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The South African Architectural Journal

BUILDING.

THE JOURNAL OF THE ASSOCIATION OF TRANSVAAL ARCHITECTS
AND OF THE NATAL INSTITUTE OF ARCHITECTS.

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EDITOR—
E. M. POWERS, F.R.I.B.A

ASSISTANT EDITORS—
E. H. WAUGH, A.R.I.B.A., M.S.A.
R. HOWDEN, A.R.V.I.A. F.S. ARC.

BUSINESS MANAGER—
MURRAY K. CARPENTER,
67, EXPLORATION BUILDINGS.
COMMISSIONER STREET,
P.O. BOX 2266, JOHANNESBURG
PHONE 5821,

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UNION REGISTRATION EXECUTIVE COMMITTEE.

This Executive was appointed by the delgates who attended the Architectural Congress which assembled at Johannesburg during the early part of September, 1921, and charged with the work of revising the Union Registration Bill, drafted as far back as 1913.

At that conference, Mr. B. V. Bartholomew (Natal Institute of Architects) proposed the following motion:—

> "That in view of the opinion expressed by the Minister concerned, we recommend to the several Provinces here represented that a Union Bill be proceeded with and the draft proposed Architects Act, 1913, prepared by the Association of Transvaal Architects be accepted as the basis of discussion for the new Bill."

This was seconded by Mr. G. T. Hurst (representing the Cape Institute of Architects) and strongly sup-

ported by Mr. W. J. McWilliams (Port Elizabeth Society of Architects). Mr. T. Moore (South African Institute of Quantity Surveyors) also supported the motion, and stated that the delegates appointed by his Institute to the 1919 Conference in Capetown had, contrary to instructions, voted against the inclusion of the chapter governing Quantity Surveyors, and that he wished to re-affirm that his Institute desired the inclusion in the proposed Union Act, a chapter including the Quantity Surveyors.

On being put to the vote the motion was carried unanimously.

Mr. F. L. H. Fleming (Association of Transvaal Architects) proposed the following motion:—

> "This Conference appoints an Executive Committee with full power to act in terms of the preceding resolution moved by Mr. B. V. Bartholomew (Natal Institute of Architects) and seconded by Mr. G. T. Hurst (representing the Cape Institute of Architects), such Executive to be as follows:—
>
> One member with one vote from each of the following bodies—
>
> The Association of Transvaal Architects.
>
> The Cape Institute of Architects.
>
> The Natal Institute of Architects.
>
> The Society of Architects (London), South African Branch.
>
> The South African Institute of Quantity Surveyors.
>
> The Transvaal Institute of Architects.
>
> The Architects of East London and Border Towns.
>
> The Architects of the Orange Free State.
>
> The Architests of Kimberley and District.
>
> The Port Elizabeth Society of Architects.

The permanent Chairman to be Mr. E. M. Powers, of Johannesburg, with deliberative and casting vote, or in his absence or inability to hold office, the person elected by the majority of the Executive.

The Conference accepts the following nominations made by the several bodies represented, that is to say:

Association of Transvaal Architects: Nominee, M. J. Harris.

Transvaal Institute of Architects: Nominee, Walter Reid.

Cape Institute of Architects: Nominee, W. J. Delbridge; Local Representative, D. M. Burton.

Natal Institutes of Architects: Nominee, B. V. Bartholomew; Local Representative, H. G. Veale.

Port Elizabeth Society of Architects: Nominee, W. J. McWilliams; Local Representative, F. L. H. Fleming.

Architects of the O.F.S.: Nominee, F. W. Masey; Local Representative, Allen Wilson.

Architects of East London and Border Districts: Nominee, Leonard K. Walker; Local Representative, D. M. Sinclair.

Architects of Kimberley and District: Nominee, W. A. Timlin; Local Representative, J. S. Donaldson.

S. A. Institute of Quantity Surveyors: Nominee, T. Moore.

Society of Architects (London), South African Branch: Nominee, R. Howden.

This was seconded by Mr. W. J. McWilliams (Port Elizabeth Society of Architects), and unanimously agreed to.

Mr. W. J. McWilliams (Port Elizabeth Society of Architects) proposed and Mr. G. T. Hurst (Cape Institute of Architects) seconded that the headquarters of the Executive be Johannesburg, which was unanimously agreed to.

Mr. D. M. Burton moved that the Executive Committee be empowered to make any alterations they may deem necessary to the Draft Act of 1913, especially embodying a clause referring to applications for registration from students who, having passed all

examinations in the department of Architecture, University College, Johannesburg, should not be called upon to put in more than two pears' professional and practical experience as assistants to an Architect prior to registration.

This matter was referred to the Executive Committee.

On the question of financing the proposed Bill through Parliament it was found to be impossible to forecast the money required for this purpose, because the greater part of the expense would be incurred after the Bill had been referred to a Select Committee of the House.

It was considered equitable that the members of each of the bodies represented in Conference should contribute equally to the cost of promoting the Bill.

Mr. D. M. Burton (Association of Transvaal Architects) moved that in the first place each body make a levy of two guineas for each of their members towards the preliminary expenses of the proposed Act.

This was seconded by Mr. G. T. Hurst (representing the Cape Institute of Architects) and carried unanimously.

Since the Congress the Executive Committee have held many meetings, at which alterations, additions and amendments have been made to the draft proposed Act drawn up in 1913. Owing to the industrial troubles early in the year, great delay was met with by the Committee, with the result that the work of revision has only just been completed.

At the last meeting of the Executive the completed draft was submitted and passed, and instructions issued for printing it in booklet form for early issue. It is confidently expected that the document will be ready for circulation within the current month, and the procedure in connection therewith will be as follows:—

Each member of the allied bodies represented on the Executive will have a copy of the draft mailed to him direct from the office of the Executive in Johannesburg; accompanying the draft will be a circular letter requesting the recipient to acknowledge receipt and to submit any suggestions he may wish to make respecting the contents; this latter request will not in any way prevent members of the respective bodies from expressing their opinions at the meetings of their own Institutes, at which the measure will be fully discussed.

The names and addresses of many unattached members of the profession are in the Secretary's possession, and these persons will also receive a copy of the draft. It is earnestly requested that in case any person fails to receive a copy of the proposed draft by the 31st October, that he will immediately communicate with the Secretary, Mr. M. K. Carpenter, 67, Exploration Building, Johannesburg.

Quarterly Meeting.

The next quarterly meeting of members of the Association will be held in the Scientific Club, 100, Fox Street, Johannesburg, on Tuesday, 14th November next. The meeting will be preceeded by the usual informal dinner in the Club House at 6.15 p.m. All members intending to be present thereat should notify the Registrar at the earliest opportunity.

At the meeting Mr. Erich Mayer, the well-known South African painter, has kindly consented to lecture on the indigineous art motifs of South Africa.

Mr. Mayer's lecture will embody certain references to native expression in Architecture, pottery, design and painting; the whole suggesting an unconscious analogue with Eastern and Asiatic art. The lecture will be illustrated by lantern slides of the artist's own paintings and photographs, and should prove of great interest to members and their friends.

Members are again reminded that a special invitation is made to bring their lady friends.

GARDEN DESIGN.

At the Quarterly Meeting of members held in the Scientific Club, Johannesburg, on Tuesday, the 14th August, 1922, Mr. John S. Donaldson, President of the Association, occupied the Chair and Mr. Harold Porter, F R.H.S., delivered the following lecture :—

The subject chosen for my lecture to-night—"Garden Design"—is a subject in which I am very keenly interested; in fact it has become almost a hobby to me. It is a matter of sincere regret that so few of our local Architects ever take the trouble to advise their clients on the layout of their gardens.

While visiting Natal recently, I met a gentleman who is an excellent lecturer, to whom I remarked I intended delivering a lecture in Johannesburg shortly. He asked what my Subject was to be—to which I replied: "Garden Design!" He then asked me what my Object was. I replied that I had not thought of it in that mood. He told me that he felt sure that the success he had as a lecturer was due to this important point. He chose his Subject and then fixed his Object.

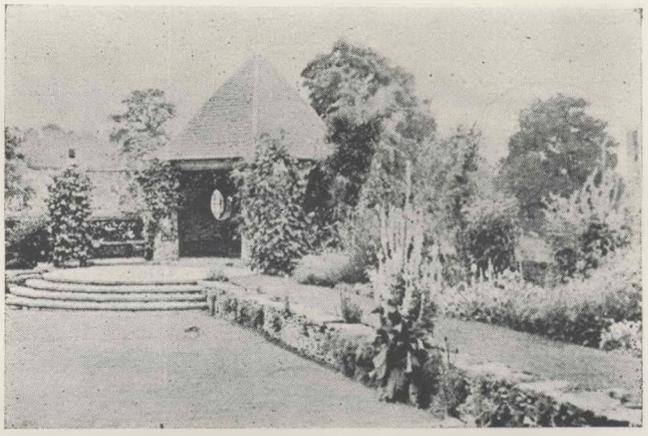
Now my Object to-night is to create interest in the subject of garden design, so that more and better gardens may be planned.

If Architects would only realise what a difference a well planned and planted garden makes to the appearance of the houses they build, they would design the garden every time.

In selecting the slides which I propose showing you this evening (other than those of local gardens), it has been my aim to select those showing some feature or grouping which could be applied to our local conditions.

Without any fear of contradiction, I think I may make the assertion that Johannesburg has more amateur gardeners in proportion to any other town in South Africa. Men and women who love their gardens and do their best to make them beautiful.

To appreciate this one has only to go to some of the older established towns and villages of South Africa in which the art and love of gardening is little developed. Johannesburg, less than 20 years ago, was still considered a mining camp and had few gardens of any merit, but to-day 95 per cent. of the houses have gardens or an honest attempt at a garden.



With all this amount of keenness on the part of our citizens, it is surprising to see how few well planned gardens there are. Now this is where my Object comes in—"The better planning of our gardens."

At this stage, a short history of garden making might be of interest to show how the different types of garden plans came about.

The garden in its earliest form can be regarded as the result of an attempt to make a piece of cultivated ground pleasant to look at and agreeable to rest in.

Early records of gardens systematically laid out are to be found in the works of Eastern writers. The science of gardening was studied in Assyria, Persia and Egypt, and the principles of design fulfilling each particular purpose were well understood.

The Greeks and Romans did much to develop the art, the Romans especially carried it to a very high standard.

These Roman gardens are of particular interest, because, to them can be partly traced the origin of garden-making on formal lines in England. During the earlier years of the 16th Century the Renaissance influence was active in England, and though it was modified by the traditions existing, it brought about some marked changes in English garden making.

Hedges and shaded walks, fountains and water

rills, flower beds planted in intricate patterns, trellises, arbours and seats, all laid out within a space surrounded by a high wall, this was the design of the mediaeval garden.

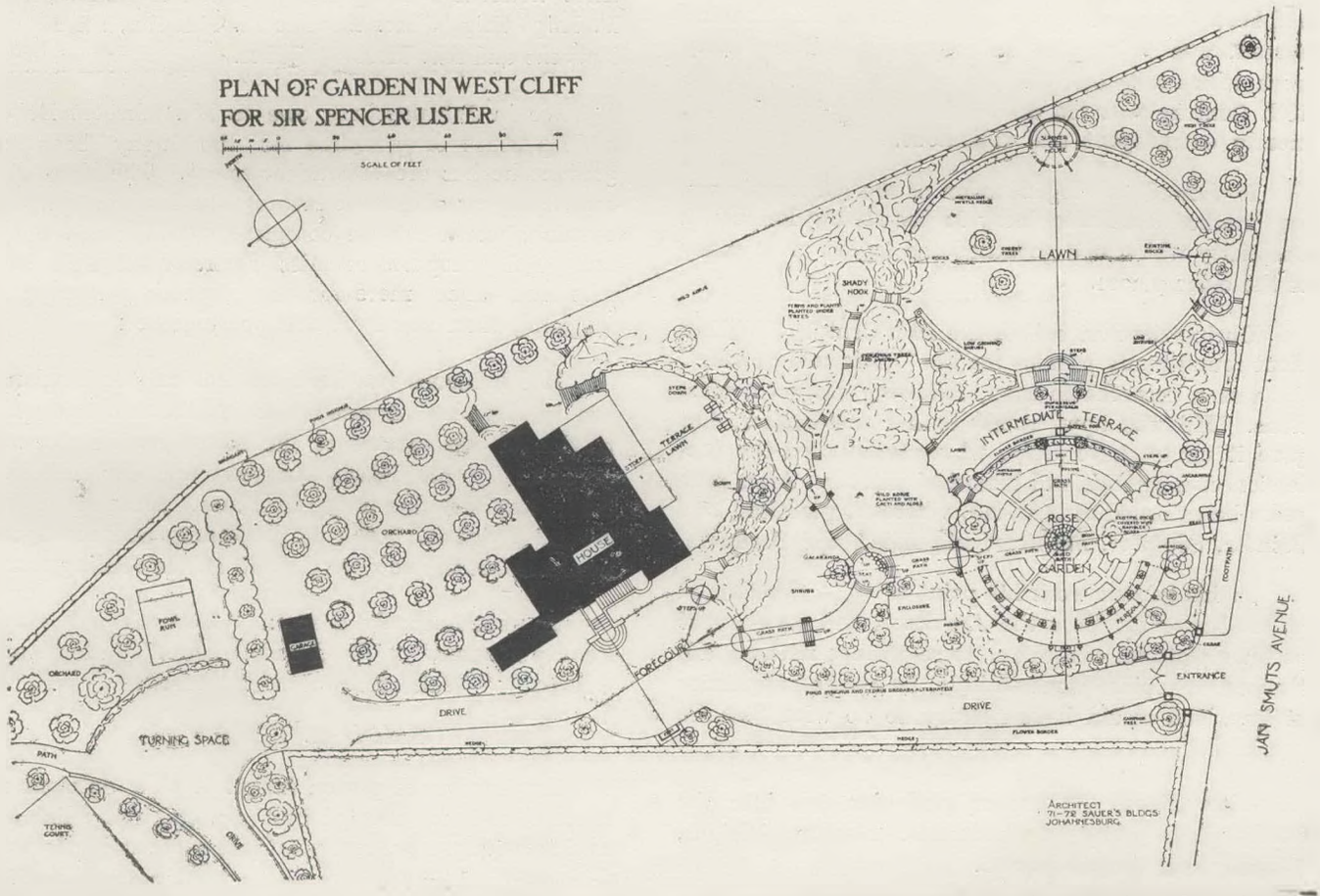
Early in the 17th Century, William Lawson, a practical gardener, wrote several books on the art of garden designing. The garden, he imagined, was a place where all the senses could be gratified. In his book, "A New Orchard and Garden," he expresses his ideas admirably in such words as these: What can your eye desire to see, your ears to hear, your mouth to taste or your nose to smell, that is not to be had in an orchard with abundance and beauty? What more delightsome than an infinite variety of sweet smelling flowers, decking with sundry colours the green mantle of the earth, the universal Mother of us all, so by them bespotted, so dyed that all the world cannot sample them, and wherein it is more fit to admire the Dyer than imitate His workmanship, colouring not only the earth, but decking the ayre and sweetening every breath and spirit.

Of 17th Century gardening in the traditional manner, but on a large scale, probably no better example could be quoted than that at Wilton.

This was designed by a German Architect, Isaac de Caux, for the Earl of Pembroke. A few years later Inigo Jones made himself evident. He gave a great impetus to the Italian revival, which had made a beginning in England a century before.

The modifications and additions for which he was responsible at Wilton—among them the beautifully proportioned Palladian Bridge over the river—were typical of the changes he made in many other gardens.

After the Civil War in the reign of Charles II, another style was brought to England. Remarkable advances had been made in the art of garden planning in France. The outstanding French exponent of the art was Le Notre, a man of brilliant ability and originality. His conceptions were on the largest possible scale; there was a sumptuous vastness in his work which no one else had ever attempted. His system of arranging avenues radiating from a centre, his use of broad and dignified terraces and formal lakes, were frankly adopted in England, and in what



remains of the garden work done at this period, the signs of his inspiration are not to be mistaken.

Le Notre undoubtedly induced English gardeners to enlarge their ideas of garden making, enlightening them with a knowledge of extensive planning, of which they hitherto were ignorant.

From Holland there came that variation of the Renaissance manner which is known as Dutch gardening, in many respects a parody of the Italian work. The Dutch love for quaintness had brought about an exaggeration of the ancient device of clipping trees into artificial forms known as "Topiary."

As a result of this exaggeration, a practice which had been sanctified by centuries of use in England and abroad, was reduced to an absurdity. The topiary work which was executed in English gardens in the 18th Century was too often without dignity or taste, merely extravagant and ridiculous.

It showed the degeneration of the gardener's art, and marked a definite decay in the feeling for restful simplicity which had governed the layout of so many of the older places.

During the first half of the 18th Century, William Kent found many patrons for the " Informal School." He was a remarkable man, following several professions. He was apprenticed to a coach-builder, but gave it up to go to Italy, where he studied the profession of a portrait and historical painter. After nine years he returned to England, where he practised as a Painter, Sculptor, Architect and Landscape Gardener.

In his garden work his point of view was that of a Painter rather than the Architect, and he tried to produce pictorial effects and to re-arrange nature. He threw over topiary work entirely, he avoided regularity of line, and would have nothing to do with "square precision."

After Kent, the art of gardening fell into the hands of a group of gardeners: Repton, Wright, Wheatly and Martin Brown.

The most notable of this group was Martin Brown, nicknamed " Capability " Brown. Unlike Kent, he was not even a man of culture, ignorant and untrained, he put into practice his crude theories of naturalistic design. As a consequence he did an incalculable amount of harm, destroying right and left what remained of the old pleasure grounds, and replacing them by arrangements of his own devices.

That such narrow conventionality should ever have been accepted as in accordance with the spirit of nature seems now almost incredible. Hardly anyone paused to think whether, after all, the price that was being paid for novelty was not too high.

Yet, in the wilderness of landscape gardening a voice was heard here and there, lamenting the excesses of the new school, begging for less haste and less reckness concessions to fashion.

It was not till the latter half of the 19th Century that any consistent effort was made to revive the old type of garden design. . . . Within the last 30 years there has sprung up quite a considerable school of garden designers, including many Architects, the most noticeable being Sir Reginald Blomfield, Mr. F. Inigo Triggs, Mr. Thomas H. Mawson, Sir Edwin Lutyens and Mr. Herbert Baker.

We in Johannesburg owe to Mr. Herbert Baker a deep sense of gratitude for the many beautiful gardens he has created in our midst. The short historical sketch of garden making, outlined to you this evening, would not be complete without mentioning and paying respects to Miss Gertrude Jekyll, a lady who has done more for the cause of gardening in England, than any two men put together.

Her influence has been felt not only in England, but in America, Australia and Africa. A fair proportion of the success of the many garden schemes prepared by Sir Edwin Lutyens and Mr. Herbert Baker has been due to her influence. She has written several delightful books on gardening, and to anyone interested in the subject I would advise reading them.

To mention only a few: " Gardens for small County Houses," " Wood and Garden," " Home and Garden," " Wall and Water Gardens."

FORMAL vs. INFORMAL.

The subject of garden design involves opinions on so many matters affected by taste, opinions which are sound in judgment, and yet these same opinions may be challenged by the very next person one meets. We know that ever since printing was introduced the experts of successive generations have indulged in animated discussions on the question of garden planning.

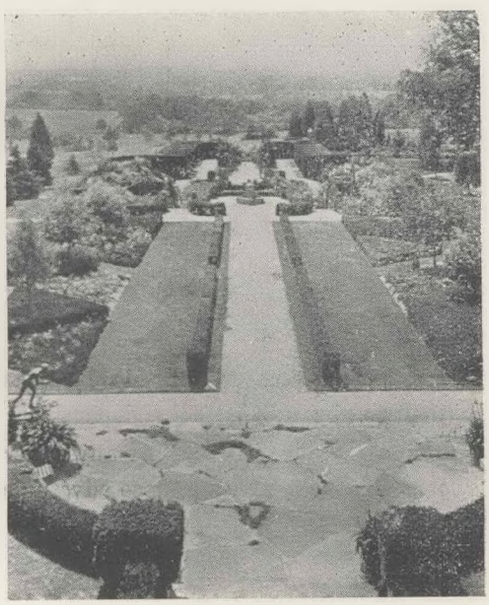
In spite of the peaceful virtues attributed to gardening, the principles of the art are sometimes debated with heated argument. It is wise to study all sides of a question, and it is desirable that conflicting opinions should be put one against another

by the designer, who should reserve his judgment until he has had sufficient experience to entitle him to take an independent view. I refer particularly to the well-worn discussion concerning the respective merits or demerits of " Formal and Informal " gardens.

We know that there exists in this town many beautiful specimens of each style, which the enthusiast of either type would hesitate to alter in favour of an arrangement more acceptable to himself. From this we may infer that either form of design may be right in the right place, and that the two systems are not necessarily in conflict. Personally, I do not hesitate to advocate each form in the place to which it is best fitted.

In some minds there is a tendency to associate the term " Formal Garden " only with complicated parterres and exaggerated Architectural effects; but the definition I suggest gives a more liberal interpretation.

My conception of a formal garden is one in which we frankly dispense with any direct guidance from Nature, we allow her little or no voice in the shape of the garden. Formality implies methodical arrangement, and generally carries with it a character of symmetry and regularity. There is no reason why a formal garden should be lacking in picturesque qualities.



In the informal garden, on the other hand, we make a pretence of indulging Nature, but, in reality, we persuade her to assume a form of our own choosing.

If we were all artists and had the gift of William Kent, we might create worthy effects, but unfortunately there are too many " Capability Browns," and the results are not as happy as they might be. There are few places so badly planned that it is not possible by a gaudy display of flowers to make it attractive.

But when the flush of bloom is over, there is no form or grouping to arrest the admiration of a critic.

To the minds of many people, a " Landscape Garden " means a succession of paths, winding between clumps of trees or shrubs situated without purpose upon stretches of grass artificially undulated. We find the Poet Knight expressing his sentiments on this subject as follows:—

" Curse on the shrubberies' insipid scenes
Of tawdry fringe encircling vapid greens,
Where incongruities so well unite
That nothing can by accident be right,
Thickets that neither shade nor shelter yield,
Yet from the cooling breeze the senses shield,
Prim gravel walks, through which we winding go,
In endless serpentines that nothing show,
Till tired I ask, ' Why this eternal round '?
And the pert gardener says, ' 'Tis pleasure ground!
' This pleasure ground!' astonished I exclaim;
' To me, Moorfields as well deserve the name.' "

RELATION OF HOUSE TO GARDEN.

If the general pictorial effect of a house is to be satisfactory, it is essential that at least that portion of the garden having intimate relation with the house should be designed in conjunction with it. It is the ideal of an Architect to adjust the plan of a house in such a way that no other structure could conceivably appear to be more appropriate to the situation. To the garden designer this striving for harmony should also be his goal.

The house and garden must therefore be considered as indivisible parts of one composition, but the influence of the house is dominant. It usually occupies the centre of the most striking picture, it over-

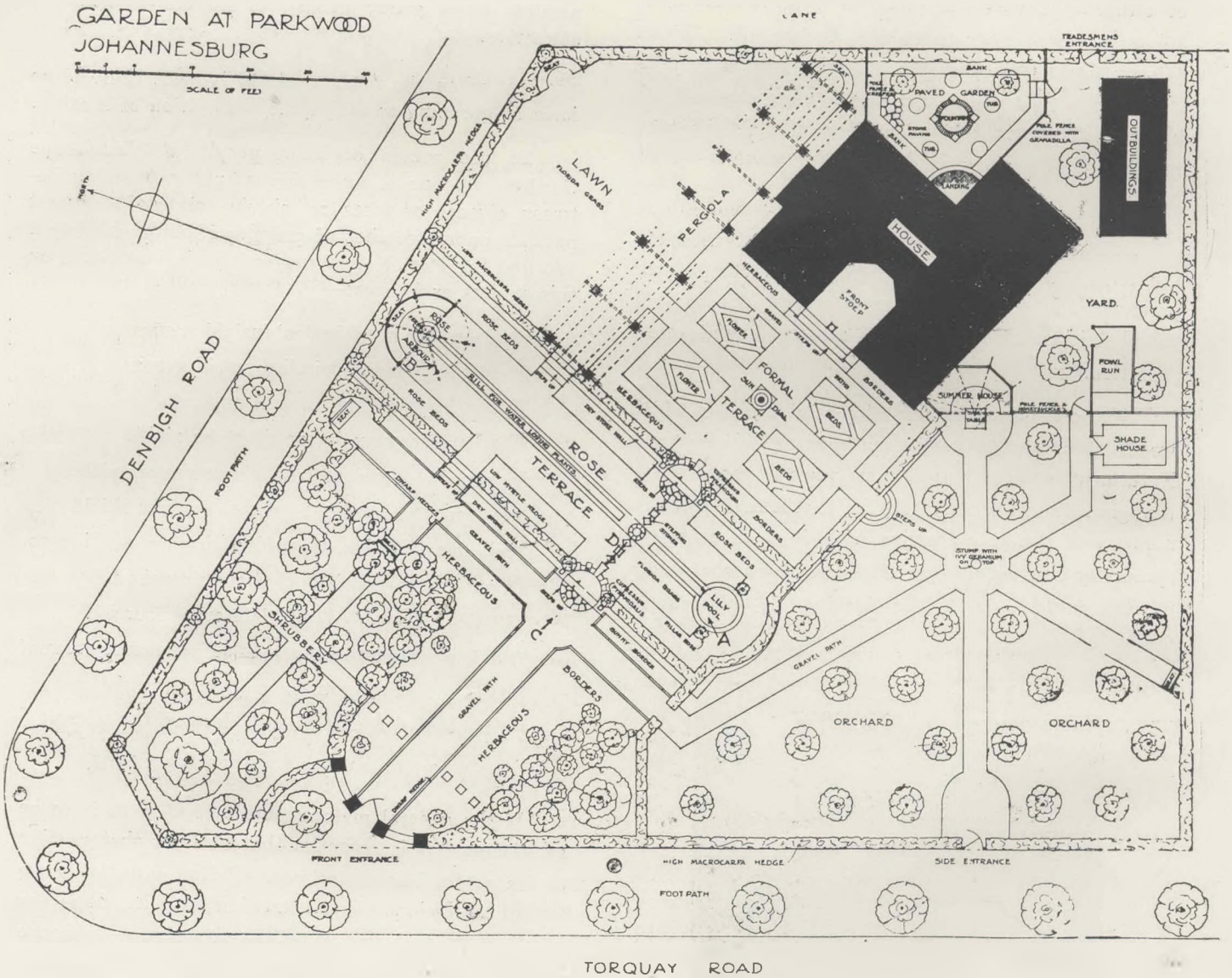
looks the fairest scene, and should be displayed in its most favourable aspects.

The purpose of a garden is to provide a setting in sympathy with the house. In designing a garden, restraint must be exercised and the important point must not be overlooked that the Garden is made for the House, and not the House for the Garden.

SITE.

A garden should express personal individuality if is to be interesting. This personal individuality should be looked for in the most striking quality or feature the site possesses, which should therefore be sought out and developed.

Undoubtedly most sites do possess, in addition to



The extension of certain axial lines of the house into the garden, either in the form of main walks or by central vistas, will generally produce that sense of order and unity of composition which is so desirable between the house and garden.

We are thus able to add to Nature's beauties by bringing her into relation with Architecture.

an inherent local character, some individuality which will suggest to the mind of the designer a form of arrangement differing from that of any other garden, and it would be wise to develop these advantages before borrowing ideas elsewhere.

It is difficult to particularise, but such features may be found in some special view, in the peculiar

undulation of the ground, in some striking group of trees, in an expanse of water, or other scene. If no suitable nucleus exists, then a character or a feature must be invented for the garden.

It has been said that the vitality of garden art springs from the continual exercise it affords for the imagination, and imagination is the life force of all art.

The charm of a garden does not depend upon its size, for the smallest one is capable of being most enchanting when designed with skill and taste.

It may be asserted that every garden which is to possess real character offers one problem at least, which is peculiar to itself and must be solved on its own merits, the basis of which is simple common sense.

The attraction of a garden depends upon the skill with which these principal scenes or features have been composed, while the enduring charm of a garden depends upon variety and individuality, derived preferably from some character peculiar to the site. I hope to demonstrate these points by the slides of several plans.

To be able to grasp the outstanding features of a site, and to have sufficient imagination of its possibilities, this is the whole secret of successful garden planning, assuming that the planner has a fair knowledge of horticulture.

PLANNING.

I will now mention some practical points in connection with "How to set about and actually plan a garden."

First of all, to my brother Architects let me mention a most important matter.

When a client comes to you and asks you to design a house, do try and persuade him to consider his garden at the same time, especially in relation to the disposition of the house in conjunction with any probable layout of the garden

The smaller the plot of ground at your disposal, the more important this matter becomes. This is illustrated clearly by the following plans.

How often do we see a nice house just dumped down on the centre of a stand? What hope is there of designing a nice garden to that house?

If I can persuade a few of the Architects present here to-night to follow this most important point, and advise their clients to consider the prospects of a garden design before it iss too late and the house fixed, then I shall have achieved the object of my lecture, as mentioned in my opening remarks, that "More and better gardens may be designed."

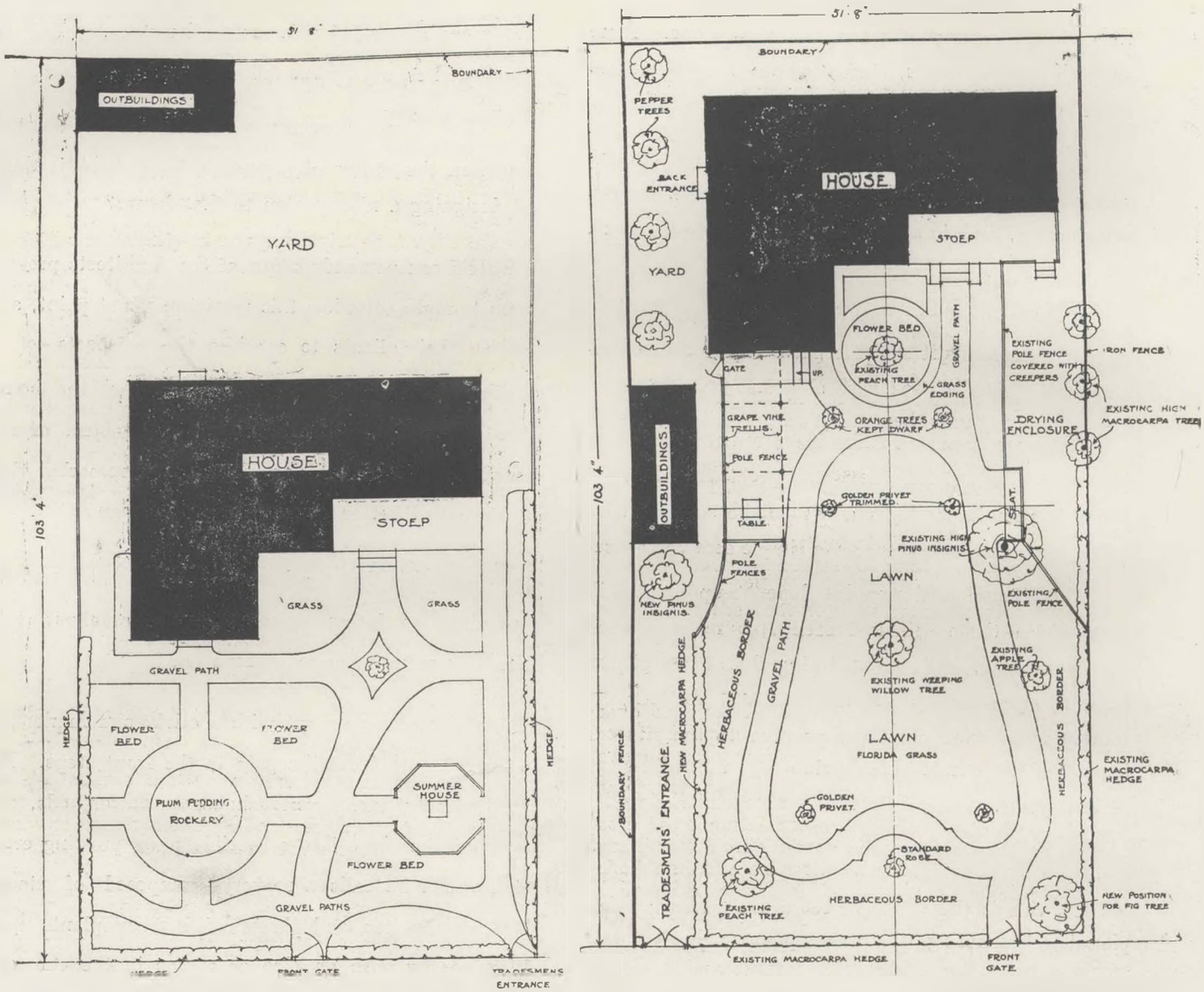
Assuming that the house is already fixed, and we are about to design a garden, don't set about it in the way so many poor gardens are laid out.

The owner goes out with a stick, and marks out a curved path from the gate to the front steps. He then sets out some weird shapes as flower beds, one of which he turns into a horrible plum pudding erection which he calls a rockery—composed of stones first, earth after, and plants a few gaunt plants upon it, generally with an aloe or cactus in the centre—which makes it look like a child's sand castle.

The method recommended is as follows:—

Have a complete plan made of the whole garden, showing present and future development. If you are unable to prepare this plan yourself, it would be advisable to employ an Architect to do it.

The particulars required for the preparation of this plan are as follows, which will naturally vary according to the site to be laid out:—



Comparative Plans showing treatment of 100 x 50 stand.

Plan of the ground is needed, giving full information as to existing conditions on the site, marking the position of all buildings erected or proposed, trees and other features, together with contours and levels.

Plans and elevations of the house are required. These will show the position of all doors and windows of the most important rooms commanding views of the garden, and also the disposition of the domestic quarters.

Then proceed to mark on the plan the lines of view offering the most extensive and picturesque vistas.

Take note of the existing features worth preservation, or which may offer a nucleus for further development, and look particularly for those characteristics likely to suggest some theme or keynote of individuality.

Observe those positions exposed to the wind, and the situation of undesirable objects either on the site or beyond the boundary, which must obviously be screened.

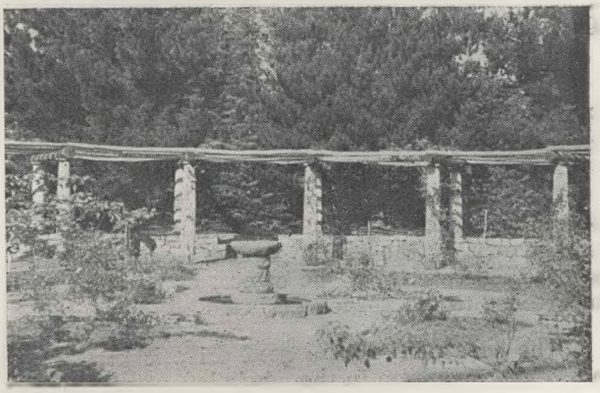
Note any outlying features which in the future

may be worth incorporating in an extension of the scheme.



A View of the Garden at Parkwood.

Make a study of the sunniest, the shadiest and the least inviting spots, of the general lay of the ground, of the necessity for drainage, of the nature of the soil and sub-soil, of the kinds of trees and



A View of the Garden at Westcliff.

shrubs which flourish locally, and any other matters of a similar nature.

Special consideration should be given to accessability and convenience, especially in the disposition of



Sunk Garden at "Little Boarhunt" Liphook.

the entrance gates, paths and drives.

Consult the owner in order to discover any preference as to the style of the garden, and settle upon such detailed features as are desired to be introduced, such as tennis orcroquet courts, lawns, rose, rock or water gardens, orchards, herbaceous borders, summer houses, pergolas, fountains, etc., and note any special likes or dislikes with regard to flowers and plants

The suitability of any particular spot upon the site for the features decided upon, should be discussed with him.

The question of an entrance drive cannot be considered too carefully, as it generally influences the arrangement of the entire garden. Unfortunately, it is too often settled by the owner, as being of no real importance to the garden design.

The construction of a good drive is generally the most expensive item in the whole layout of a moderate sized garden, and how many otherwise beautiful gardens have not been spoilt by this sea of unsympathising gravel, flowing in a tide across the garden, and marring any little chance of a good garden design?

Do we not sacrifice too much for this luxury, and is it not better to run the gauntlet of an occasional storm, and enter a wicket gate, linked to the front door by an avenue of dancing flowers, or by a pergola roofed with its leafy thatch and covered by showers of blossoms.

The time allotted will not permit me to dwell on the many other features of a garden, and how they may be employed in garden design, such as Pergolas, Summer Houses, Sundials, Statuary, Vases, Seats and Furniture.

There is also the most fascinating subject of the treatment of water in gardens, and the many delightful ways it may be introduced by Bird Baths, Swimming Pools, Fountains, Ponds, Streams, Rills, Cascades, etc.

Last, but not least, there is Planting—the study and practice of Horticulture—which is so essential in a perfect garden. It is possible for a garden to contain every tree, shrub and flower, perfect of its kind, but it will be a failure from an artistic point of view unless the trees and plants are arranged in picturesque proportions, with their various colours harmoniously blending.

Concrete Piles.

Considerable progress has been made during recent years in connection with the design and execution of piling work, and the most important developments are those dealing with concrete and reinforced concrete piles.

The Simplex system of concrete piling designed and executed by Simplex Concrete Piles, Ltd., of Victoria Street, Westminster, is one where the concrete pile is cast in position by special means. The method employed is that of driving a steel tube, known as the "form," usually about 16 inches diameter and having an enlarged point, into the ground until the required depth is reached, when the tube is filled with freshly mixed concrete of a suitable consistency, and of sufficient quantity to make the pile, after which the form is slowly withdrawn by means of special tackle operated by the pile engine. During the process of withdrawing the form the concrete issues from the lower end, which is open, completely filling the hole made in driving the tube, and also filling any voids in the sides of the hole should any occur through the displacement of stones or boulders during the driving of the steel tube. In the process of setting, the plastic concrete will naturally obtain a certain amount of adhesion with the surrounding compressed soil, and this will materially assist the development of skin friction which is an important factor in the bearing capacity of a foundation pile.

J. and W. Stewart, of Berkeley Street, London, who undertake all classes of piling works, specialise in the Raymond Concrete Pile. It is an interesting method of the cast-in-place concrete pile, and many advantages are claimed for this type as compared with pre-cast concrete or timber piles.

The process briefly consists of sinking a special pile shell of tapering form, and spirally reinforced, to the required depth by means of a collapsible steel mandrel or pile core which is strongly constructed to withstand the repeated blows of the steam hammer. When the shell has been driven to the necessary level the core is collapsed and withdrawn, leaving the shell in position. The reinforcement is then placed within the shell and the concrete is poured in. Some of the claims and principal features of this type mentioned by the firm executing this work are as follows:—

1. The prevention of distortion; this is ensured by the steel shell, which is left in the ground.
2. The speed in driving—15 to 35 piles can be driven per day according to the grouping and length of piles.
3. Increase in frictional resistance due to the taper on the piles. The pile shells have an inclination of 1 in 60.
4. The piles are driven to the exact length required.
5. There is no blow delivered on the concrete.

Another type of reinforcement used for pre-cast concrete piles is the "Keedon," supplied by The Johnson's Reinforced Concrete Engineering Company, Limited, of Manchester. Round steel bars are used, these being hooped together with Keedon hoops or spirals, and the steel is sent to the site in the lengths required to suit each particular member, with all fitments made and classified ready for fixing. The piles are made and matured on the site, to avoid heavy transport costs and risk of damage.

The Planning of Boksburg.

By J. F. MACKENZIE.

Within the last few years Town Planning has attracted attention all over the world, and I am glad to say has made great progress.

As far as Boksburg is concerned we are in the unfortunate position of having the various Districts already laid out on the old-fashion gridiron Plan.

Boksburg, with its 4 separate suburbs, should be an object lesson on " How Not to Town Plan." We have actually three business centres instead of one.

We are very fortunate, however, in other respects, and it is up to us to take advantage of this. For one thing we have the finest Lake in the Transvaal and this town owes thanks to far-seeing men like Montagu White, who planted trees, both round the lake and in what is now the Plantation, Vogelfontein, thus taking the first step in making Boksburg what it now is, The Beauty Spot of the Reef. Just imagine what Boksburg would look like if there were no trees, and no Lake. It is for us to keep the good work going. Many people think that Town Planning and generally beautifying a town costs a lot of money and does not pay. This is a great mistake, and in fact the actual results show the very opposite. For instance, the improvements to the Lake, carried out within the last few years, has made Boksburg the most popular holiday resort on the Reef, and also the most desirable residential township. It is for residents to make the most of this. How can this be done? It may be thought that it is too late, as the townships are already laid out, but this is not the case. A General Policy should be decided on and carried out gradually.

The main approaches to the Town should be made as pleasing as possible by tree planting, etc., vacant spaces planted and kept clean, the acquisation of open spaces, where possible, with a view to future development, and the prevention of the erection of unsightly buildings and hoardings, and where existing buildings are demolished, especially in the case of main thoroughfares, power should be invested in a properly elected and constituted local authority, to see that new buildings erected be in keeping with their surroundings. Unfortunately the powers that be in Boksburg during the last few years do not seem to have had the Beauty Ideal before them when they erected unsightly Transformer Houses at various points, also Public Conveniences on the Market Square, and at the Lake and in the Parks, also the Tram Shed can hardly be called a thing of beauty, and last, but not least, the Tram Shelter at Boksburg North terminus. Beauty in design is not costly and plainness is not necessarily ugly. Pretoria can show how cheap artistic shelters can be built. These are built of kopje stone and thatched, closed on three sides and having comfortable seats and sound proof telephone call office.

The approach to Boksburg through Vogelfontein is not unpleasing, and if one arrives by train a good impression is formed on seeing the excellent lay-out of the station garden, the best in the Transvaal, owing to the efforts of one individual having an artistic taste, and taking the trouble to carry it out. The thanks of the community are due to Mr. West for his labour in this respect. It also serves to show what can be done with a small, and what was a short time ago, an unpromising and unsightly piece of waste ground. Another beauty spot is the well kept Police gardens.

President Square has been greatly improved with its well laid out Bowling Green. This has been carried out gradually, and is a step in the right direction, and I have no doubt those responsible will eventually make this park a place to be proud of.

I do not propose to enter the Lake Grounds, as Mr. Wilson can be depended on to develop and beautify the remaining portion as funds permit, the work already done here is second to none on the Reef, and the Lake and gardens and their development should, I think, be the subject of another paper. It is to be hoped the Municipality and the Aquatic Club will come to some arrangement to complete the present Boating Club House in an artistic manner, the position warrants it, and I feel sure it could be made self-supporting.

While in this vicinity I would advocate the town securing the rocky valley on the south of the Lake.

By judicious planting of high growing trees, or well planned terraces, the Cinderella dump could be hidden and the rocky valley utilised as a real South African rock garden. A slight dam could be formed at the bottom at very little cost, water could also be laid on in furrows from the existing by wash level of the lake and carried round the sides. In time the ground up to Parsonage Street could be laid out and planted. One can imagine what an attractive Beauty Spot this could be made. Being mining ground I should think it could be had for the asking, and the opportunity is too good to be missed. The improvement could be carried out gradually and as funds permit.

As an approach to Boksburg proper, I should like the town to acquire the vacant stands opposite the Masonic Hall with a view to laying out this space as an open garden.

MARKET SQUARE.—The west end is already laid out, and we all look forward to the time when the eastern portion will be utilised for Municipal Offices.

The eastern approach to the lake grounds, and the space in front of the tram sheds, together with the Municipal reserve could be improved and made more imposing, keeping in view a tram shelter outside the lake grounds and suitable space for garaging motors, etc.

Boksburg East is in the making, and for the first time the Boksburg Council has placed the sale of stands in the hands of a private individual and I think you will agree that this has proved a success, as in a short time 35 stands have been sold, thus converting what for years has been waste ground into revenue producing stands. Had this policy been introduced when the township was first laid out, and times were normal, and the demand from my own knowledge over 30 houses, costing say £800 each, would have given the Municipality £24,000 of rateable property. Just think what benefit this would mean to the town, 30 families paying water, light and sanitary rates, 30 properties paying assessment rates and taxes, 30 families supporting local tradesmen. In my opinion it would pay Boksburg to give the ground as a gift provided a dwelling costing, say, £800 was erected within a period of six months.

The approach to Boksburg from Boksburg Station is the most uninviting of all, this could be greatly improved by tree planting, the Railway Authorities should be asked to co-operate in this.

Boksburg East is in its infancy, and it is our duty to see that it is well supplied with lungs. According to the present layout none have been supplied, and I would suggest that two blocks be left as open spaces to serve as parks and playgrounds for the children, on the lines of the Central Park, Boksburg North, to which I shall refer later.

I would also suggest that the business stands in Boksburg East be eliminated and centralised in Boksburg proper, thus putting Boksburg East on the same footing as Vogelfontein Plantation. This would be quite possible, as, I understand, so far, no business stands have been sold.

ROAD TO BOKSBURG NORTH.—No great fault can be found with this road until we come to within about 100 yards of Cason Road. The junction of Sixth Avenue and Cason Road is as far as traffic is concerned the danger point in our Municipality. I would like to see two islands formed to divert the traffic to east and west, and avoid that coming from North and South. To enable this to be done, it would be necessary to acquire a portion of mining ground. On the South side of Cason Road I would suggest applying for say 100 feet deep the whole length of Cason Road, which could ultimately be planted with trees and shrubs and laid with grass, having seats placed at intervals, thus taking away from the one sided appearance of the west end of Cason Road.

BOKSBURG NORTH CENTRAL PARK.—Boksburg North's one and only beauty spot. The lay-out of this Park, I consider, serves its purpose very well. There is just enough formal garden and the remaining space gives the necessary playground for children. I would suggest that a few inexpensive rustic shelters be erected. It would do no harm to have the present Public Convenience camouflaged.

Boksburg North has two other lungs, at present overground with grass which is set on fire every winter. Trees planted years ago have been scorched and burnt out. The parks are both fenced and it would surely not be an expensive matter to plant ornamental trees and keep the grass cut.

RAVENSWOOD. — An opportunity for town planning has been missed here, but even now it is not too late to take the advice of the Town Planning Association in Johannesburg. Surely Boksburg Municipality does not intend taking over the supplying of

light and water, sanitary service, roads and general upkeep and burden the old ratepayers with the extra cost. I would suggest that the Boksburg Municipality should not take over this extra township until all public services be supplied or paid for by the parties selling the ground.

CENTRALISATION OF BUSINESS.—An endeavour should be made to centralise all business premises including Government and Municipal Offices. The natural position for Municipal Offices would be the Market Square. Government Offices at present are spread all over the place, how much better it would be if the existing unsuitable Court House could be converted into a school and a new Court House erected facing the Market Square. The Pass Office would be more convenient for all concerned if it were placed somewhere round the square, the existing buildings and its great waste space of ground could be utilised for educational purposes. The Revenue Office might become more popular if it were more central. It is only reasonable to expect that all business premises be placed as far as possible around or adjoining the Market Square, for what other purposes is a Market Square placed in the centre of a town.

MAIN ROADS.—When I came to Boksburg in 1907 the Main Reef Road, such as it was, came through Commissioner Street, now Boksburg is side tracked and the Main Reef Road goes through Boksburg North. I think it would be to Boksburg's interest to use every possible endeavour to get the low level road completed at the earliest possible moment, from Springs this road is finished as far as Anzac, it is now for Boksburg, if necessary to complete this road from Anzac to Germiston boundary, and make it such that all motor traffic pass through the business part of the township, if we can't have railway deviation let us at least have road deviation.

STREETS.—All our several townships are in a most peculiar position as far as streets are concerned, thus Vogelfontein Plantation has nine streets running north and south, only one is a throughway, the other having an exit at one end only, the remainder are blocked on the south by the Railway and on the north lead to what may be called " No Man's Land." The seven streets running east and west, for all practical purposes, terminate in Hospital Road and the Main Reef Road. Vogelfontein has five streets running north and south, all to " No Man's Land " on the south and the railway line on the north with the exception of Parsonage Street. The four streets running approximately east and west with the exception of Union Road, have all dead ends. Boksburg and Boksburg East have between them 16 streets running north and south, only one has an outlet to the north, namely, B.N. Road, all the other terminate at the Lake or railway line, on the south they mostly terminate against the Cinderella or E.R.P.M. claims. It is unfortunate that most of the mining ground applied for on the south side by various public bodies, schools, churches, etc., have generally managed to close up the streets, with the exception of the Heidelberg Road, this is most unfortunate. Eight streets in Boksburg running east and west have only two exits, namely Commissioner and Leeuwpoort Streets. From a town planning point of view this is also most unfortunate, but I am afraid it is now too late to remedy this. Boksburg North has 10 streets running east and west and 14 avenues running north and south, the streets lead on to Reitfontein Road and the avenues to Cason Road on the south. The point I wish to make of this is that so far from being a detriment to the Municipality I can see a way of saving a vast amount of money on street making and upkeep. I would suggest Vogelfontein Plantation to have three streets north and south and four streets east and west prepared for heavy traffic, all the others to be only 12 or 15 feet wide with wide sidepaths. Vogelfontein to have all streets running north and south not already made 12 or 15 feet wide with wide sidepaths. This would also apply to Boksburg and Boksburg East. Boksburg North to have 3rd, 6th, 9th and 12th Avenues wide as above, also 2nd 5th and 9th Streets wide and prepared for heavy traffic, all other streets and avenues to be reduced to from 12 to 15 feet wide with broad sidepaths. Think of the saving of money to the already hard pressed ratepayers, and from the appearance point of view there is everything to be gained.

TREE PLANTING.—Throughout this paper I have advocated tree planting, I would now suggest that the purpose of Arbor Day be taught in all schools and that the children residing in the various streets be

given the privilege of planting and looking after trees in their own particular area. A prize or prizes by the Municipality would stimulate this cause.

SURROUNDINGS OF PUBLIC BUILDINGS.—I think it is disgraceful to see the condition of the grounds surrounding our public buildings, including Churches. In almost all cases the ground has been given to them free and with the exception of the Police Stations at Vogelfontein and B.N., the Gaol on B.N. Road, The Catholic Church, St. Michael's Church, the Cookery Centre in Commissioner Street and perhaps one or two others, there has not been the slightest attempt to cultivate the surrounding ground. In the few places where trees have been planted, they are damaged and neglected, this is not the spirit required for town planning. There are many private gardens well laid out and well kept, showing more love of beautiful surroundings than all our public buildings put together. This is all the more deplorable when one knows that all the public institutions have large staffs of native servants, whose spare time could well be utilised in this respect.

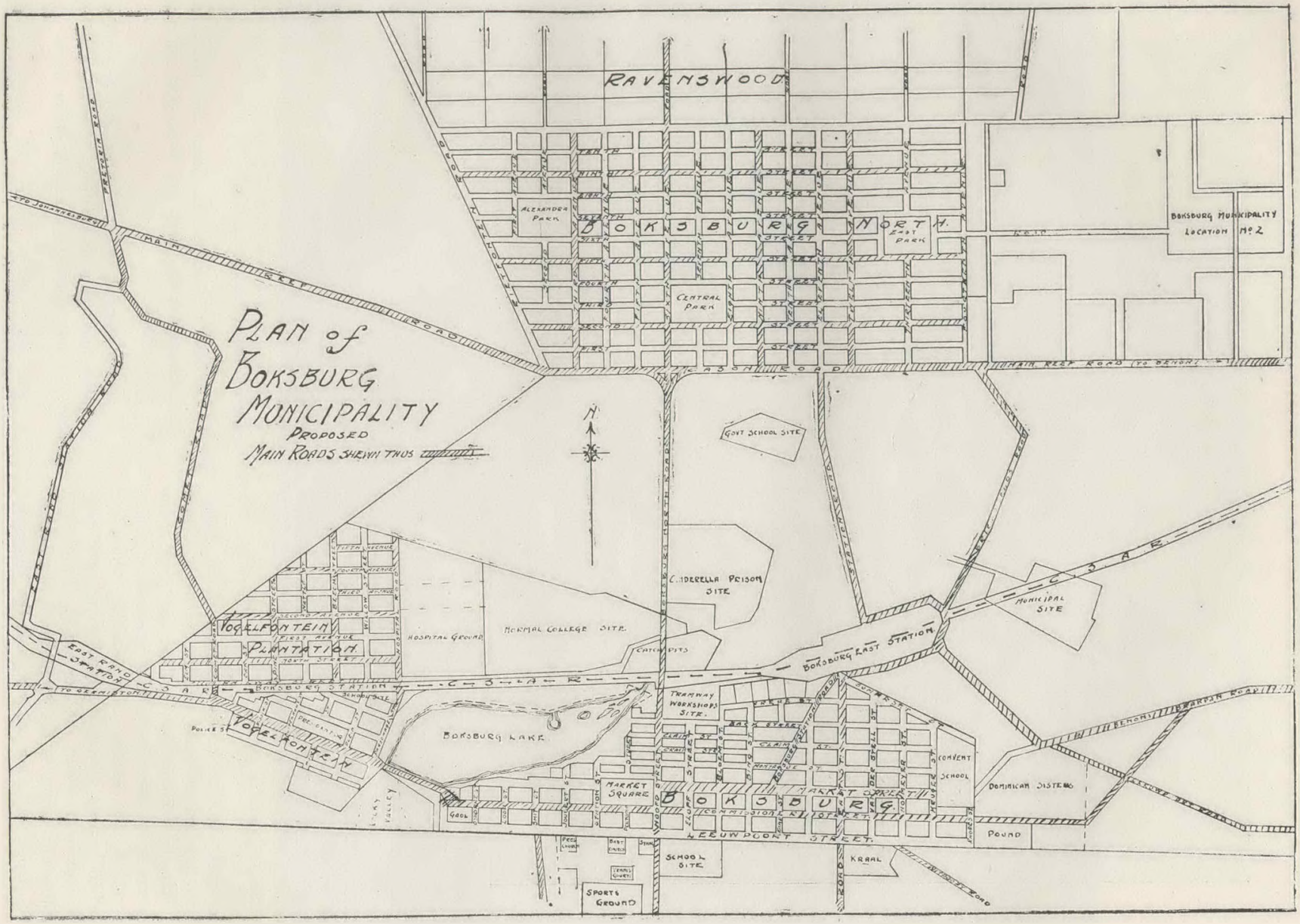
BY-LAWS.—It seems ridiculous that every town on the Reef has its own particular set of Municipal By-laws. For example, a building that would easily pass in Johannesburg would not be tolerated in Springs. The Johannesburg Municipality has co-operated with and consulted the Association of Transvaal Architects and between them have drawn up by-laws agreeable to both parties, I think it would be an excellent plan if all Reef Municipalities adopted these by-laws as far as suitable to local conditions. At present the by-laws in some cases are rigidly enforced, and others, for some reason best known to the local authorities, are ignored, thus making it absolutely impossible for a conscientious architect or builder to do justice to his client. Anyone entirely ignorant of the existence of by-laws having a stroll round the various suburbs would wonder how certain buildings were ever allowed to be erected. Backs of lavatories unprotected on the street line, filthy cow sheds and native quarters built of a conglomeration of second-hand material, not even camouflaged with a coat of paint, unsightly fences, some directly in contravention with the existing by-laws and broken-down poultry runs are a few of the unsightly objects that meet the eye. Pigs, poultry, cows, goats, etc., wandering through and grazing on the streets or tethered on vacant stands polute the air with their various odours. As long as these conditions exist, and are allowed to continue, there is no hope of our ever having a clean, healthy, beautiful and up-to-date town. The amazing thing is that if the existing by-laws, bad as they are, had been and were carried out, this state of things could not exist, and so annoy good citizens and detract from the value of their properties. By-laws, as laid down and carried out (or rather not carried out) by the Municipality, are a source of annoyance to the honest client or builder and a real safeguard to the jerry builder.

It is a peculiar fact that when proper plans are submitted to the local authority they are severely criticised (as they should be), but plans submitted on any old scrap of paper and so badly drawn and detailed that it is impossible to see their intention, are passed without comment. The truth of this can be verified by an inspection of the plans already passed.

Another most astounding fact is that according to the by-laws the occupation of new building is not permitted until they have been examined and finally passed by a representative of the local authority, who should give a certificate to the effect that the building is in accordance with the by-laws and used for the purpose it was originally intended. I have been in Boksburg for the last 15 years and I have not yet seen this most necessary certificate.

A programme on the lines I have endeavoured to set out would not be expensive, in fact the saving effected on the making of the narrow streets and the consequent saving in upkeep would more than cover the cost of developing open spaces, etc., as suggested. I would further suggest that priority in improvements be given to townships strictly in order of their rate-paying age.

I am afraid I have taken up more than my alloted space, and there is still much more I would like to say, but at a future date I would like to be allowed to place before you the benefits of a Dean of Guild Court in respect to by-laws and Municipal Government generally.


RAVENSWOOD
BOKSBURG NORTH
ALEXANDER PARK
CENTRAL PARK
EAST PARK
BOKSBURG MUNICIPALITY LOCATION No. 2
PLAN of BOKSBURG MUNICIPALITY
PROPOSED MAIN ROADS SHEWN THUS
MAIN REEF ROAD
MAIN REEF ROAD (TO BENONI)
GOVT SCHOOL SITE
CINDERELLA PRISON SITE
MUNICIPAL SITE
VOGELFONTEIN
PLUMTATAH
HOSPITAL GROUND
NORMAL COLLEGE SITE
CATCH PITS
BOKSBURG EAST STATION
BOKSBURG STATION
EAST RAND STATION
TO GERMISTON
TRAMWAY WORKSHOPS SITE
BOKSBURG LAKE
MARKET SQUARE
BOKSBURG
MARKET STREET
LEEUW POORT STREET
CONVENT SCHOOL
DOMINICAN SISTERS
POUND
KRAAL
SCHOOL SITE
SPORTS GROUND
GAOL
TO BENONI

Krugersdorp and District War Memorial.



In the design of this Memorial the Architect has —with the limited funds at his disposal— endeavoured to create something which may be worthy of those great lives and deed it is intended to commemorate, a true reflection of the spirit in which the men of Krugersdorp went forth at their country's call, and made the Supreme Sacrifice.

No pomp or ceremony marked their going. Truth, loyalty and devotion impelled them, therefore should they be remembered, not by any flamboyant monument, but rather by somthing incorporating simplicity with dignity, beauty, with restraint—something which should make eloquent appeal to all who pass by, irrespective of colour, race, or creed. These were the dominating factors in the evolution of this design, and it is hoped that they are echoed in the Memorial.

The returned sword and laurel wreath are symbolical of Peace and Victory; the Urn surmounting the Memorial is a symbol of sacred memory.

The names of the fallen are incised on the six tablets on the North, East, and West sides; the Inscription and Foundation Stone (laid by the late Sir Japie van Deventer) being on the South, bacing Commissioner Street.

Gardens are at present being laid out, flanking the Memorial on the East and West sides in front of the Town Hall.

The Memorial, which was erected by public subscription, and was recently unveiled by Sir Abe Bailey, Bart., is built entirely of Elands River stone.

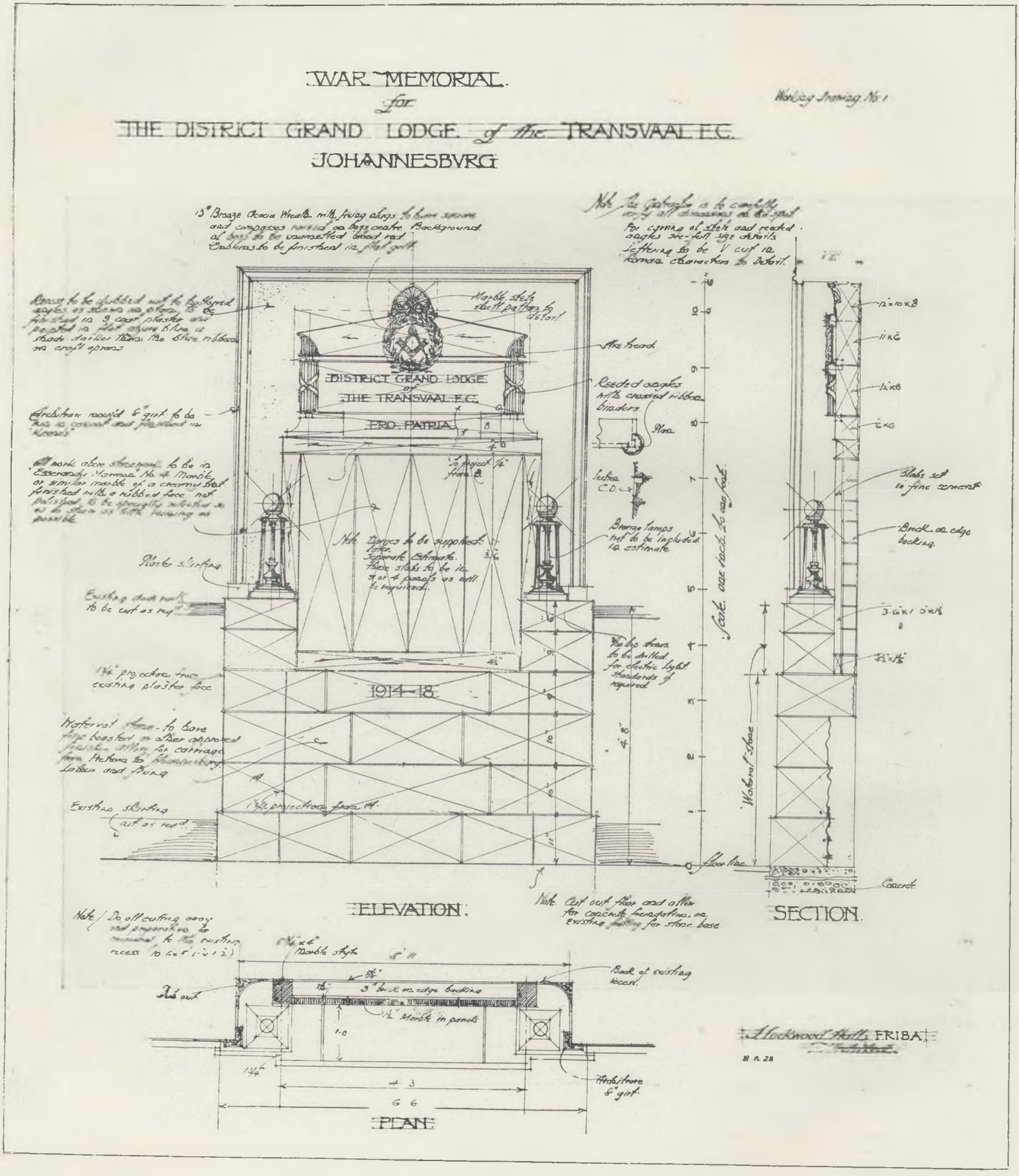
The above design, by H. W. Spicer, Architect, Johannesburg, was the first premiated one in an open competition.



Revedos for St. George's Church, Pietermaritzburg.—Designed and Painted by O. J. P. OXLEY, A.R.C.A.



Panoramic View of Square, Pretoria.

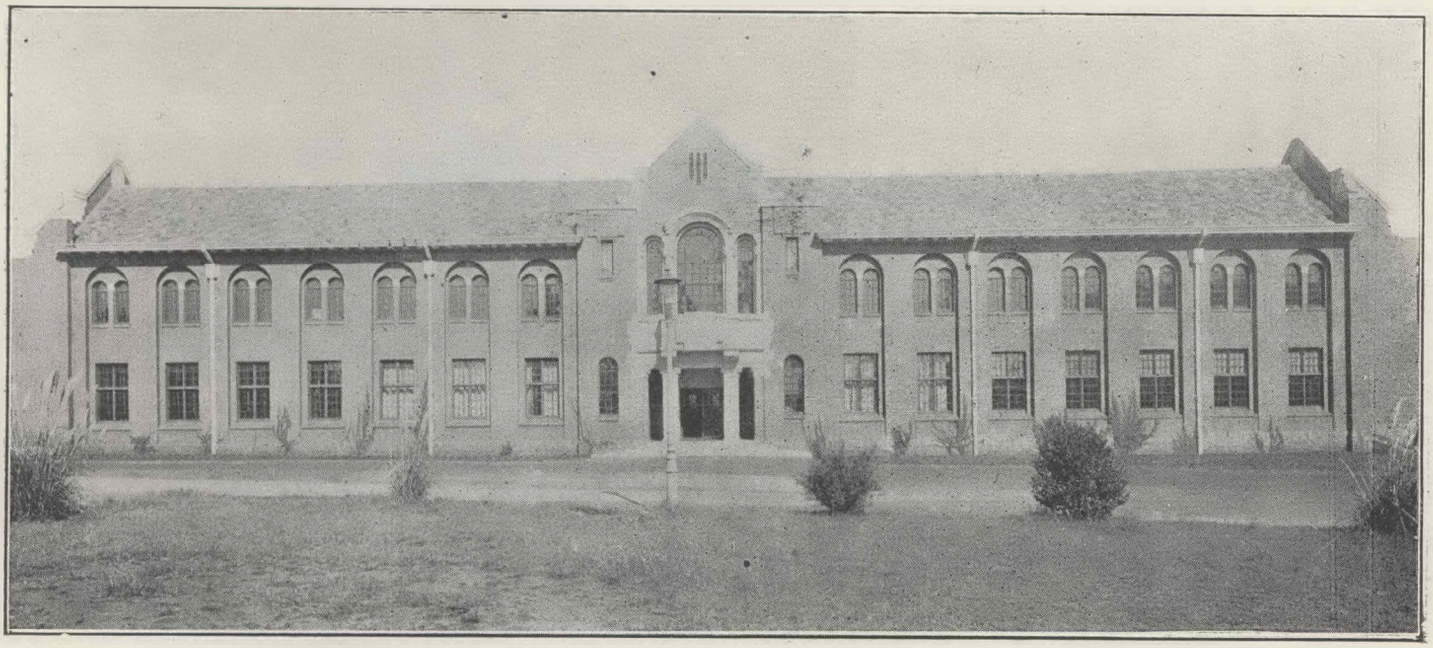

WAR MEMORIAL
for
THE DISTRICT GRAND LODGE of the TRANSVAAL E.C.
JOHANNESBURG
Working Drawing No 1
DISTRICT GRAND LODGE
of
THE TRANSVAAL E.C.
PRO PATRIA
1914-18
ELEVATION
SECTION
PLAN
Hockwood Hall F.R.I.B.A.
8.8.28

Germiston Police Barracks.



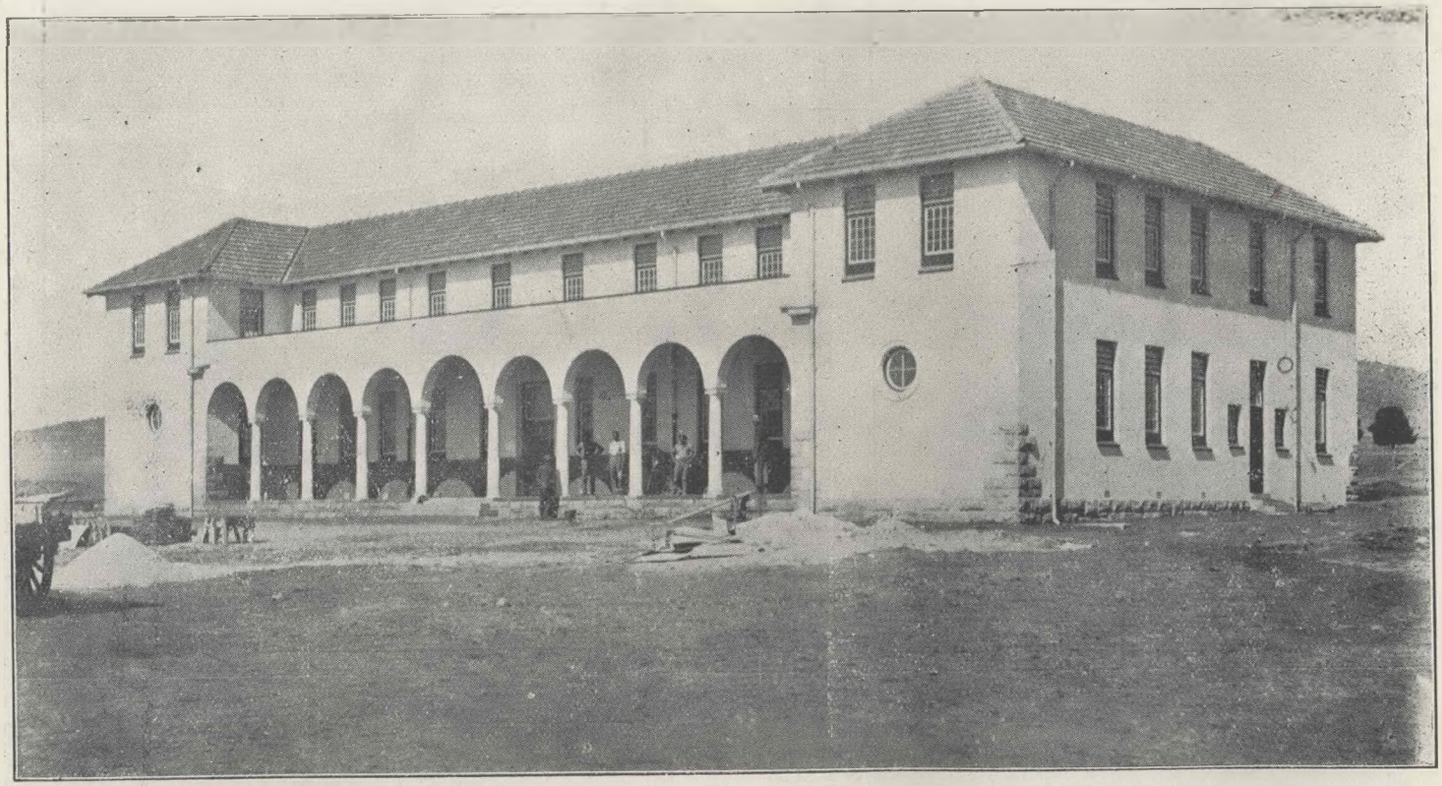
This building was recently completed and forms a considerable addition to the Public Buildings of Germiston, being situated in the same main street as and near the Court House and Municipal Offices It was designed and supervised by the P.W.D. and erected by Mr. E. Stuart of Germiston.

Girls' High School, Johannesburg, Barnato Park.



This building was designed and erected under the supervision of the P.W D. by Mr. Thos. Clark in 1913, is a pleasant example of official architecture.

Hostel for 100 Boys at Houtpoort Reformatory.



This building was designed to facilitate a new form of treatment of juvenile offenders, giving greater freedom than the ordinary prison but less than the Industrial School Cottage Home.

It faces the main Natal railway line and is the first of a new scheme of buildings for the Institution.

The P.W.D. are responsible for the design and supervision, and the building was erected by Mr. J. H, Dickenson of Vereeniging.

A Study for a Station of the Cross.

From a Drawing by Frank Brangwyn, R.A.



In the article which accompanies this set of the Stations of the Cross the writer describes Mr. Brangwyn's reasons for putting the figures of his pictures into modern clothes. In this drawing it will be seen that the figures following Christ are British soldiers, while the crowd sketched in the background includes a workman with a bag of tools, more soldiers, and a man in a silk hat. Above the drawing are two little thumb-nail sketches which are interesting as displaying the evolution of the composition.

Mr. Frank Brangwyn's Stations of the Cross for the New Leper Settlement Church, Pretoria.

By CROSSLEY DAVIES

Mr. Frank Brangwyn, R.A., has just completed and given to the Roman Catholic Church at a Leper Settlement near Pretoria, South Africa, a set of Stations of the Cross. By courtesy of the artist some of the studies and the finished panels are reproduced here.

The church for which they have been designed has an interesting history. Father Ryan, of Pretoria, the priest in charge of the Roman Catholic lepers, some years ago set out to provide them with a church He had no money and no material. But the building stands to-day, a memorial to the patience, courage, and vision of one man and to the sympathy of other men in many parts of the world for the world's most pitiful outcasts. Father Ryan wrote to all sorts of famous people, hoping to enlist their interest and support. One of the first to help him was General Botha who did all he could in every way.

The church has been built wholly from gifts. The devoted priest spent years in the prosecution of his world-wide appeal. And now there are few buildings more truly international than this house of worship erected by lepers. Bricks, mortar, timber, even nails —all the materials he needed were sedulously collected by Father Ryan. Australia, the United States, Canada, England, Italy, all sent contributions. Among the gifts is a big window from the well-known glass-painter, Hardmuth, of Birmingham. Another man gave him an organ.

The building, which is Romanesque in style, was designed by the priest himself. When the building was finished Father Ryan began to plan for its ornamentation. Among the artists he approached was Mr. Brangwyn. He was asked to give one Station of the Cross. Mr. Brangwyn offered to paint the whole fourteen, as he felt that it would be better that one man should do this and so secure harmony of treatment. The result is this series.

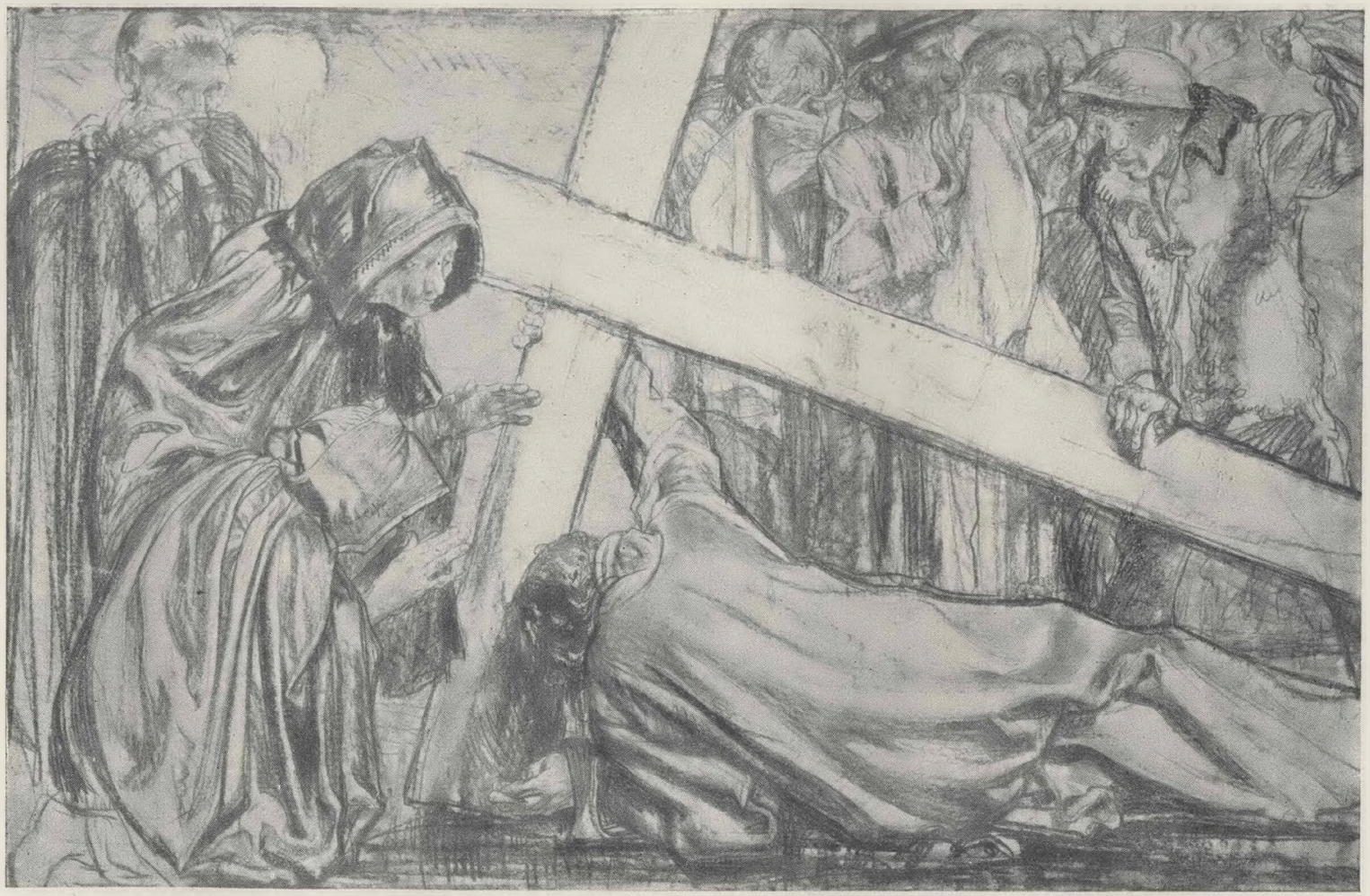


TEMPERA PANEL BY FRANK BRANGWYN, R.A.

They are painted in tempera on panels about 3 ft.

A Study for a Station of the Cross.

From a Drawing by Frank Brangwyn, R.A.



This set of Stations of the Cross has only just been completed by Mr. Brangwyn. The finished panels are now being shipped across to South Africa, and are to be erected in the Roman Catholic Church at a leper settlement near Pretoria. The drawing shows Christ fallen under the weight of the cross. On the right-hand side a soldier in a tin hat and sheep-skin coat endeavours to strike him. This is a piece of symbolism which is strictly traditional.

by 4 ft. The designs are by Mr. Brangwyn, but the actual work of reproducing them has been done by other hands. Simple and light in tone, to accord with the simple and light interior, the treatment of the subjects is also severely simple. The artist had in mind the fact that the congregation is made up mostly of Africans, to whom the direct would appeal for more than the subtle. It is Mr. Brangwyn's view that the Stations of the Cross are not fit matter for artistic experiments. Their purpose is to remind worshippers of the Way of Calvary, which the Founder of their Faith trod two thousand years ago. They are in their essence illustrations of historic fact. And to depart from tradition in their presentation would be to defeat the very purpose for which they were designed.



TEMPERA PANEL BY FRANK BRANGWYN, R.A.

Yet a casual glance at the details of some of the panels would suggest a startling departure from the truth. There are here figures of British "Tommies" in steel hats and British labourers in corduroys and shirts. There are men in caps, a workman carries a carpenter's bag, and at least one figure is crowned with an unmistakable silk hat. The women as a rule are not so obviously modern, but there is at least one who is wearing a twentieth-century be-ribboned bit of millinery.

Nevertheless, all this is in strict line of tradition. In bringing into the scenes of Christ's Passion and Death the men and women of to-day, Mr. Brangwyn follows the old Italian masters. Almost all the great religious paintings of the Middle Ages, inspired and commissioned by the Church, represents the Holy Family and the people of their days as Italians in mediaeval costumes. The most famous Madonnas are certaingly Italian women. The Christ child is not a Jewish baby, but a chubby Roman or Tuscan. There is good reason for this seeming denial of historic fact. It was not a freak of art. It may have been that Italian models and Italian robes pleased the artists best. Yet there is behind the tradition a better justification than this. All artists down the ages have striven to make Christ universal, the ideal man representing all men, and not just a Jewish Messiah. So into the Gospel scenes they have tried to bring the suggestion of the eternal truths of religion. In other words, their aim has been not so much to give a faithfully accurate version of a great event, as to present the spiritual significance of a sacrifice that was and is for all time. The Gospel was as much for Gentile as for Jew. The Cross is a continuing truth and an eternal symbol. It is the essence of the Christian Faith that it is just as possible to crucify Christ to-day as it was when the Jews reviled Him on Calvary. The Crucifixion is not over, but is ever recurring, from day to day and from generation to generation. So the artist puts the men and women of his own time on the canvas to symbolize this phase of the Faith. The historic truth is one thing, the spiritual



THE PRELIMINARY STUDY.



THE FINISHED PANEL.

A STATION OF THE CROSS. BY FRANK BRANGWYN, R.A.

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