as an income producer, than any other, and hence he can command the top price. Or, to state an unusual case, an owner may not only have a monopoly, but be able through unique conditions to force the payment of an extremely high price. A local instance may be cited in the well-known Stuttatford corner, which was formerly held by a competing merchant. In order to acquire the corner and at the same time retire a competitor Stuttatford & Co. paid £40,000 for the 2,500 square feet of ground, or £16 per square foot, which is perhaps a record Johannesburg price. It may be seriously questioned whether price and value in this instance were synonymous, and it illustrates how the monopolistic feature may be taken advantage of by sellers under favouring circumstances.

Land is a marketable article, and the demand varies according to the various uses to which it may be applied. If it can only be used to grow moss lichen or afford elbow room for arctic glacier, its value as land may be considered to have reached the minimum. But if it lies in the heart of some great metropolis, and is eligible for the erection of a great Bank, Office Building, or Department Store, or can be devoted to many other purposes, then its value rises to maximum figures.

Taking now the classification of properties as before given in their order, we may consider certain details which should prove of interest to investors.

1.—*The Purchase of Property for a Home*

A little while ago some one in European Literary Circles with a penchant for iconoclasm devoted no small space in a leading Magazine to the attempt, with some success, to disprove certain old proverbs and aphorisms, that have been handed down for generations, and accepted as sound philosophy.

There is such an opportunity open to those who care to study the old dictum: "It is cheaper to live in your own house than pay rent."

Under average conditions, it seems to be fairly clear that the tenant is in a better position with reference to the property he occupies than his landlord. In each case, it is purely a matter of figures. The average landlord does not give due importance to the cost of depreciation and repairs on buildings, which require constant attention if their producing power is to be maintained. The annual deduction for depreciation on the average cottage and better class dwelling will reach, say, five per cent., depending on materials and manner of construction. So the gross rental should aggregate twelve to sixteen per cent. on cost of property to cover such depreciation with rates, taxes, etc., in order to net current interest rates. The landlord is further burdened with an investment that is not liquid. If he desires, or is compelled to realise quickly, he must inevitably suffer a loss. It is also a fair estimate to allow for the loss of one month's rent out of each year, this is caused by both, by inability at all times to replace the outgoing tenant by a satisfactory new one, and the loss of rentals through having a tenant now and then who cannot pay, and must be legally ousted. It will generally be found therefore that the tenant is really paying substantially the current rate of interest by which he avoids the penalties and responsibilities of the landlord.

It is an important consideration for the head of a family to have a permanent home. The moral mental and social advantages are helpful in very many ways, and the securing of homes by the mass of the people should be encouraged in every possible

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manner, but we are now considering the matter from an investment point of view, and not from that of the individual or the State.

Many homes are built on leading thoroughfares, not only for the comfort and convenience of the owner and his family, but as social advertisement—as monuments to excessive personal pride, and a desire for ostentation and display. It is manifestly impossible to deal with investments of such a nature. Yet, whatever the object of the establishment of a home, the site should unquestionably be chosen with a view to increment. This may generally be done in all growing cities and towns.

2.—The Purchase of Property, Improved or Unimproved, for Business Purposes having no regard to Income, excepting that which should result to the Business from the more or less advantageous position it is to occupy.

In acquiring properties of this description, the element of speculation—of increment—must be largely set aside and first attention given to the requirements of the particular business it is proposed to conduct. The line of development, however, must be carefully considered, and if the exigencies of the business justify, the site should be chosen with a view to the increment as well as business convenience. A number of instances have occurred in Johannesburg in recent years where the increment has returned a larger profit than the business carried on.

The improvements on such property should merely be sufficient to properly house the business and keep fixed charges at the lowest possible figure compatible therewith.

3.—The Purchase of Properties for the Actual or Possible Income only.

The purchaser under average conditions may usually find a great range of properties offered for sale at public, private, voluntary and involuntary vendue, wherever he may reside. He may always thus have a fair opportunity to exercise his judgment and show its quality along any line of operation he may adopt. There are shops, warehouses, office buildings, hotels, residential chambers and flats, or land suitable for the erection of these various improvements everywhere.

Great care should be taken to ascertain the character of the demand for accommodation to be supplied by the improvements erected, or to be erected on land purchased. Reliable evidence should be required that the prospective income will be sufficient over a long period of years to cover all fixed charges, and to provide a sinking fund to offset the depreciation on buildings and improvements, and to yield a net return equivalent at least to a fair rate of interest on the gross expenditure.

If the property is to be managed by an agent, then the usual charges for such service must be reckoned in the account. In this connection it is frequently the experience of investors that the cream of an investment is lost by reason of an inadequate allowance for supervision, repairs, etc. Patient vigilance is imperatively demanded if investments of this nature are to be successful. All uncertain items should be carried in a contingent expense account and a liberal estimate made for future requirements in that respect.

It may again be repeated that a sharp distinction must be drawn between land and the improvements thereon, and that so-called improvements may become incumbrances, if they do not yield a fair return on the investment. The form of improvement is therefore of first importance. It should be justified in the full economic sense, that is to say, it should be so planned as to return the largest proportion of revenue for the smallest economic expenditure. The income should be conservatively estimated, and the expenditure put down at the maximum.

The annual allowance for depreciation on stone and concrete buildings should be $2\frac{1}{2}$ per cent to 3 per cent., thus estimating the life at 35 to 40 years, whereas for cheaper buildings and of

inferior construction, the rate should be raised to even 5 per cent. or $5\frac{1}{2}$ per cent.

The crux of the investment depends on the character of the improvements. The most eligible metropolitan corner may be an absolute loss to its owner, not because it does not yield a revenue, but because it does not yield an economic revenue. On a fair valuation the net yield may be no more than 4 to 5 per cent., whereas it might, if properly improved, be made to yield 7 or 8 per cent. annually. The difference can only be reckoned as an economic loss, resulting from bad management. If income is the object, it should be increased to the utmost.

The general experience is that while most of the large business structures are very interesting, and highly ornamental and contribute an air of prosperity and financial strength to the community, they do not yield a revenue commensurate with their visible aspect. To be blunt and outspoken, they are not economic revenue producers. This applies often to large office and general utility buildings even in crowded and busy quarters. Many buildings are erected largely for convenience. For example, Eckstein and Co.'s Corner House and the Consolidated Buildings at Johannesburg. These buildings were not erected for their income yielding prospects solely, but for the convenience of the many interests to be housed.

So also the leading life insurance companies often erect great office buildings, which often do not yield a satisfactory income, but are intended to have an advertising value, a view which does not inspire support in "hardheaded" investment circles.

The erection of business buildings as advertisements recalls a personal incident in connection with the late Mr. B. I. Barnato. In Ante-Bellum days Mr. Barnato, being the owner of a large and exceedingly well located block of ground in Commissioner Street, Johannesburg, and occupied by cheap shops, contemplated the erection of a great office building which should not only be of convenience, but would tower aloft and serve as a monument to the industry, energy and success of his firm.

While considering the matter he enquired of an intimate American friend what he thought of the investment. The reply came straight and rang true: "My dear Barney, when office buildings become monuments, they cease right there as investments."

Manner of improvement must be left to the enlightened judgment of the individual owner after a careful examination of local conditions.

The writer has in mind a very successful investor who has a hobby similar to the man who "plays the races" with a "system." His hobby, which he pursues with consistent assiduity and which has been successful in practice, is to acquire the site and erect at whatever cost economically expended, the very best first-class hotel in a particular city. He naturally limits his operations to the larger cities only.

In the adoption of this idea he is merely catering to the instinctive desire of the travelling public for the best hotel accommodation available. He is always able to let his various hotel properties on advantageous terms, and his lessees make money. Other investors are now "specialising" in theatres, music halls and amusement resorts, etc., with success.

If the object be income, then make income the object.

4.—The Purchase of Properties for Purely Speculative Purposes having regard for Increment only.

Bearing in mind that there are certain fixed charges on all land investments, whether improved or not, it is imperative that where no income is to be derived, the increment must be relied upon to offset interest, rates, taxes, etc. The purchaser is therefore restricted to unimproved vacant land.

Vacant land, other things being equal, is the most profitable form of investment in all growing towns and cities. There is

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nothing to be written off for depreciation on buildings or inadequate improvements and none of the penalties to be feared which are inevitably attached to income yielding features. The fixed charges are limited to rates, taxes and interest, which usually constitute a very small percentage on the value of freehold properties.

Prevailing conditions of growth should be given careful attention in every detail; the nature of the population; the advantages afforded for the establishment of manufacturing and other industries, including the near-by presence of raw materials; the conditions under which labour is employed and wages paid; the character of local improvements, actual and prospective, especially the latter; the growth of population for the past 10 or 15 years, with the influences tending to increase or decrease the rate of such growth; the adaptability of the property offered to special forms of improvement; its location as to surrounding improvements, and whether or not it is in the line of progressive growth; the availability of necessary public services, etc. In other words, the increment, which is the increase in value due to general advancement and prosperity, should be more than sufficient to meet all fixed charges (interest, rates, etc.) and show a profit.

Again referring to the relations of population to value, it will be found that the rule holding that percentage of increase of population is coincident with that of value errs on the side of safety. That is to say: growth of value more often than not is more rapid than growth of population. Moreover, this rule does not apply in an equal degree to all sections of a community. There are many collateral and subsidiary influences which may and usually do contribute to an alteration of the rule in its local application.

A certain town may, from perfectly natural causes, grow in one direction only. Pretoria, for example, can only grow to the north and east, being hemmed in on the south by a precipitous range of hills, and on the west by town lands, cemeteries, asylums, native locations, etc. Johannesburg can only grow to the north away from the mining area. Capetown can only grow around the mountain to the east, etc., etc. Improvements of the first class are therefore usually limited to certain restricted areas, and the demand of builders and speculators usually has the consequent effect of raising values to a high standard in localities so favoured. Central properties, as shown hereafter, enjoy a larger percentage of accretion in value from increased population than outside areas, but under normal conditions outside properties afford less risk, when well chosen and the capital required is available to the largest number of investors.

It often occurs that suburban properties have a certain monopoly of supply on account of excellence of position and superior adaptability for residential or manufacturing purposes. A large extent of acreage, for example, that has been withheld from the market for many years while the city has grown up around and beyond it and where the consequent increment is enormous. It may lie across one side of the city, imposing an impregnable barrier to the progress of the builder who is thus compelled to skirt its boundaries in order to extend his operations. Land so held (as for example Eloff's Plantation, Pretoria, and the Houghton Estate, Johannesburg,) may thus acquire an absolute monopoly of building sites and afford an attractive investment for either speculative buying or home building, and the owner may justifiably demand and obtain very high prices for his property. This situation furnishes an excellent illustration of the great profit to be reaped from the unearned increment and against which the Socialists and single tax advocates object with such vehemence.

Values of suburban properties are directly affected by extension of tramways, light, water, street improvements, new

bridges, new public buildings, schools, churches, parks, clubs, and all public works, and their absence must be duly considered.

South Africa seems to present to the land dealer a greater percentage of exceptions to hitherto dependable rules than the older countries of Europe and America.

This fact may be explained by the unstable business conditions due to the slow growth of permanent manufacturing and other industries. Under these circumstances the population, excepting that engaged in the various mining enterprises and subsidiary occupations, is a more or less shifting one.

Generally, in the purchase of vacant land, the same care should be taken to buy in the line of growth, as with any other type of property. If prudence be exercised, the risk is reduced to a minimum in any growing city.

5.—*The Purchase of Properties affording the Dual Advantage of both Income and Speculative Investment.*

Dealing further with both city and suburban properties, the demand and character of the improvements always tend to establish a perfectly adjusted scale of value and ultimately of prices, from the most popular site in the fashionable shopping centre, and where the incidence of monopoly reaches its highest power, to the extreme outskirts where it totally disappears. Property lying at the former point having the highest market value and at the latter the lowest.

As stated above, central values increase more rapidly in proportion than outside values, for the reason that central properties draw "support" from the entire municipal area. That is to say, a central department store will be patronised by the entire circle of suburbs, as well as the city proper, and the extension of the former through increase of population will also increase the demand for necessities which are best supplied by the largest dealers. The business of the large dealers having thus increased, the site from which such business may best be conducted has also increased in fair proportion. A fair estimate of such increase would be perhaps approximately twice the percentage of increased population.

This generalisation is not merely of academic interest only. It has an important bearing on the purchase of inside properties for speculation and revenue, and under normal conditions the growth in value of a particular property may be estimated with fair accuracy by a close study of the conditions of future growth.

It may be said that if inside properties increase at so much more rapid a rate than outside properties, then the investor should confine his attention to the former. But it must be remembered that the market conditions here interpose various difficulties. First in importance is that enormous amounts of capital are concentrated in central values, that individual properties command the investment of large sums and re-sales are often difficult, even at advantageous figures to the buyer. In an active market it may be impossible to sell for full value. There are a much less number of buyers of a central property at, say, £10,000 than there are of an outside property at £100 or £200. The purchaser of an outside vacant lot at £100 may in fact sell his lot at £150 many times, while the owner of an inside property costing £10,000 may not be able to sell at £15,000, or in fact at any fair price, although it be admitted that he offers full value for that price. Inside properties are generally purchased for business or income, and not for increment. Moreover, the choice central area is usually restricted in the number of the properties affected by rapid increase. The ordinary investor therefore takes less risk in the cheaper areas, and by a multiplicity of transactions secures a higher rate profit.

Traffic conditions must be examined in the greatest detail. Special eccentricities of development—the general grouping of the many business activities. Given conditions of future growth and a present prospect of income sufficient to cover interest, rates, taxes and other fixed charges, the investor in inside pro-

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erties may reduce his risk to a minimum, provided the price paid does not exceed and is uniform with that established over a considerable period for surrounding properties.

A rather interesting discussion recently took place between a number of Johannesburg property owners and valuers, as to the most valuable individual property holding in the city. The writer held that the choice lay between the two corners known as Markham's and Cuthbert's, at the intersection of Pritchard and Eloff Streets, with a preference for the latter.

The reasons upon which this judgment is founded may serve to illustrate the fundamental basis upon which all central urban land values rest.

It will be assumed that there is no substantial divergence of view, and that the two corners named are the most valuable, given uniformity of area, in the city. The question therefore is: why is Cuthbert's the more valuable, and, incidentally, the most valuable property in the city.

Generally and briefly the reason is that it possesses in a higher degree than any other holding in the city the element of monopoly: it lies in the exact centre of the most popular and fashionable retail quarter; it is the point towards which the various streams of traffic converge; it is the point of rendezvous for the people; it is convenient to the main tramway lines, the northern traffic current is met by that from the great suburbs east and west sweeping up Eloff Street, and a human eddy is created which whirls and circles about it. Within a few steps of this corner may be found the best dealers in all the varied supplies required by the public. There are drapers, haberdashers, grocers, furniture dealers and ironmongers, chemists, doctors, dentists, jewellers, hairdressers, photographers, tea and refreshment rooms, etc., etc. All demands of the busy man and woman may be easily served about this corner.

It is more valuable than Markham's corner for the reason that the paramount attractions are more convenient to it; that is to say, the Post Office, the Stock Exchange, the great office section and chief amusement resorts, are on the side nearest Cuthbert's, and the average shopper will not cross a crowded and busy thoroughfare unless it be absolutely necessary. In other words, Cuthbert's corner manages to thrust itself in the way of a greater number of people than Markham's. This may seem a very delicate balancing of pros and cons but the value of street frontage is fixed and determined by these conditions solely. It is also true that a certain percentage of the northern traffic passes Markham's corner and verges thence through Joubert Street to the Post Office, but this advantage, if any, is overbalanced by the stream from the Carlton corner, which reaches its flood at Cuthbert's, but is largely dissipated before reaching Markham's. In each of these cases the character of the improvements cannot enter into the question of value, position only must be considered.

A further illustration drawn from experience may throw additional light on the importance of carefully weighing traffic conditions in all of its many aspects. A merchant who had for years been successful in a modest way on a side street—one off the main traffic route—to the surprise of his friends, purchased a central property at a price distinctly above the market valuation and proceeded to establish himself there. In reply to an enquiry, he admitted that the price paid was above the market, yet that he was well satisfied with his purchase. His reasoning was substantially as follows:—

"I know I paid at least £5 000 more than the market price, but I have learned that position, even at high prices, may mean the difference between failure and success. Where my old shop stands I formerly spent £3 000 per year in advertising. Here,

I expect to do 25 per cent. more business with £1 500 per year for advertising. Now, leaving out increased business for the moment, if I capitalise my saving of £1 500 per year at 6 per cent. I get £25 000. Therefore if I do not increase my business, the new shop is worth £25 000 more to me than the old one. I have paid £12 500 more for my new shop than the old one is worth, therefore I think I have made the difference (£12 500), and I know I shall do a very largely increased business from now on, and if I am satisfied who is there to object?" He knows the value of position in his business. He knows that in his new store he will enjoy a greater monopoly of the people's attention and at less current expense to himself than at his old store. He realised that street frontage at the most generally frequented point was worth more to him as a general dealer with the public than any other position and that the purchase at the price was an economic one for him although above the market value.

Growing out of the above discussion, the incidence of value has another feature which should receive close attention, and which is very often disregarded in practice. Value does not decrease in proportion to distance from traffic routes. To illustrate: A particular position may be extremely valuable, while the plot immediately behind it or adjoining or opposite may be of less value by from 10 to 40 per cent. A corner may be worth £10 000 and the one adjoining inside plot is worth £7 500 or £8 000, while the other may be valued at £5 000 or even £4 000. The plain reason is that the public do not go "around the corner." Every city is sure to have a more or less patent example of this curious condition. The centre of interest draws the public away from the corner in the opposite direction. And until such diversion is counteracted by a paramount attraction established around the corner or beyond, the public will not assemble there.

The lesson to be conveyed by a study of this interesting phenomenon with its related features is, that while values are justifiably high along the line and at the point of rendezvous, when you leave it by even a few yards, value declines at an extremely rapid rate. Values bear a fixed and unalterable ratio to the varying physical tastes and discriminating habits of the public; to the location (*en situ*) of the permanent and preponderating attractions which fixes and defines its habitat, and this fact constitutes the basis and furnishes the measure of central land values in all urban communities. A general remark to a friend: "Will see you in Pritchard Street," or "Meet me at the fountain," has its concrete result not only in the meeting itself, but in the increase of land values on Pritchard Street and about the fountain.

Land on "side" streets, or on main communicating thoroughfares or suburbs, occupies a different relation to the public as compared with land along the "beaten paths," and must be valued for the local or strategic advantages it may possess, reference being always made to the chief arteries of trade and communication.

To pursue the general idea as above expressed a little further, the essential and ultimate consideration upon which central property values depend may be found in an adequate and satisfactory reply to the following questions: What does the average person do upon arrival in the business district by train, tram or otherwise from their homes in the city, the suburbs or the small surrounding towns? What attractions are there in various parts of the city and where is the paramount attraction? Remember the average person only is to be considered and that everyone is more or less a shopper.

Take a map of your town. Draw lines connecting the residential sections with the shopping centre or rendezvous.

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keeping tram and train in view. Draw lines connecting such rendezvous with the chief amusement resorts according to patronage. These radial lines will indicate with sufficiently approximate accuracy the proportionate value of any particular street frontage and the consequent value of a given position.

Attention should be paid to probable and possible traffic diversion. The public takes great delight in "flirting with novelties." The beating of drums by a competing merchant on a side street, will attract a proportion, if another merchant joins the first another proportion will follow. If a sufficient number join and offer sufficiently attractive inducements, the public will change its habit, and value are radically altered.

Now, if the fortunate buyer is able to secure a property in advance of such popular movement and at the new point of interest, he will score a fine profit. Obviously, it is not always possible to secure an ideal investment, and the best that the vigilant buyer can do is to ascertain any inequalities of selling price and be ready to take advantage thereof. In this connection a few general remarks may be appropriate re the preliminaries of land purchase. Investors frequently fall into error by a too anxious desire to acquire properties, that is to say, by the purchase of a property because it seems to be the best available for the moment. It must not be forgotten that the really good things usually fall to the man with the cash to buy quickly when the opportunity arrives. Unless you are fully informed, do not buy through fear of losing a bargain. Keep your money in the bank until you are thoroughly familiar with all conditions affecting values.

Another rule which should be rigidly observed is to require and secure one or more official valuations from the seller, and then obtain as many more on your own behalf from independent sources. Confirm all statements of the seller, and his agents, and if they are not borne out by inquiry, abandon the deal. While official valuations are necessary, yet, however carefully made, they may not at all times be reliable. And necessarily so, since they are largely drawn from a consensus of current opinion, the valuator perchance having no recent sales or nearby land of such a nature as to give him a reliable indication as to market conditions. And, again, he might even be misled by actual sales made under extraordinary conditions. But if the valuator be of good repute and well known for conservatism, his valuation may well serve as a basis.

The careful investor and dealer should keep a Sales Register wherein should be entered an authentic record of all sales of property of the class in which he proposes to deal. This record should contain a description of the property sold, the names of Vendor and Vendee, the date of sale, the amount of purchase price, the character and value of any improvements, the interest conveyed and any other particulars affecting its value. Such a record, if patiently and accurately kept over a long period of time will slowly put the investor in the possession of a great mass of detailed information bearing directly on his business, and from which he may to a great extent become his own valuator.

MORTGAGE INVESTMENTS.

Before leaving the subject of land investment, it may be well to briefly refer to Mortgage Investments or Mortgage Loans.

Since the object of the above discussion is to point out certain fundamental principles which affect land values, it is obvious that the same principles must be applied in order to determine values for loan purposes.

Perhaps the oldest known form of investment is the Mortgage secured by land, and the transfer from hand to hand of these evidences of indebtedness was carried on even in medieval times. The custom has been handed down, with but slight alteration, and in our own times it still remains a favourite form of investment. Modern conditions, however, have brought about an alteration. Whereas, in former times, Mortgage Loans whereby houses and lands were pledged as a security, was confined to the few who had funds to loan, latterly when money has become more generally distributed and is held in small amounts by a great number of people, the tendency is to adopt a new form for such investments. The old form of Mortgage was for a fixed amount, and if the lender wishes to invest a larger sum or a less amount than that offered, he was put to great inconvenience in order to find the particular Mortgage to suit his requirements. The old system has, therefore, become unwieldy.

To meet the demand of small capitalists and working people, who are unable to buy a First Mortgage in full, a new form of Mortgage has been adopted in the last few years, and is rapidly growing in popularity. It consists of a Mortgage Bond secured by landed properties, which may be split up into various denominations, according to the wishes of the investor. The security is just as ample for a portion of the amount loaned as for the whole. The only difference as against the usual mortgage is that a Trustee (usually a well-known financial house) is appointed to represent and act for the bondholders. There are already a variety of Bonds issued upon what may be called the Industrial idea of Mortgage investment, and its merits certainly recommend it to the small capitalist and wage earner.

FARM LANDS.

In concluding these notes a short reference to Farm Lands may not be out of place.

In its essence an investment in Farm Lands comes under many of the provisions hereinbefore sketched, with a difference only in the form of their application.

Farm Lands have increased in value much more rapidly since the late war in proportion than population. In fact the current selling price in many districts shows an increase of two to four fold over that of a few years ago. The special advantages afforded by certain districts further illustrates the monopolistic tenure by which all property is held. The soil, water, climate, railway facilities, etc., often combine to render the land of a particular valley or district extremely valuable as compared with that adjoining: so much so, that while land in a favoured locality may be worth £100 per morgen, land in a nearby district may not be valued at more than £5 per morgen, or even less.

Under these circumstances, it is not possible to arrive at a uniform adjustment of values of Farm Lands. The vagaries of advantage and disadvantages are often not to be gauged even approximately. To illustrate: In a certain district in the Eastern Province of the Cape Colony, devoted chiefly to ostrich farming, it has been found by experience that feathers from birds kept on one side of a certain chain of hills are of a very superior quality, while, if the same birds be kept on the opposite side and receive the same care and treatment they grow a very inferior feather. Therefore the farms on one side of those hills hold an important element of advantage, and this advantage makes its visible appearance when an inquiry is made as to land values there. The Ostrich Farmer will readily pay

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a much higher price for that land just as the merchant will pay more for land near Cuthbert's Corner, Johannesburg, or Cartwright's or Duncan's, Cape Town, or at the corner of West and Gardiner Streets, Durban, than elsewhere in those towns.

Speaking generally of Farm Lands, it has been said, and is doubtless true, that more money is to be made from the increment of that class of property than any other in the next few years. Any great increase of population will quickly react on agricultural land values.

A discussion of this question at once impinges on the domain of practical politics, for the reason that land values are based primarily on growth of population and the active encouragement of such growth on a comprehensive system of State aided immigration is a live and more or less burning question which it is to be hoped the next Session of Parliament will endeavour to solve. And, before leaving this topic, the writer cannot but say that the interests of the whole of South Africa imperatively demand that an active propaganda be carried on in those countries of the Empire and Europe where the most reliable industrial and agricultural workers are to be found, with a view to a rapid settlement of the country and the development of its great natural resources. The fact that a per cent. of worthless recruits may also come, cannot be allowed to influence the consideration of the larger question not only of industrial development but the preservation of South Africa as a future home of the white race. The class of immigrant required is that accustomed to the use of the pick and shovel, and who are willing to continue that wholesome practice in this country. Overseers and Superintendents cannot build up a great country for their own race. It is the race to whom they dictate that must finally prevail. A Home and Foreign Immigration Policy carried forward by the State is, therefore, a supreme need of the hour in South Africa.

Many fortunes have been made and lost by land investments in the past, and such experience will doubtless be repeated in the future, until the socialist and communist comes into his own, and the Government parcels out the land according to the uses to which it may be economically applied. In the meantime, however, and until such an ideal state be reached, the investor and speculator in landed properties may still ply his interesting vocation.

To recapitulate, it is necessary to remember the importance of securing information on the following points, when are desirous of buying a property.

- 1.—Rate of growth of population, past and prospective.
- 2.—If you buy for a home, buy where your neighbours will add to the value of your property by improving their own.
- 3.—If you buy for business convenience, then your business must bear any loss on its site. Such purchase is not an investment, but an item of Stock in Trade.
- 4.—If you invest for income, estimate your prospective income conservatively, and then deduct 25 per cent. for contingencies.
- 5.—If you buy for speculation, confine your attention to vacant land, and make no attempt to improve it, *i.e.* :
- 6.—If increment exceeds decrement, no improvement.
- 7.—If decrement exceeds increment, income must be provided, by improvements.
- 8.—In any event and under all circumstances, buy in the line of growth and just ahead of it if possible. Let the town grow toward you, and not from you.

LEGAL.

TRANSVAAL SUPREME COURT (Full Court).

WARREN v. UNION GOVERNMENT.

Principles.—Concluded agreement not variable by one party—Inflated claims inadmissible—Damages for delay not a penalty.

Subject.—Bridge (concrete) over Vaal, at Parys; contract £15,231. Plaintiff, contractor, claimed extras £3,385; £387 tendered. Damages £50, £20 admitted. Defendant, in reconvention, claimed £4 per day damages owing to delay in completion.

The chief item of extras was for £1,100 on account of variation of alleged original agreement or order to construct false-work supports on the lines of Zuikerboschrand Bridge, subsequently altered to much heavier lines. The Court held that the contractor was responsible for any arrangement made by his foreman with defendant's engineer, and could not excuse himself on the plea of not having been asked or told, as there was ample evidence that he left the execution very much to the foreman's experienced knowledge, and if he did not inform himself, it was his own fault as he knew the work was in hand. It was also held that there was no concluded agreement to adopt the lighter supports, and that the only real arrangement made by defendant's engineer was for the heavier supports. It was laid on the engineer in the specification to approve of the design of framing and shuttering. It was not proved that he had finally approved the lighter supports alleged, although discussed between clerk-of-works, foremen and contractor, and therefore he had not varied a concluded agreement, as the Court was satisfied the matter was not finally settled, till the heavier work was decided upon. Had there been clear evidence of a prior agreement, altered in subsequent execution, the plaintiff would have succeeded.

The Court disallowed claim for filing off superfluous knobs of concrete due to defective shuttering, and for rubbing the work over with grout, by means of a sack.

A claim for re-planing shuttering, after some use, owing to warping, was characterised as preposterous.

A claim for 10 per cent. extra cement used by defendant's orders owing to a considerable number of lumps in cement brought on job showed that the plaintiff did not appreciate the fair spirit in which the P.W.D. were meeting him, as they might have rejected the cement entirely. In fact, in many points, they have given way more than they were in all fairness bound to do.

With the exception of Item 9, held over till next term, the plaintiff's claims must entirely fail.

In re-convention, the defendants claimed £4 per day for delay in completion as liquidated damages, based on a pre-estimate of loss by a percentage on the time of completion and the value of the work. Plaintiff's Counsel admitted the fairness of the amount, which was less than the £6 set out in contract, but contended that it was in the nature of a penalty. The Court had no difficulty in stating that it was in the contract, as a pre-estimate of liquidated damages and not by way of a fine. If parties call a sum liquidated damages, *prima facie*, it is liquidated damages. (This appears to be just over 9 per cent per annum on contract.—*Ed.*)

Judgement for defendant in convention (on claims) with costs, and in re-convention (for delay) for £333 with costs. Item 9 to be held over. On bench: Justices de Villiers, Curlewis and Bristowe.

Legal—Continued.

BRAAMFONTEIN CO. v. JOHANNESBURG MUNICIPALITY.

Appeal from Valuation Court. Subject: The Parkview Township, sub-divided into 1,094 stands or lots, of which the Company still hold about 880 for sale.

The Court laid down the following principles:—

1.—The Valuer must put a value on the interest of the Company in all the unsold stands (about 800) on the assumption that *all* the stands unsold are to be sold on such reasonable terms and conditions as they would be sold under if the Company resolved to sell its interest in the township.

2.—That the Company's interest should be treated as a unit in so far that the valuer must ascertain the value of the interest as if all the stands were to be sold within a reasonable period as stands in a township, not as mere land of a certain extent.

3.—That the stands are not to be valued on the basis of the price at which the Company would offer a single stand, but at the probable price the Company would obtain if the Company were a *bona-fide* seller of all the stands on such terms and conditions as the Company would require if the had a *bona-fide* intention to get rid of the interest.

4.—The value of the unsold stands is to be determined as if the property was to be sold at the time of valuation.

Generally, these principles forbid entering each stand separately with a separate value to each. At the present rate, and price it would take 36 years to sell out. Such a period is too long, and No. 3 sets out what is practically a wholesale price, or such a price that would sell the stands in a comparatively brief period (say, a year or two). The Company asked that the Municipal valuation of £82,080 should be reduced to £27,500, and this must now, during this month, be settled, on above principles by the Magistrate.

CROWN MINES v. JOHANNESBURG MUNICIPALITY.

Appeal from Valuation Court. Subject: 1.—Valuation of Claim Licences.

The Company own the right to receive Claim Licences, as follows:—

On each prospector's claim 2s. 6d. per month, and each digger's claim 10s. per month. As the mine develops prospector's licences are turned into digger's licences, increasing the amount received. The appellant contended that the valuer should not take into account the probable future conversion to higher licence value.

It was held that there was no doubt that if the interest was put up for sale it would realise more than if the prospect of an increasing income was not present. The Ordinance did not confine the assessable right to existing claim licences. Its words are general, and include all factors making up the real value of the right.

Judgement for the Municipality.

The Court held that a right of user of land under a surface right permit was rateable. These permits give the Mining Company power to use defined portions of the surface, but are not transferable, nevertheless, this does not present the application of Sec. 7, Ord. 1, 1916, in assigning a value.

The Court further held that buildings on these surface rights are rateable if immovable, but that temporary improvements were not rateable, if of a movable nature, such as the erections of an employee. Each party to pay own costs.

The amounts must now be settled by the Magistrate.

L. GELDENHUYS v. JOHANNESBURG MUNICIPALITY.

Appeal from Valuation Court. Subject: Farm, Braamfontein, worked by appellant as a farm (undivided). Valued as follows:—Land, half agricultural value £3,140, excess value £21,405, total £24,545. Improvements £7,380. Gross total £31,925.

The effect of the finding is that (1) Agricultural value must include any agricultural sub-divisional or other agricultural value. (2) That agricultural improvements are entitled to half value and must be separately entered in roll. (3) That the valuer's method was correct in first assessing the ordinary value, then deducting agricultural value, he arrives at the excess value, but the improvements as well as land must be brought into calculation in each case to arrive at excess value.

Appellant received costs as although he did not win on all points, he obtained substantial relief.

The Magistrate must now settle the figures to be entered on Roll.

E. W.

What the Association is Doing.

A great bar to the furtherance of architecture and its interests in this country lies in the fact that the representative councils of our institutes and associations do not keep the general body of the profession in touch with their doings, except by means of an "Annual Report" at a yearly election. Any movement for the good of architecture and of architects is consequently that of a few individuals only. The Council recognises this defect in our professional and lacking in that force which comes of "having your men at your back." The Association of Transvaal Architect-organisation, and one of its members has undertaken the duty of writing this column, so that, as far as judiciously can be done, the general body of members shall be informed of their Council's current doings.

M.J.H.

Registrar. The Association's Registrar, Lieut. Alder, has joined up, and left for Flanders. During his absence Mr. Bulke has been appointed Acting Registrar. Half pay has been granted Lieut. Alder during his leave of absence on war service.

Competitions.—The following projected Competitions have been, or are being, dealt with by the Council:—

Bloemfontein Tram Shelter.—The Association offered an Honorary Assessor, the promoters could not see their way to accept such offer, but would seriously consider this question when dealing with future competitions.

Town Hall, Innesdale, Pretoria.—This matter is still in abeyance.

Bathing House, Port Elizabeth.—The promoters have been requested to publish the name of the Assessor, and to keep the first premiated design only, and not the first and second designs, as stated in the Conditions.

Riverside Hotel, Vereeniging. The Council has written the Promoters, pointing out that the particulars published, are not in accordance with any correct principle which should govern the conduct of an Architectural Competition, and has fully detailed what conditions are required. Meanwhile, members have been advised not to compete until further notified by the Council.

St. Mary's Church, Johannesburg.—Enquiries were made with a view to asking for a Competition, but on learning that

the work had already been entrusted to a registered architect, and in view of the fact that a church is a work of sectional or only semi-public character, it was deemed advisable that no further action be taken.

Future Competitions.—The Council is now preparing "Suggestions for the Conduct of Architectural Competitions" that will be framed in a manner to justify the Council advising its members not to compete should a case arise where promoters refuse to adopt the suggestions.

Delegates.—The following members have been appointed as Delegates to represent this Association on the various bodies named :—

S.A. Assc. Advancement Science. Messrs. McCubbin and Harris.

Johannesburg University Committee.—Mr. McCubbin.

School of Mines' Architectural Classes.—Messrs. F. L. H. Fleming and Powers.

Seymour Library Fund.—Mr. McCubbin.

Registration Committee (permanent, appointment re-noted only).—Messrs. Harris, Howden, Powers and Veale.

Committees.—The following Committees for year 1917 have been appointed :—

Journal Committee.—Mr. E. H. Waugh (Editor and Chairman), Mr. M. J. Harris (Assistant Editor), Mr. D. M. Sinclair (Business Manager), and Messrs. Howden, Powers, Moerdijk, Wellman, Nicolay, Rees-Poole, McCubbin and Lewis, as further Members of Committee.

Finance Committee.—Mr. D. M. Burton (Chairman), Messrs. Waugh, Harrison, Hill, Sinclair, McCubbin, Harris and Lewis.

Practice Committee.—Mr. D. M. Sinclair (Chairman), Messrs. F. L. H. Fleming, Burton, Howden, Wellman, Powers, McCubbin, Harris and Lewis.

A Practice Committee has been appointed in Pretoria with Mr. De Zwaan as Chairman, and Mr. Hofman as Secretary. Important and useful work is now being done by this body.

The following members have been appointed to represent the Practice Committee at the various places named :—Germiston, Mr. P. R. Cooke; Middelburg, Mr. S. B. Cunningham; Boksburg, Mr. J. C. Cook; Potchefstroom, Mr. J. W. Gaisford; Klerksdorp, Mr. H. Hancock; Benoni, Mr. J. L. Henderson; Pietersburg, Mr. G. F. Hughes; Volksrust, Mr. A. Pike; Krugersdorp, Mr. W. R. Stewart; Zastron, Mr. C. Jones.

Cape Town University Buildings.—The Council has determined not to drop this matter, and considers this the opportune time to arouse public opinion on the question of Competitions for State and other public architecture.

Board Room.—This matter is receiving attention, and steps are being taken to reduce the expenditure under this heading.

Electrical Connections to New Buildings, Johannesburg.—Delegates from the Association, in conjunction with the Master Builders and Electricians, interviewed the Municipal Lighting Committee on the serious position caused by the latter having decided not to allow electrical supply to new buildings, the decision acting in restraint of building enterprise. The Lighting Committee promised to give careful consideration to the various suggestions advanced by the Delegates, and relief is considered probable as the outcome.

Infringement of Architect's Act.—Various instances have occurred of persons, not members of this Association, advertising themselves as Architects, and steps are being taken by the Council to put a stop to the abuse.

Outstanding Subscriptions.—All members who are in arrear with their subscriptions are to be called upon for the outstanding amounts; the Council considers that this matter has been generously dealt with in the past, but it is now obligatory upon the Council to act in terms of the Resolution passed by the Association's last Annual General Meeting.

Municipal Building Returns.—The several Municipalities of Pretoria, Johannesburg and the Reef, have been asked for returns of : (a) Number and value of building applications passed; (b) Number and value of such building application passed which are under the supervision of Architects. Replies complying with the request are coming to hand.

Journal.—The Council is considering the advisability of extending the scope of the Journal, and thus increasing its usefulness. The name of the Journal has, therefore, been altered to *Building*; in still remains the official Journal of the Association, and under its sole control as hitherto. Members are urgently requested to take active interest in the Journal, and articles on any matter of interest to the Profession will be gratefully received by the Editor.

Meetings.—Owing to the amount of business, Fortnightly Council Meetings are now being held instead of, as formerly, Monthly Meetings.

Obituary.—The Council has learned with regret that the deaths have occurred of the following members :—

Mr. Robert Wallace, Mr. A. McWilliam, and Mr. J. B. P. Smith.

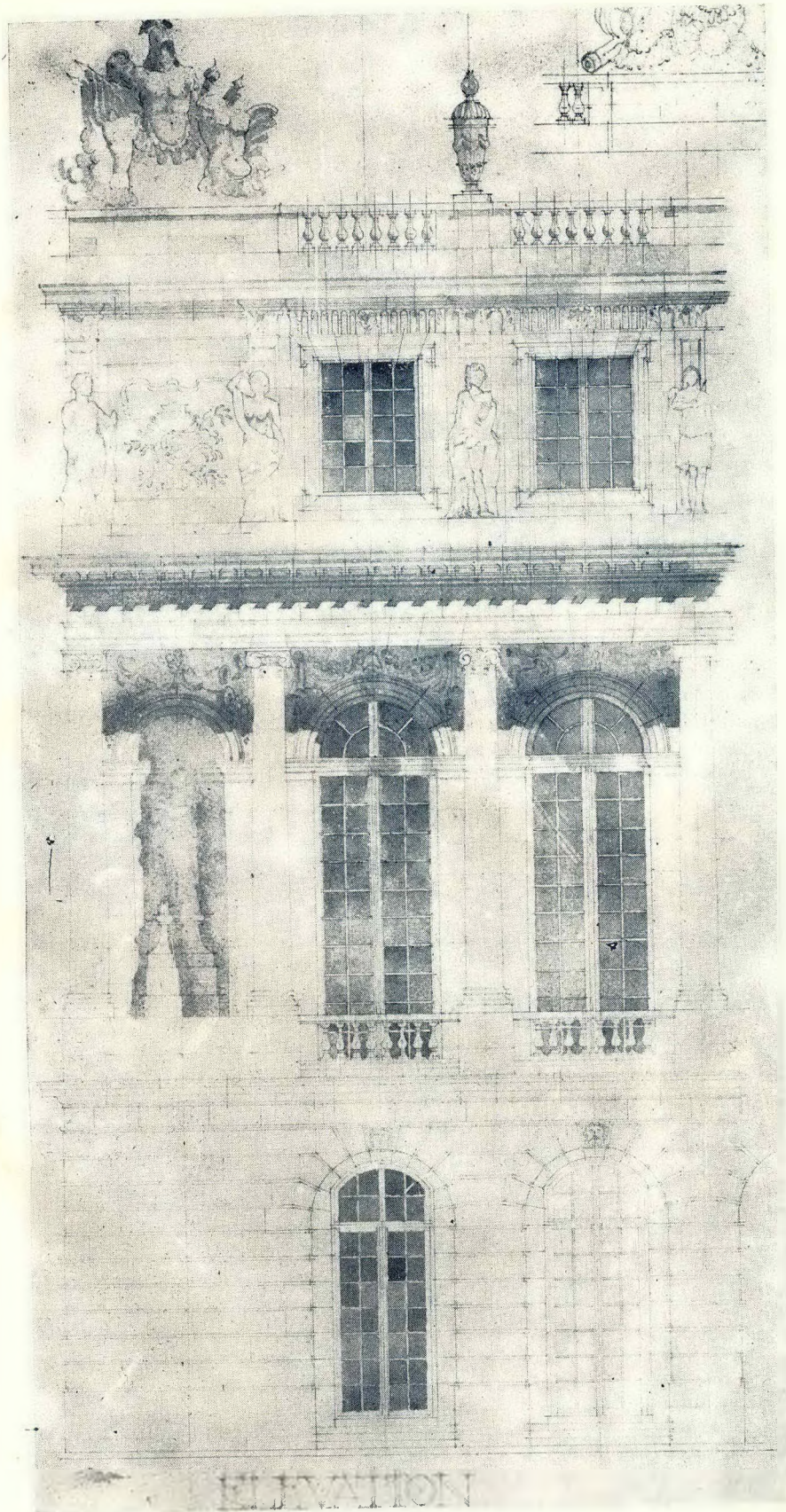
D.M.S.

Union Trade Returns.

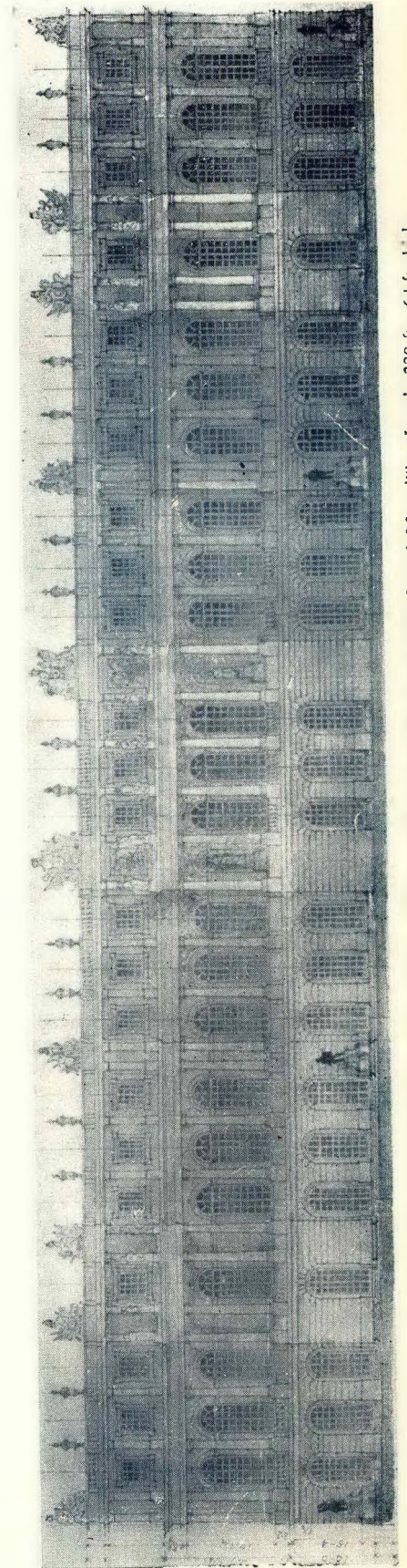
The quarter ending March 31st shows values in imports £9,270,582 and exports £6,735,955 as against £8,802,513 and £5,421,993 respectively for the same period last year. On the imports side, the hardware and cutlery class, which is mainly made up of such articles as bolts, fencing materials, nails, stoves, tools and wire rope, advanced from £259,127 to £321,087. Girders and structural steel work showed a marked decrease from £11,064 to £3,194, and this decrease is more than the value shows, as the price of steel has advanced greatly, owing to war requirements. Piping increased from £34,567 to £50,332. The plate and sheet iron class, including corrugated iron, advanced from £250,778 to £312,334. Corrugated iron fell in quantity from 57,024 cwts. to 50,968 cwts., although the bulk value rose from £46,619 to £56,942, this larger sum purchasing over 6,000 cwts. less. This shows in figures the increasing effect of war conditions on prices. Manufactured timber fell from 1,750,503 cub. ft. to 1,141,088 cub. ft., and the value from £192,045 to £103,510. Flooring and ceiling fell in quantity from 323,563 cub. ft. to 224,730 cub. ft. and the value from £31,966 to £29,097. Thus the quantity went down by nearly a third, but the value by only about one-tenth.

The figures pregnantly show the great difficulties experienced by importers and those wishing to build. The scarceness of structural steel is compelling the use of reinforced concrete much more than before, and the price of corrugated iron is turning attention to roofing tiles and slates, and the price of timber is bringing South African yellow-wood much more into use for rougher work.

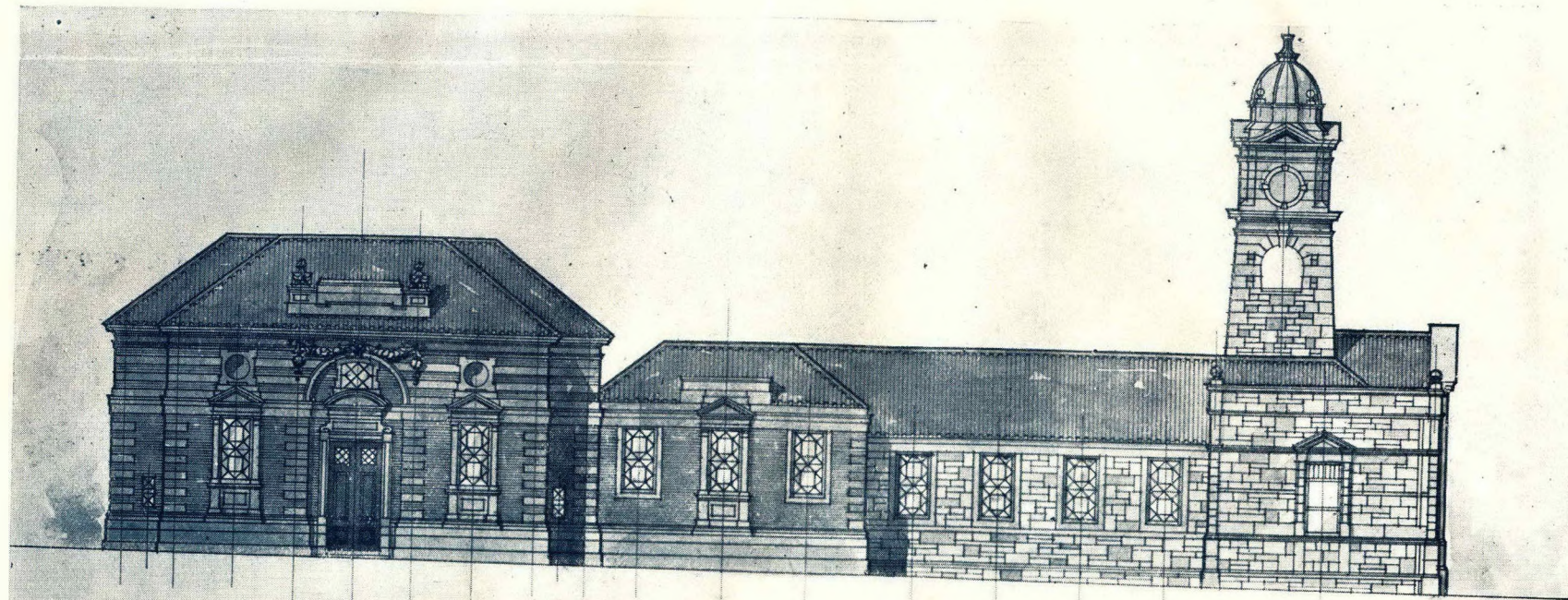
SIGMA



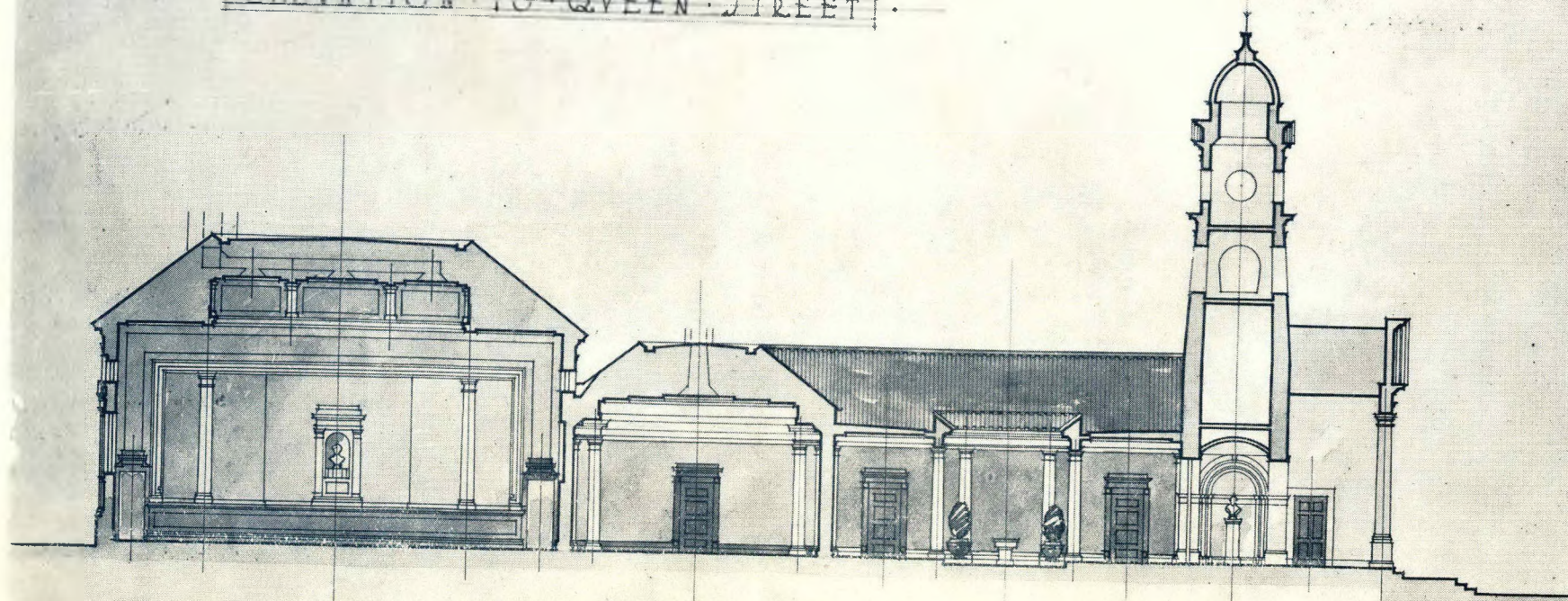
Detail.—Versailles Palace, From measured pencil drawings by Mr. Gerald Moerdijk.



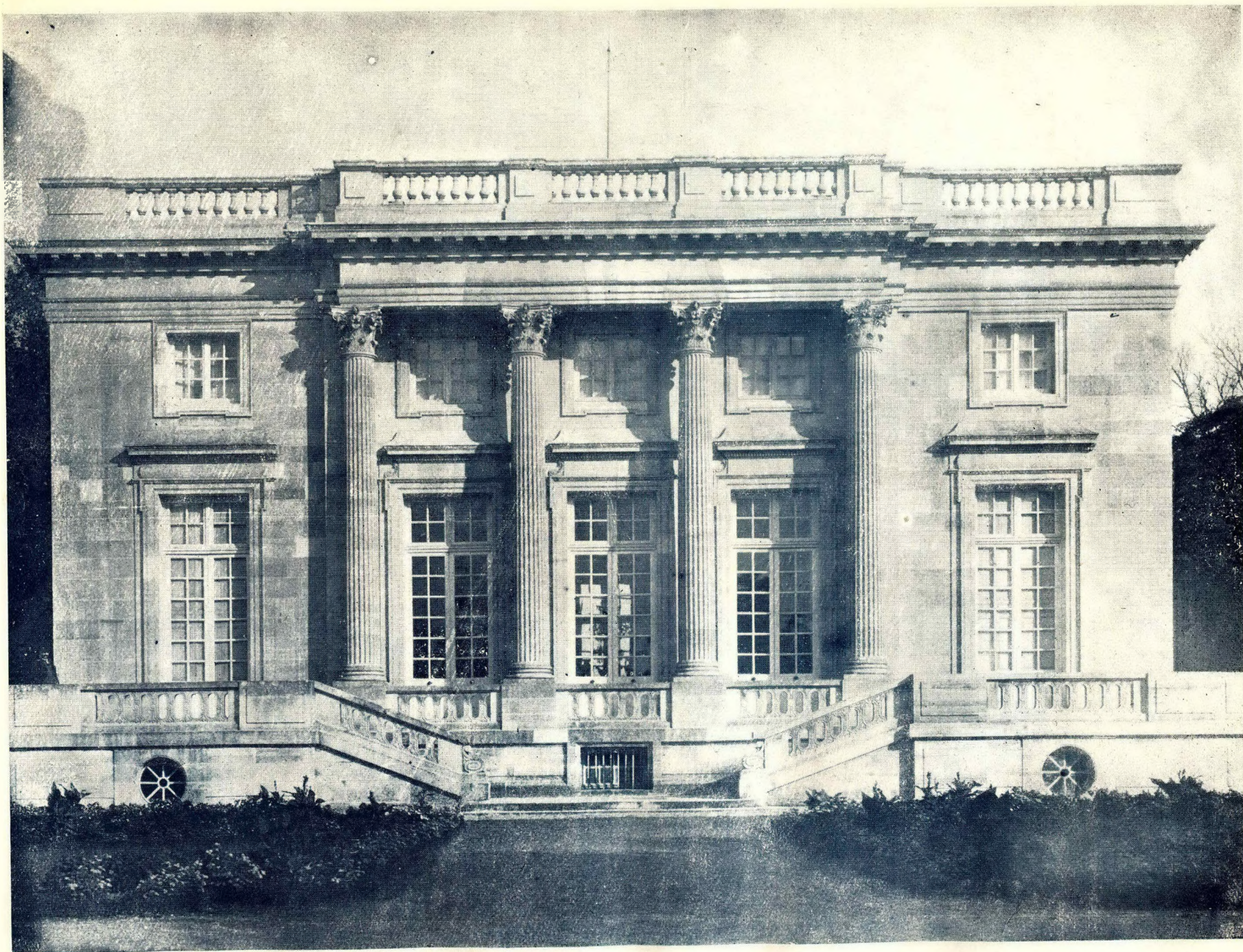
Terrace Facade of the Palace at Versailles. From pencil measured drawing by Mr. Gerald Moerdijk. Length 328 ft., 64 ft. high.



ELEVATION TO QUEEN STREET



SECTION A-B



Le Petit Trianon.

The Palace at Versailles.

By GERALD MOERDIJK.

To thoroughly understand the architecture of the great French period it is essential to have some knowledge of the history of that time. The reign of Louis XIV. who, at the age of five succeeded his father, was to be the longest in history, and brought French monarchy to its culminating point. The personality of the sovereign, and the ideals for which he stood, are reflected in contemporary art. The style of Louis XIV. is often called bombastic and artificial, and, no doubt, in our day of severer and simpler design, the superficial student may get that impression. At the present time, with present day Parisians and tourists in and about, the pompous side does seem exaggerated. When, however, it is pictured in its true setting, peopled by a periwigged and powdered court, its glories are a true picture of a great age. No building expresses "le grand siècle" and "le grand monarque" better than the palace at Versailles. The French were the most populous, wealthy and powerful nation in Europe; their industry and commerce displayed immense activity. French society, by its brilliance and urbanity, gave the tone of good manners to Europe, and led its fashions; in short, it was the Augustan age of France.

The age of Louis XIV. can be divided into three periods. The first is preparatory: the work of Tully and Richelieu built up the absolute monarchy. The words of Louis XIV., "L'état c'est moi," were literally true.

The second period began when the young king took the reins in his own hands. Louis was fortunate in having the sober and careful Colbert as minister, who placed the finances of the country on a sound footing. The first twenty years of Louis's personal reign was an almost unclouded success.

The third period began when Colbert died and his place was taken by the reckless and extravagant Louvois. Louis enforced absolute obedience, and the revocation of the Edict of Nantes lost France untold numbers of industrious citizens, whose skill and enterprise went to the enrichment of her rivals. The aggressive policy of Louis caused a coalition to be formed against him, and involved France in disastrous wars. With the ascendancy of Madame de Maintenon the court lost its gaiety.

The influence of these three periods can be traced in the architecture. The preparatory period is marked by the growth of the classical spirit and the increase of refinement. The second or culminating period is that in which the matured style of Louis XIV. receives its most brilliant expression. The third period that of political decline is attended by a decline in architecture.

Louis XIV., partly for safety, preferred his hunting box at Versailles to the busy Paris, but it soon became evident that the accommodation was inadequate to the increasing requirements of the court. A bit was added here and there, until building became Louis's absorbing passion. The court became more and more numerous, and eventually Versailles was made the seat of Government. A general scheme for enlargement was invited. Le Vau, Perrault and Gabriel competed. Le Vau's scheme was adopted. It had been definitely laid down that the existing buildings were to remain intact; this Le Vau effected by enclosing the old brick chateau on three sides in a larger stone one. The main block as altered presented a rectangular mass to the gardens, and the central portion of the new west front corresponded to the space between the projecting pavilions of the old chateau. Between the old and new wings were internal courts. The scheme of external stone elevations consisted of a rusticated lower storey with an Ionic order and tall square-

headed windows surmounted by sculptured panels, an attic with square windows and an attic order, and, finally, a balustrade with vases and trophies.

This system is enlivened by rhythmical grouping of features. The windows occur singly, or in three, and where single are flanked by pairs of coupled columns in front of the pilasters. The entablature breaking forward over them and supporting statues. At intervals, too, where broader spaces occur, niches and statues are introduced. All this is part of Le Vau's design.

The later history of Versailles introduces the figure of Jules Hardouin Mansart, perhaps the greatest French architect. He was ennobled by the king, and rose to the position of chief architect to the State. Mansart more than doubled the size of Versailles; he completed the garden front (illustrated), and also added the two very extensive wings. In these alterations the king's apartments were placed on the first floor, and to give this part greater dignity, Mansart arched the windows and added the picturesque attic.

In the garden front he also adopted arched windows on the first floor with happy effect. He constructed the front of the "Galerie des Glaces" over the western loggia.

The "Galerie des Glaces" was designed by Le Brun, and in his most important work; it measures 240 feet by 34 feet and is 43 feet high. The ceiling, which is a barrel vault, is entirely decorated with paintings. This hall is still one of the most splendid apartments of the world, and worthy of the magnificent monarch, whose apotheosis is figured forth in the paintings of the roof.

The gardens by this time must have been very much as they are now, they were designed by Le Notre, the most brilliant garden architect of all times, who also was responsible for the gardens at Saint Cloud. The main features of the scheme were a wide terrace carried round three sides of the palace; a broad strip of open gardens extending westward from the foot of the terrace to the head of the grand canal; woods on either side. At the northern end of the canal are the "Grande" and "Petit" Trianons.

The style of Louis XIV. vividly expresses by its uniformity and splendour the pomp and glamour of a single irresistible authority, it has the merits and defects of the political system with which it was bound up. By the combination of largely conceived schemes, bold lines and masses, gorgeous colour, choice material and consummate craftsmanship, it achieves great artistic effects. It calls up the pageant of a great people ruled by a mighty king, of victorious armies and resplendent courtiers, but it moves on a plane of high statecraft and courtly graces too remote from common human life to awaken widespread sympathy.

No article on Versailles would be complete without mention of the Petit Trianon. Louis XV., unlike his father, loved to live retired in the midst of a few intimates. He commissioned Gabriel, in the later years of his reign, to design a small residence near the botanical garden at Trianon. This house, which became known as the "Petit Trianon," was presented to Madame du Barry, whose star was then in the ascendant.

The plan is almost square (79ft. by 73ft.), the roof is concealed, and the elevations almost identical. Whether this uncompromising scheme was imposed on him by the king, or was of his own choosing, Gabriel had but little elbow room wherein to display his skill. It is all the more admirable that, within such narrow limits, he should have produced a masterpiece. The Petit Trianon is one of the most satisfying buildings in existence, and sums up in a small compass the art of a whole age.

Street of Peacocks.

Down the blue chasm of the street,
Where the tall sightless houses stood
With walls of ice, in solitude
And blue-green shadows, cold and sweet.
The vision of the peacocks came,
A murmuring river: in God's name
Some old lost bells remembered time:
And to the dreaming of that chime,
The stream of peacocks stepping slow,
Shadowed with gleaming blues and greens,
(Clucking and rustling like a river,
And coronetted like old queens,
Flowed onward down the street for ever.
Far up the shadows of the street,
Between a rift of timbered walls,
A tender light of earthly sun
Bestowed a golden shaft of gleam,
And birds of snow, with unheard calls,
Passed on the ray, and, one by one,
Departed from the street of dream.
A shadow rose and spoke to me,
And in the shadows of the street,
Hands to my hands, with no word said,
Palms on my palms spoke silently
Among the houses of the dead,
Where, moving, rustling, like a river,
The blue-green peacocks streamed for ever.

ALICE M. ALDER.



Uniform Conditions of Contracts.

The question of uniformation conditions of building contracts applicable throughout the Union of South Africa has arisen from time to time in the deliberations of the various bodies connected with the building trade, and it is unfortunate that no definite steps have yet been taken to formulate a set of conditions for universal adoption.

There can be no question of the advantages to all parties concerned by the adoption of the uniform conditions; architects and contractors alike are not confined in their work to any particular district, and contractors, of course, carry out building contracts for the various public bodies and private practising architects as well, and find that each party at present has its own particular form or set of conditions all agreeing in their dissimilarity.

The "Conditions" adopted by the Public Works Department and the South African Railways serve for contracts in any part of the Union; this alone shows that there is nothing incompatible with the framing of conditions that would apply equally well in other building contracts throughout the Union.

Employers and contractors do not always scrutinise the conditions carefully before signing a contract, and it is often looked upon as a matter of form, with the result that complaints sometimes arise, in the event of disputes, that vital omissions have been made that penalise one or other of the contracting parties unfairly.

By the adoption of uniform conditions this source of trouble would be eliminated, at least so far as the contractor and architect were concerned; the conditions having been mutually agreed upon, both these parties would be familiar with the conditions under which they are working and should be at no loss to decide their actions under any circumstance that might arise in carrying out their work.

No doubt there are many contentious matters to be debated before a general agreement can be effected, and no one can deny that there are difficulties to be overcome, but none insurmountable, provided a determination to achieve the object in view and a general desire for improvement in the present practice.

Recently a revised form of building contract was issued by the American Institute of Architects and accepted by the leading Builders' and Trade Associations of the United States. A review of some of the clauses has appeared in *The Builder* and is worthy of note.

Differences of opinion would probably arise in quite a number of clauses in any contract agreement, and it would be well to refer to some of the more important with the idea of eliciting the views of others and thereby taking a step in the right direction.

Quantities.—When quantities are supplied for the purpose of tendering, the bill of priced quantities should be included in the contract documents, forming the basis of the amount of materials to be supplied and labour to be expended and also for the settlement of any variations in additions or deductions to the contract. A limit, however, should be fixed to the amount of variations, which can be effected on the schedule of prices proportionate to the amount of the contract.

It is also advisable that provision should be made to prevent the priced bill of quantities passing out of the hands of the architect. A contractor has a perfect right to claim that his priced schedule should be treated as a confidential document and should not be used by the Clerk of Works.

Uniform Conditions of Contracts—CONTINUED.

Clerk of Works.—The powers of the Clerk of Works should be clearly defined; he should be considered to act solely as an inspector under the instructions of the architect for the purpose of the proper carrying out of the specification and details, and he should not in any way be considered as the agent of the employer or the architect, and no instructions from him involving a variation or extra should be recognised unless supported by orders from the architect.

Architect's Decision.—The architect should be endowed under the contract with all reasonable powers for the proper carrying out of the same, and his drawing and specifications should clearly show and describe the nature and amount of the work and also the degree of workmanship required. The term "To the satisfaction of the architect," so often used, requires careful consideration, and it is fairer wherever possible that any personal element should be eliminated. A contractor who has carried out work for an architect may know his particular ideas or whims, or again the architect might be placed in an awkward position by the demands of an unreasonable client who, knowing that the architect possessed arbitrary powers, might expect him to exercise them in an unjust manner in his (the client's) supposed interest.

Delays.—Provision should be made and a time stipulated for the supply of detail drawings. The contractor should furnish the architect with the latest dates that such details will be required in accordance with the progress of the work; and the architect should agree to supply them by the date agreed upon. Like provision should also be made for the installation of materials or fittings and completion of various parts of the work undertaken by other parties or sub-contractors. Such a clause would be a fair way of dealing with disputes arising from unnecessary delays.

Variations and Extra Work.—The clause in most building contracts in which the architect is empowered to make variation to the contract drawings should be carefully framed to provide for any claim for extra work by such variation, and when such a claim arises the contractor should give the architect particulars of it in writing within a specified time, failing which no claim for extra work would be considered. The contractor should also be required to submit a detailed statement of any claims upon the completion of the work or within a reasonable period thereafter.

Architect's Certificates.—The architect should have the power to withhold a certificate to protect the employer from loss or damage on account of (a) defective work not remedied, (b) claims filed, or reasonable evidence indicating the probable filing of claims, (c) failure of the contractor to make proper payments to sub-contractors or for material and labour, and (d) a reasonable doubt that the contract can be completed for the amount of the balance unpaid.

General Foreman.—Provision that the General Foreman on a large or important work should not be changed without the architect's consent, is desirable. The advantages to be gained by the General Foreman being retained throughout a large contract are obvious, and it is fair to assume that an architect would not insist upon a highly paid foreman being kept throughout on a small job.

Removal of Incompetent Men.—The architect's right to order the dismissal of an employee is a question that should be very carefully considered. The fitness of a man for the work upon which he is engaged is clearly a matter for the contractor to decide, while the discharge of workmen is a delicate matter which the contractor is generally better able to deal with than the architect.

Sub-Contractors.—The sub-contractor's position should be clearly defined. He should be bound by the same conditions, drawings and specifications and quantities, and payments to him should coincide with those made to the general contractor, and all claims for extras and allowances should be made in the same manner. The general contractor should assume to the sub-contractor all the obligations the owner assumes to him, binding himself to pay to the sub-contractor the amounts included for his work in the architect's certificates. Provision should also be made for the architect to furnish any sub-contractor on his request, when practicable, the amounts certified on his account. This would secure to the owner the fullest return for the money expended and can best be accomplished by securing justice for those who work for him either in a principal or subordinate capacity. The general contractor should not be forced to employ a sub-contractor against whom he has a reasonable grievance.

Fair Wages.—Every contract should include a "fair wages" clause, binding the contractor to pay the rate of wages and observe the hours of labour commonly recognised by the trades societies and employers at the time and in the districts in which the work is being carried out, or in the event of the work being done in a district where no such hours or wages apply, then in accordance with those recognised in the nearest district in which the general industrial circumstances are similar.

Arbitration.—Many contracts make no provision for the settlement of disputes that may arise; the architect's decision with regard to quality of materials, workmanship, etc., being considered final. It would appear that any matter connected with the contract, should a dispute arise, might be made the subject of arbitration, most matters could be clearly set forth in the specifications and drawings, and the fact of the willingness of both parties to submit points of dispute would reduce the tendency to truculence on the part of the contractor.

Specification Terms.—Terms frequently appear in contracts which do not strictly convey what is required. The term so often used with regard to materials, "Best of their respective kinds" might be revised and the words "good quality" substituted. An architect does not desire the limit of perfection, but only such results as are compatible with sound and good construction in accordance with his details, and it is better that the contract should provide for this rather than for a degree of perfection which the architect does not expect to get.

Legal Aspect.—In conclusion, there is the legal aspect to be considered. Judgments have been given from time to time in one or other of the Provinces of the Union which have been found valueless in another Province where there are differences in the form of contract, whereas if uniform conditions were adopted any judgment would bear on identical conditions.

ERNEST M. POWERS, A.R.I.B.A.

Riverside Hotel Competition, Vereeniging.

The following letter has been issued to members:—

29th May, 1917.

The Council has been in communication with the Vereeniging Estates Co., Ltd., on the subject of the Competition, as advertised, and awaits the acceptance of detail suggestions which have been made for the proper conduct of the Competition; meanwhile the Council advises all members of this Association not to compete until the Vereeniging Estates Co. have amended their conditions to its approval.

Review of Architectural Journals.

No apology is needed for the dearth of news essentially of architectural interest in the current *Journal*; the war must and should continue to be the predominant factor in all trades and professions, and its relationship and bearing on architects individually and collectively is the only matter of interest at the present moment.

The profession has reason to be proud of the numbers of young men drafted from its ranks for the fighting forces, and it is interesting to note further the endeavours being made to secure a definite place for Architects in the great scheme of National Service.

It was stated in the House of Commons that Engineers were wanted rather than Architects, and this statement naturally gave rise to some discussion, those of us, who have seen active service in this particular sphere, will appreciate the injustice of this slur on the profession. One has only to study the authorised text books on Military Engineering to see, at a glance, the absurdity of such a contention. The marvellous ingenuity displayed in solving problems by the application of pure common sense, the absence of all engineering formulae, the application of ready and home-made appliances, and other methods of working out engineering problems, enable anyone, with an average practical brain of less experience in technical matters than an architect, to become with little training, quite efficient in military engineering; in fact, the number of rough and ready, though accurate methods employed must be a revelation to the engineer himself, who has never imagined the possibility of such problems being solved without the orthodox text books and instruments.

It is regrettable that the Government did not, at an earlier date, recognise this position of affairs, and encourage Architects anxious to volunteer, to join the Engineers' Corps, and so utilise them to the best advantage to the Country. Modern warfare is essentially a war of military engineering, and the more skilful the combatants are in this direction, the greater will their advantage be.

Every method of construction, both new and old, is being called into existence that will assist to expedite the urgent demands of the military for housing and protecting the large population of Munition Workers. One of those found most satisfactory is the old Belfast roof truss, which is found suitable for spans up to 100 feet, consisting of nothing more than a latticed bow shaped truss, with a rise of from 6 feet to 10 feet, composed of $1\frac{1}{2}$ inches by $4\frac{1}{2}$ inches flooring nailed together; the slope of each lattice is scientifically designed and obtained by drawing a line from the apex of the bow at an angle of 45° to a perpendicular dropped from the end of truss, and each lattice is radiated to this point.

The trusses are placed at suitable intervals, and covered in the ordinary way with purlins and curved corrugated iron.

A further ingenious device is the standardising of the ordinary steel king post truss so that, when used in combinations of two or more single trusses, a larger truss of varying spans is obtained.

For the men at the front, the Canadians have invented what they call the Nissen hut, consisting of plain semi-circular shaped sheets of galvanised corrugated iron, requiring nothing but a spanner to erect, and dismantle, and re-erect where required.

The demand for air and light in munition workers' buildings is permanently assuring the erecting of future factories on more hygienic lines, and the old method of factory erections with thick brick walls and small window spaces must give way

to skeleton constructions, with glass panels between, to which re-inforced concrete lends itself so favourably, in addition, to its other advantages of being fire-proof and lighter in construction.

Some useful information has been derived from investigations made of the result of the recent explosion in London at the Munition Factory, one peculiar feature being that many roofs were actually lifted or blown upwards, and windows blown outwards. This though attributed to the force of the explosion entering buildings through openings, is exactly the opposite to the effect experienced in Johannesburg after the great Braamfontein explosion, when it was particularly observed that all roofs were depressed, and more particularly flat lean-to roofs, which, one would expect, to be least effected by the concussion in the air, which travelled horizontally. Reinforced concrete buildings stood the strain unscathed, while brick buildings collapsed by their side, tall brick chimneys bent and swayed, but regained their positions undamaged, supporting the theory, that in heavy gales, tall chimneys sway to a considerable extent. This, and all other explosions bear out the established theory that the results are not from any earth tremours, caused by the explosion, but from concussion in the air, causing the waves to be larger and quicker, and to act in a horizontal, rather than in any other direction.

Investigations regarding the shrinking and warping of timbers have resulted in the discovery being made, that the cause is not through the timber being unseasoned, but through the tree being felled at the wrong season of the year, viz., when the sap is "up," and the only remedy suggested is that the Government should declare a close season for timber the same as they do for game and trout.

The first Public recognition in the British Empire of the National importance of the Architectural Profession has been by one of the Colonies, viz., New South Wales, where the Government has endowed £2,000 per annum for a Chair of Architecture, and a great controversy has arisen as to whether the Professor of the Chair should be permitted to practice privately, the pros. and cons. of the controversy being of a varied and interesting nature.

Any new ideas in connection with town planning must be of more than ordinary interest to architects, and especially to Londoners, who realise their opportunities and responsibilities. An interesting paper on "London after the war" contains some valuable suggestions and ideas on this fascinating subject.

Dealing with the congestion of roadways, the writer deprecates the widening of roads as a remedy not always worth its cost, he also deprecates the concentration of roads at centres, main roads when coming into a town should be made to bifurcate and important crossings should be on the over-and-under principle, such as at Holborn Viaduct.

The question of railway termini he was opposed to concentration in the form of a large single central station on account of the road traffic in the neighbourhood being enormously increased.

One of the most serious problems he considers is the gradual shabbiness with which towns emerged into the country, his remedy being what is termed the outer circle, or a road outside the town flanked by a tract of definite tree growth and country cultivation.

The writer advocates the desirability of a censorship of design and in this question was heartily supported by Mr. John Burns, who considered it necessary further to allocate the positions of certain industries, and generally give power to the authorities to have control in all these matters.

R. H.

An Architect in War.

12th January, 1917.

I am O.C. Wagon Line for B/165 Brigade, R.F.A., somewhere in France, "supervising the management of Artillery horses in France for the winter months."

I have charge of 160 horses and 107 men, easily in touch with our Artillery firing line and our Battery, for which I draw and send up the ammunition daily. I usually finish up the day censoring men's letters. They are terrors on letter-writing; but I hoped that after Christmas thanksgiving for parcels received, they would settle down: but not a bit of it, for they are not only thanking the donors, but hinting and clamouring for more. But what fine fellows they are! They deserve all the parcels they can get, poor beggars. And they are so grateful for anything, for they do need things badly. It is a very hard life.

The situation here is a positive "scream." Our camp is practically in a swamp, up to the ankles in mud; and between this and the horse lines is a quagmire of slush up to the calves. We have to wade through this a dozen times a day. There is a main road running with the sludge.

I can hardly give you any idea of the mud in Flanders. We are all splashed up with it, so are the horses, harness, and everything. What would you think of a man grooming his horse with the lid of a bully beef tin? We are fighting it, and it is costing about as much to do this as it is to fight the Hun, and I think it is the greater enemy.

There is a stream running round two sides of our camp—and like Dan Leno's delightful country house. "There is a beautiful river at the bottom of the garden, that is, it is there in the summer; but in the winter the garden is at the bottom of the river." The weather is now too awful for words: rain, rain, daily, and bitterly cold.

Some of the men are still in tents, others in "Bivvies," without any flooring. My domain is a hut, about 12 feet 6 inches by 6 feet 6 inches, a sort of "Dug-out" above ground, without a window. A leaky affair, out of old corrugated iron, lined with sacking. A trench-board and a few box-lids on the ground for flooring. Has two tables, roughly carpentered, which I use for my kit-bag to keep it off the ground. A fireplace of an oil-drum, with piping of biscuit tins. Smokes me out occasionally—when lucky to have a fire—for fuel is scarce.

My only bit of comfort is my camp-bed, the one I had in Africa, sleeping bag, and some excellent blankets, and a horse blanket on top of the lot, and then enclosed in my valise; but with all these wrappings I have been unable to sleep, it has been so cold some nights, and when there has been a hard frost—my head covered up completely to ward off the howling wind that comes through the joints of the iron. As a rule, however, I sleep well, except, again, when there is an extra "straf" on, and then the guns make sleep fitful. But I am getting so used to that now that only when there is a bombardment on, do I pay any attention to the noise, even though my shanty rattles.

My servant and "cook" is another scream. A willing lad, whom I know to be heaps worse off than I am, for, like the rest, his boots are always sopping wet, and so are his socks. Looks as if he had never washed himself since war broke out, is plastered with mud, and generally filthy. Of course, he knows nothing about cooking, but he can toast bread and open a tin of "bully." However, he does his best under most try-

ing conditions. What he doesn't know about cooking is compensated for by what he knows about sneaking wood at night-time.

My discomforts were increased for the first three weeks after I arrived, by my dressing-case having gone astray. After much riding I eventually succeeded in recovering it, securely corded and sealed by the A.M.T.O. Imagine my joy, for in the meantime I had been having a promiscuous shave when I could borrow a razor, and doing my hair with a clothes brush.

I am sitting now in my den, the wind nearly blowing the candle out, my trench coat fleece lining on to ward off the cold draughts. A glimmer of fire that doesn't seem to give any heat. It is pitch dark outside, except for the flash of the guns all around, and an occasional star-shell. The rain is again pattering on the tin walls, and my only solace now is to make myself a cup of cocoa, get myself between those blankets, and give thanks.

Am living on Tommy's rations, and I sometimes send for any little extras. The roughest fare, but I am keeping very fit.

Most of the buildings in the villages are "half-timbered," filled in with the mud, already referred to, and straw. To take off your boots here, one has only to undo the laces, step outside, and off come the boots, and socks too.

Our boy says, in a letter: "Believe me," he says, "the rottenest hole in England is better than anywhere in France just now." He was wounded in the "Push" on this front.

Kindest regards, Yours sincerely,

HARRY CLAYTON.

P.S.—I was up at our gun position yesterday, and nearly got it "in the neck." Fritz was rather busy sending a few back, and one exploded well in front of me and high up, but some splinters or sharpnel from it struck a few feet from me, and bespattered me with more mud. It was getting rather hot when I left. They were coming thick, though a good many were "Duds."

I left my charger well out of range with my horse-holder on going up, and had to slosh through the mud both ways over a boggy plain. It is wonderful how much safer one feels when wearing a steel helmet. I never go up there without this on, and gas helmet.

H. C.

In France,

7th March, 1917.

Dear ———,

Since last I wrote I have done a lot of travelling about in the most severe wintry weather. They haven't known anything like it in France since the Franco-German war.

We had about five weeks continuous frost, but that was not as bad as the thaw, for then we were "up to the ear-holes" in mud. All the roads came up, and with traffic, they became almost impassable. The wheels ploughed big ruts as they went, deep enough to lie in.

We were at so-called "rest," and had good horse-lines and billets for the men, we officers being quartered at a cafe, with a tiny and dirty bedroom each. We were comfortably settled when suddenly we were ordered off into action again, and had to clear out at a few hours' notice. After two days' march, we were dumped down on a ploughed field covered with

An Architect in War—(CONTINUED.)

snow, at dusk, without any shelter, on a new Waggon-line camp.

We were there for about two weeks, and in the meantime the thaw set in. Imagine what ploughed land would be like after a thaw, with men and horses on it. The moisture kept thawing out, and the ground was running in streams of mud, the horses up to the hocks. We were wading in sticky muck, and apparently hard ground came up on one's boots in slabs. We had tents issued, and braziers for fires. Imagine tent life under such conditions. The men went to bed in all their clothes, of course; and what I took off I made up for by what I put on.

But we were fit through all the frost. When the thaw came the men began to sicken. The horses stood it remarkably well. Ammunition was taken to the gun position on rails, and this saved the horses. The roads were very bad, and were also a mass of ice, and it was difficult to get the horses to and fro.

Our assistance in the strafe was successful, and coming out of action did a day's march to here; expecting to move forward again any day, our guns having, within the last week, been shifted forward twice. We have to follow them up for easier transport. It is not too bad here, and not far from my first post. Anywhere now near our guns will be a bit dangerous.

This moving forward indicates that the Bosches are retiring. We are pounding away day and night, and this is bound to tell, and perhaps much sooner than we know the Germans may get the wind up and go with a rush.

I am again entirely in charge of our Waggon Line. I have 155 horses now (a bit low), and 108 men, all ranks. But am short-handed as I have 17 in hospital and 5 on sick list.

The weather has been much better lately, and birds have been tit-willowing, looking about for mates. We had a heavy fall of snow two days ago, and to-day it is bitterly cold again. My feet haven't been warm to-day, and I am sitting in my hovel with coat on, and cap. There is a suggestion of fire in my stove, but no heat, plenty of smoke, though.



9th March.

Another fall of snow, and yesterday, with thaw between, not so cold. We have been moving to a new position, which is a village knocked to pieces, and still being shelled. Think we shall not be troubled too much now, as Fritz has only been putting a few over occasionally of late, and is not now so well within range.

Our billets are ruins of buildings, which we patch up by pulling down the remains of one to make good another. I hope to make a decent place out of a shed, though it won't be shell-proof. There are plenty of cellars shell-proof, but I don't like living in a hole. We are having to tack up trench-covers where walls have been blown out, and over roofs where the tiles have been shattered and blown off. There is not a house intact in the whole village.

Well! excuse more now: It is late, so must get some rest. What a life it is!!

Kind regards, Yours sincerely,

HARRY CLAYTON.

(Note.—These letters are abridged in parts.—Ed.)

OBITUARY.

THE LATE LANCE-CORPORAL JAMES BUCHANAN PENTLAND SMITH.

The subject of the following brief memoir was born at Carnbee, Fifeshire, January 25th, 1872, and died while on Active Service in East Africa from cerebral malaria on May, 1st, 1917. He served his apprenticeship with Hippolyte Blanc, of Edinburgh, and was a draughtsman in the same office until he came to South Africa in October, 1896, and shortly afterwards entered into partnership with Mr. C. W. Methven, F.R.I.B.A., architect of Durban. He married the eldest daughter of Mr. C. W. Methven in 1902, and practised on his own account in Bethlehem, O.F.S., 1906 to 1909, when he joined the Public Works Department, Pretoria.

In April, 1911, he was elected a Licentiate of the R.I.B.A.

From a strong sense of duty, he enlisted for service in German East Africa in December, 1915, and had also been a Volunteer in the Active Section of the Civic Guard during the Rebellion in 1914, and prior to leaving the Old Country he was a Volunteer in the Queen's Royal Rifles, Edinburgh, for eight years.

Among his more important work in South Africa is the University College, Pietermaritzburg, which was won in open competition with Messrs. Tully, Waters and Cleland and himself, as associated architects, at the latter end of 1909.

Thoroughness in all he undertook, and his large hearted generosity and unselfish and willing disposition made for him many friends both in civil and military life.

His mother is still living in Renfrewshire, Scotland, and he leaves a widow and son and daughter in South Africa to mourn his loss.

ERNEST M. POWERS.

Our Illustrations.

The Ladysmith Town Hall competition is represented by the winning design of Messrs. Cook and Ralston. The old building remains with its shell struck tower.

Mr. Moerdijk's article on "Palace at Versailles" describes the drawings which accompany it. The frontispiece of a war memorial is to his design, and the carving was executed by Mr. John Harcus, who very kindly lent us the block for illustration.

The pen and ink sketch of "A Street of Peacocks" is by a young lady, Miss Ablett, of Parktown, and accompanies the verse by Mrs. Alder.

EDITOR.

Building Trades' Federation.

12th ANNUAL CONGRESS.

Representatives from different parts of the Union foregathered at the Johannesburg Town Hall on April 4th, and were welcomed by the Mayor (Mr. O'Hara). Mr. James Thompson (Vice-President) occupied the chair of the Congress, and referred to the Rand Conciliation Board, whose researches had given their members a rude shock, as of 77 jobs under £1,000, only 21 were being carried out on standard conditions of employment, and 52 were considered to be "sweating" jobs. Between £1,000 and £2,000, 18 out of 23 were being done on standard terms. The Report recommended a joint board

(temporary) of men and masters to put the trade on a clean footing.

Mr. Thompson further delivered an address on behalf of the President, who was absent. They had tried to get a fair agreement from the Irrigation Department, and the Minister of Lands had agreed that some clauses required altering. A law suit between a member and the same department had gone against the member, but the case was now under appeal. Port Elizabeth had a crusted Town Council, who thought that no builders in South Africa could erect a reinforced concrete bridge. An interdict had been placed on the Council, who must now justify themselves. They had still to fight against departmental work, and the public had not awakened to the waste of money under this system. He also regretted the resignation of Mr. J. T. Brown, the Secretary, who had built up the Federation. Salisbury was forming a Master Builders' Association, and enquiring re affiliation.

Mr. Corlett presented the balance sheet, which showed a reduction of the overdraft from £98 to £57.

Mr. Drake (Capetown) explained the case under appeal. They had to alter the inclusion under one head of loose stones, clay, gravel, and other substances.

On the motion by Messrs. D. Anderson and Corlett (Johannesburg), a motion was carried protesting against Government and other public bodies perpetuating piece work.

The high price of building materials was recognised by a motion for the Executive urging the use of local products. Contract electrical work in place of departmental, was the subject of a resolution for a deputation to the P.W.D.; and the registration of electricians was pressed. A Lien Law, to cover contractors, sub-contractors and workmen, was urged, and a motion to support a bill carried; as was a motion rescinding resolution refusing to deal with Trade Union General Federations. Americans entry into the war was welcomed. It was decided that jobs of over £1,000 should not be tendered for unless quantities were supplied. At this stage architects' and quantity surveyors' representatives were present, and Messrs. Hittinger and Gill urged, at length, co-operation to raise the level of building conditions, and, after much discussion, it was decided to carry the Conciliation Report in résumé to each association for final reference to executive. The standard system of measuring was supported. Motions for dealing with apprentices' time, Workmen's Compensation, afforestation, and German trade were pressed, also for dealing with complaints of delays in payments on P.W.D. contracts. The Executive was asked to obtain for builders 10 per cent. discount on cement as given to merchants.

Mr. Jas. Thompson was elected President, Messrs. Nottingham and Harris, Vice-Presidents, and Corlett, Hon. Treasurer. Thanks were accorded to Mr. Keam, Past-President, and J. T. Brown, late Secretary, and to bodies and gentlemen who had extended kindnesses during the Congress. Condolence was accorded to relatives of the late Messrs. J. McNeil and James Sanderson.

SIGMA.

News and Notes.

Mr. D. Ivor Lewis is at Bristol under Mr. Raymond Unwin's direction in the Munitions Department, Housing Section. He says: "It is a positive delight to work under such a man, he is a genius, and it is an education to be associated with him." He has to work very hard from 7 a.m., and he is lucky if he gets off by 10 p.m.; Sundays and Saturdays just the same.

He feels that in a small way he is trying to 'do his bit'."

Mr. S. C. Dowsett who has been Staff-Sergeant in G.E. Africa for over 17 months, is now in Durban, reduced to a shadow of his former self by repeated fever attacks. He expects very shortly to be in Johannesburg on leave.

Mr. Oakley Coltman, who is a lieutenant in the Heavy Artillery in France, writes to the Editor that "Even as I write I am waiting for an order from the Battery Commander to fire my two guns." At the finish of his letter he says: "I can't understand why I have not received the order to fire. I must have a look round and see that everything is alright, as the men get a bit slack when standing at ease." He speaks of his noble comrade, G. Douglas Mosses, son of Mr. G. C. Mosses, contractor, of Berea, Johannesburg, who died at Delville Wood with a smile on his lips—a hero's death. Mr. Coltman heard of Gordon Leith at the front, who thinks that "the war is the finest thing he has ever struck."

Mr. Rees Poole has been awarded the first premium for the lay-out of the Square at Bloemfontein. This Journal was not successful in obtaining, in time, a copy of the design for illustration, but hopes to produce the perspective in next issue.

Mr. Cecil Alder arrived in Folkestone on 21st May, just five days before it was bombed from the air by the enemy, when 76 were killed.

Deep sympathy will go out to Mr. F. V. Stokes in the loss of his son Walter, by enteric, in German East Africa.

Mr. J. M. Solomon has arrived in New York, and writes to the Editor: "This is a wonderful city, and our students of architecture should come here after Rome and see how to make use of the traditional things. I greatly admire the courage and venture of America's architects."

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Freezing works are now "all the rage" in South Africa. Messrs. C. A. MacDonald, Ltd., of "Hercules" fame, have no less than five large installations in hand, of over £100,000 value, one of 400 000 cubic feet storage, and Messrs. Sykes & Co. are busy too, and, amongst other works, are carrying out—at a cost of over £20,000—on the "Lightfoot" system, the new municipal installation for chilling and freezing at the Abattoirs, Johannesburg. Freezers are in for a big time now, and the war is going to make our export meat trade. New companies are being born in many parts, one of the latest "pups" being Klerksdorp, and others in the Free State and Natal. One new ship took lately from Durban no less than 50,000 sides of beef for the Admiralty. The "interior to coast" transport has been solved, and by freezing down to about 10 deg. Fahr. and chilling trucks first with ice, the meat arrives in Durban with only a loss of from 2 to 4 deg.; no ice travelling in the truck. One of the most esteemed text-books on this subject is Professor Siebel's "Compend of Mechanical Refrigeration," 8th edition, Chicago.

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The Johannesburg Wesleyan Central Hall Competition has evoked a good response, and 25 sets of designs have been received. The award will be announced on Tuesday, 19th June, at 5.15, in the large Vestry, President Street Church. Drawings will be on exhibition later.

By cutting off superfluous street lights, the Johannesburg Municipality has been able to give new connections to buildings in course of erection prior to February 10th, but the cost has risen to some two or three times the pre-war conditions owing to price of materials. Without new plant, the Council are very limited in their scope.

News and Notes—CONTINUED,

Mr. A. Pike, Town Engineer of Volksrust, and one of our members, recently offered for the front, but the Council refused to release him as he could not be spared.

Mr. J. Broad Roberts died recently at Johannesburg, in his 52nd year, and we tender our respectful sympathy to his widow. He was known in our advertising columns in connection with scientific and draughtsmen's instruments, and Mrs. Roberts, who is a daughter of Copnall, the portrait painter, will continue the business as before. Mr. Roberts was highly esteemed and was for many years surveyor and manager to mining companies, and at one time President of the Institute of Surveyors.

Canopus, a 2,000 year old city, is reported to have been discovered near Aboukir Bay. It is of the Ptolemaic period, and there is a public bath of 20 chambers, the largest being 24ft. by 24ft. A Chinese figure shows relationships, in the dim past, between China and Egypt.

Mr. Henry Holloway, a leading London builder, has been knighted, not only for his business prominence, but for his work for the Munitions Department.

Mr. Charles Rosenthal, A.R.I.B.A., of Sydney, N.S.W., who was a fellow-pupil of Mr. E. H. Waugh, has been promoted to

Brigadier-General. He was already a C.B. (Military Division). He is, no doubt, the first case in history of an architect attaining to the rank of a general officer. Our hearty congratulations!

Mr. James Thompson and Mr. James Pender have been elected Chairman and Vice-Chairman of the Rand Board to stop "sweating" in the building trades. This is the outcome of the Conciliation Report, and the Board will consist of 14 members, half masters and half men. We welcome this important move, and its effects are already being felt.

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New Association offices.—The Council will, after the 30th inst., take up its abode at No. 68, first floor, Exploration Buildings, Commissioner Street, Johannesburg.

The Transvaal Provincial Elections have drawn out several well-known men, of these Messrs. Stucke and J. C. Cook represent the architects, and Messrs. H. H. McLean, J. Weightman, D. Anderson and P. J. Hittinger the building and allied trades. We wish them all success, particularly as there is a move to enquire whether the present type of school building is not too expensive and is preventing necessary educational extension. Major Hunt, M.C., candidate for Vrededorp division, first raised this question, and promised to move for a committee of enquiry into the matter.

C. A. Mac Donald, Limited,

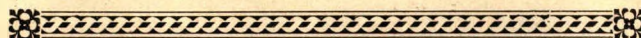
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