(Re-)Uses of Historical Knowledge in Architectural Education: Professional Practice and Professional Business Management

Cameron Moore
Milica Mađanović
Renata Jadresin-Milic

Introduction to the Gummer and Ford Project

Gummer and Ford was an architectural firm founded in 1923 in Auckland by William Henry Gummer (1884–1966) and Charles Reginald Ford (1880–1972).

Many of the leading lights of architectural history - Terence Hodgson, Miles Warren, Peter Shaw, John Stacpoole - agree that the firm can be considered one of the most prominent practices in New Zealand architectural history.

Charismatic and influential, Gummer and Ford played an essential role in the professionalisation of New Zealand architecture, founded earthquake construction techniques, and contributed to the development of the country's institutionalised architectural education. They were both passionate about developing a "type of design which seems to be expressly influenced by New Zealand conditions."

Despite all this, the firm remains strikingly under-researched in New Zealand architectural historiography, aside from mentions in New Zealand architectural history surveys, the only credible scholarly work has been an exhibition of their work in 2006 at The University of Auckland's Gus Fisher Gallery, and a Master's Thesis by Bruce Petry published in 1992

Winter Gardens, Auckland 1016 - 1929

Remuera Library, Auckland 1926

Dilworth Building, Auckland 1926

Auckland Railway Station, Auckland 1927

Mayfair Flats, Auckland 1929

Carillion, Wellington, 1932

National Museum, Wellington, 1936

State Insurance Building, Wellington, 1938

Gummer and Ford Project

The Gummer and Ford project is a three-year project (2021-2023), comprising three stages:

- Investigation (2021)
- Application & Education (2022)
- Celebration & Community (2023 –the centenary of the establishment of Gummer and Ford).

The first phase of the project – the Investigation – has been executed in 2021, exploring design principles and method by William Gummer and business ideas by Reginald Ford.

The main research question of the first phase was what theoretical ideas and attitudes informed Gummer and Ford approach to architectural practice?

Gummer and Ford Project

The Gummer and Ford project is a three-year project (2021-2023), comprising three stages:

- Investigation (2021)
- Application & Education (2022)
- Celebration & Community (2023 –the centenary of the establishment of Gummer and Ford).

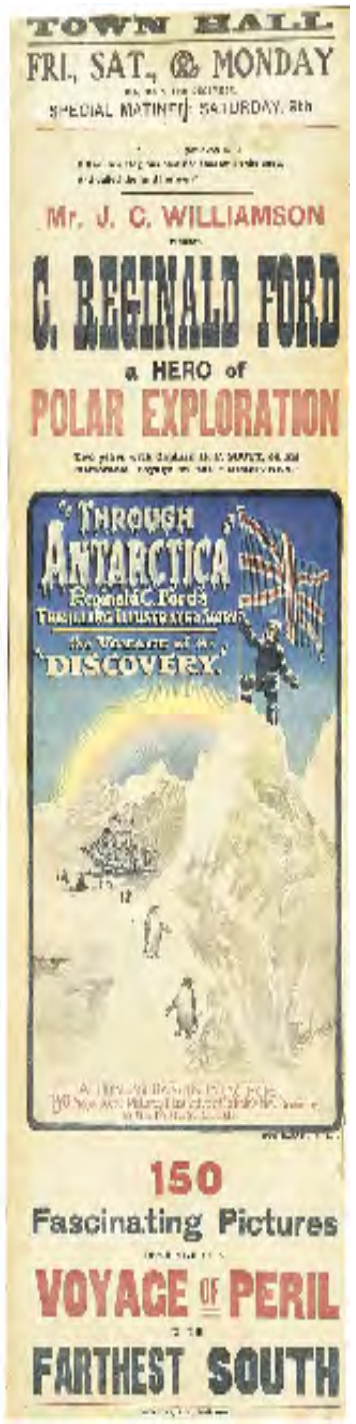
The first phase of the project – the Investigation – has been executed in 2021, exploring design principles and method by William Gummer and **business ideas by Reginald Ford.**

The main research question of the first phase was what theoretical ideas and attitudes informed Gummer and Ford approach to architectural practice?

CHARLES REGINALD FORD

- Born 4 February 1880.
- He joined the Royal Navy aged 14
- In 1901, aged 21, joined Captain Robert Scott and Ernest Shackleton on the Royal Navy's Discovery Expedition to the Antarctic.
- The voyage lasted three years (two of those spent iced-in on the ship), with Ford becoming Ship's Steward and later Captain Scott's private secretary.
- At 21, one of the youngest members on board, proved himself invaluable to Captain Scott.
- On the eventual return to England there was considerable public enthusiasm for the expedition. This led Scott, accompanied by Ford, on a speaking tour of the UK, Canada, Australia, and New Zealand.
- After this he embarked on a solo tour of Australia for the theatre and production company JC Williamson Ltd billed as a 'Hero of Polar Exploration'

Paintings by Ford on the voyage, auctioned at Lady, Scott & Knight. Fine Art & Antiques - Lot 879



CHARLES REGINALD FORD

- As Peter Wood points out, Ford was a bonafide celebrity and his decision to move to New Zealand was treated as national news
- Settled in Christchurch became a farmer, and later a land agent, whilst studying engineering and architecture
- Moved to Whanganui to practice architecture
- Went into partnership with Robert Talboys 1919.
- President of the NZIA 1921
- Moved to Auckland 1922
- Wrote the first book about Earthquake construction in English in 1926
- Until his retirement in 1962 was seen as a paragon of architectural establishment in New Zealand

Two cartoons painted by A. R. D. Fairburn in 1935 and given to his friend Vernon Brown. Their satire is directed at C. R. Ford (of Gummer & Ford) who, in Fairburn's and Brown's eyes, represented an architectural establishment which disapproved of Brown's 'chicken coops'. The second cartoon, entitled When Reginald met God, *shows Ford shaking hands with the deity.*

Is there room for the professional practice strand in Unitec's School of Architecture to be informed by a historical viewpoint on professional conduct?

Learning Outcomes for Professional Studies:

- Analyse the structure of architectural practice.
- Demonstrate the use of available management tools and processes in the control and administration of architectural projects.
- Analyse procurement typology options; the impact on project programme and documentation requirements.
- Discuss the New Zealand legal system and its concepts related to the practice of architecture.
- Examine the rights and obligations of parties to a contract under New Zealand contract law.

Learning Outcomes for Professional Business Management:

- Critically examine business strategies including strategic and marketing plans, business taxation strategy, quality management strategies and Total Quality Management.
- Devise a strategic plan, with budgets, for a business opportunity.
- Devise a marketing plan for a business opportunity.
- Evaluate various management styles.
- Evaluate management and accounting systems and interpret company financial reports.
- Critically examine and debate business ethics.

Currently, the learning outcomes of each course in the strand are developed in response to predetermined competencies set by the New Zealand Registered Architects Board (NZRAB) and the Architects Accreditation Council of Australia (AACA). Reviews conducted by the NZRAB and AACA Panel assess compliance with predetermined competencies every five years. The agreed competencies underpin the requirements of the Architecture Programme's aims and graduate profile in order for the programme to be formally accredited as a school of architecture.

The Professional Practice strand is key for accreditation by the New Zealand Registered Architects Board as licensed by the Architects Accreditation Council of Australia. In essence, these learning outcomes are set and legitimised by the accreditation process.

So where does this leave the notion of learning from historical precedent in the professional practice strand?

ARCHITECT AND CLIENT (1921)

Ford wrote a series of articles titled 'Architect and Client,' published in *Progress*, the leading architectural magazine of the time, from July – September 1921. One-hundred years ago. He wrote the articles because he wished

"that there were some book explaining the ordinary building procedure in New Zealand, the relations between architect and client, to which he [the architect] might refer an owner about to engage in some building operation for the first time." …

"that not only much loss of time, but subsequent misunderstanding and annoyance might be avoided were such a work available for ready reference."

To do this he first describes **what an architect was**, quoting the American Institute of Architects:

"An architect is a professional person whose occupation consists of originating and supplying artistic and scientific data preliminary to and in connection with the construction of buildings, their appurtenances and decorations; in supervising the operations of contractors therefor; and in preparing contracts between the proprietors and contractors thereof."

He then goes on to explain **how an architect works**:

"After receiving instructions from the client, the architect's first step is the preparation of preliminary drawings for the purpose of consideration and discussion of the project with the client. The preliminary drawings having been approved by the client, the architect next proceeds to prepare the "from working drawings," that is, those drawings which the contractor makes up his tender and from which, supplemented by other detail drawings, the building is erected."

Having completed the plans and specifications, the architect still has the important work of supervising the erection of the building. Ford stressed that this was primarily the contractor's responsibility; however, architects ought to try and give their best to help guide the contractor towards success.

The **responsibility of the client** is his next topic where is implores the client to remember that he is entering a *business* relationship with the architect. This entails paying on time, being reasonable with demands and honest at all times. He also advises the client to seek counsel from the architect in relation to builder's tenders, not simply opt for the lowest cost, and to respect the architectural process by "not criticising the working drawings when insufficient attention was paid to the preliminary studies"

In the final instalment Ford explains the primary motivation behind architectural design, and relates this to the value of hiring an architect.

He quotes Professor Lethaby from memory by defining architecture as

"building touched by emotion… In other words, building provides for physical needs only; architecture, on the other hand, while providing equally well for the physical needs, satisfies the needs of the spirit."

For Ford, "the craving for beauty as a spiritual activity cannot be denied. That beauty in building can evoke the spiritual emotions and minister to the spiritual side of life, many glorious temples and cathedrals have testified throughout the centuries. But temples and cathedrals no longer form the main building activities of whole peoples. To-day schools, libraries, hospitals, post-offices, factories, and other utilitarian or altruistic buildings are taking their place in common life… All these buildings touch the common life of people at every point – surely they should be made to minister to their spiritual and not alone to satisfy their physical needs?

“A readiness to make some sacrifice for the attainment of beauty, too, will be an inspiration, for beauty is rarely cheap or easy of attainment. A willingness to be guided by the architect in this, the aesthetic side of the problem, will, as in that of the practical, be wholly to the client's benefit.”

Learning Outcomes for Professional Studies:

- Analyse the structure of architectural practice.
- Demonstrate the use of available management tools and processes in the control and administration of architectural projects.
- Analyse procurement typology options; the impact on project programme and documentation requirements.
- Discuss the New Zealand legal system and its concepts related to the practice of architecture.
- Examine the rights and obligations of parties to a contract under New Zealand contract law.

Learning Outcomes for Professional Business Management:

- Critically examine business strategies including strategic and marketing plans, business taxation strategy, quality management strategies and Total Quality Management.
- Devise a strategic plan, with budgets, for a business opportunity.
- Devise a marketing plan for a business opportunity.
- Evaluate various management styles.
- Evaluate management and accounting systems and interpret company financial reports.
- Critically examine and debate business ethics.

So, Is there room for the professional practice strand in Unitec's School of Architecture to be informed by a historical viewpoint on professional conduct?

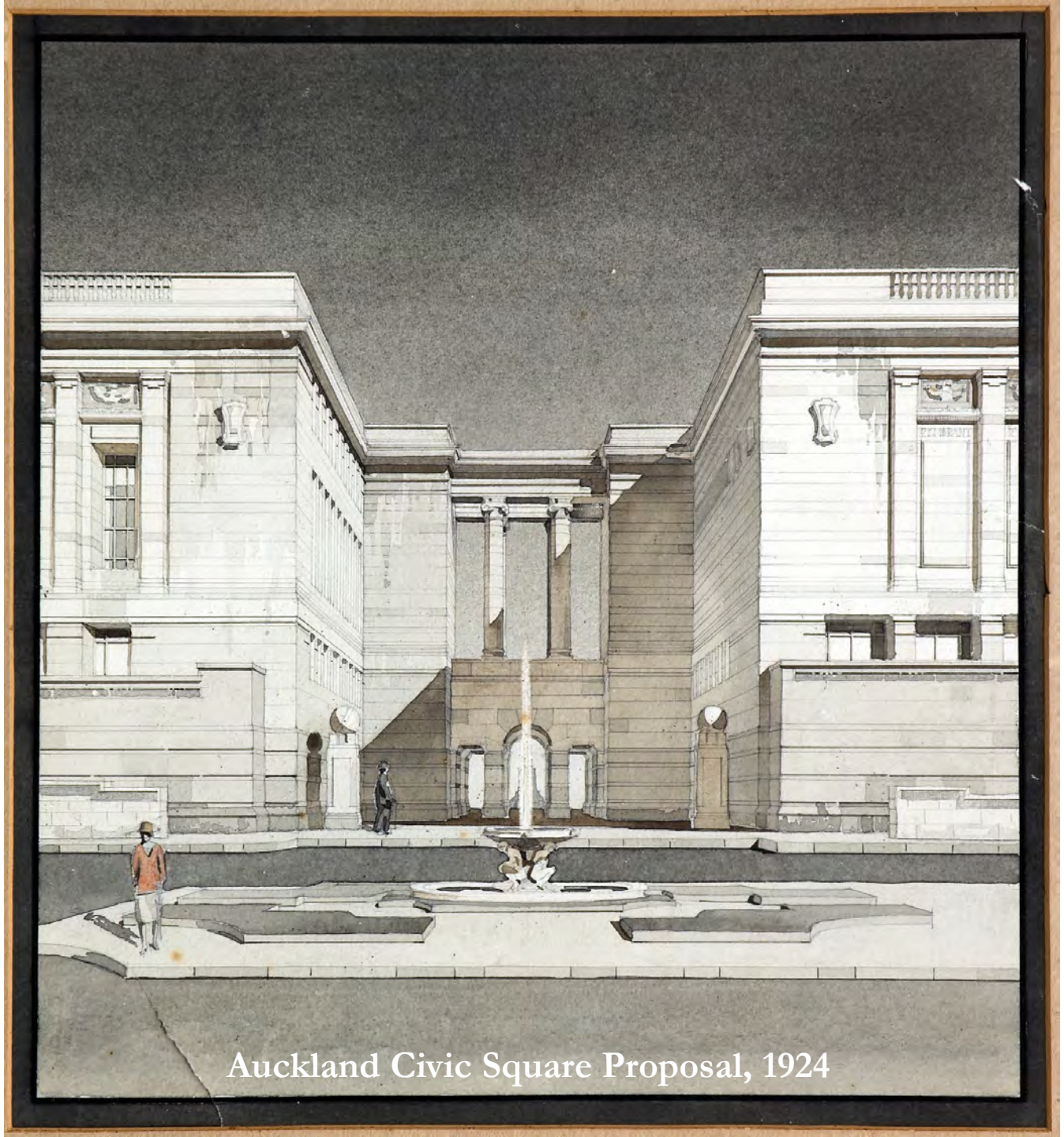
So, Is there room for the professional practice strand in Unitec's School of Architecture to be informed by a historical viewpoint on professional conduct?

Yes, there is room to:

1. **Explicitly acknowledge the role of the client in the architectural/construction process**

2. **Explicitly promote the importance of communication with the client** "that there were some book explaining the ordinary building procedure in New Zealand, the relations between architect and client, to which he [the architect] might refer an owner about to engage in some building operation for the first time. That not only much loss of time, but subsequent misunderstanding and annoyance might be avoided were such a work available for ready reference."

3. Explicitly discuss the value of architecture and what this is worth to the client
"A readiness to make some sacrifice for the attainment of beauty, too, will be an inspiration, for beauty is rarely cheap or easy of attainment. A willingness to be guided by the architect in this, the aesthetic side of the problem, will, as in that of the practical, be wholly to the client's benefit."



Auckland Civic Square Proposal, 1924

VOL. XVI. No. 12, MONTHLY. [*Registered as a Newspaper.*]

N.Z. BUILDING PROGRESS

Imported Bungalows.

Mr. James Bennie, architect, of Wellington, is importing a complete bungalow of a type popular in the United States. The house is on the bungalow plan, with a nice entrance porch, opening into a large living room, which can be made still larger by the utilisation of folding doors. The house, suitable for erection on a 40ft. by 100ft. section, is built of Californian redwood weatherboarding, lined throughout with Oregon pine. The house, in sections, is now on the water, and, when it reaches Wellington, will be erected at Island Bay.

Architect and Client.

By C. Reginald Ford, F.N.Z.I.A.

Introduction.

In the course of the practice of his profession the writer has often wished that there were some book explaining the ordinary building procedure in New Zealand, the relations between architect and client, to which he might refer an owner about to engage in some building operation for the first time. He has often felt that not only much loss of time, but subsequent misunderstanding and annoyance might be avoided were such a work available for ready reference.

A few years since an English architect, Mr. F. Inigo Thomas, published such a book—"Keystones of Building"—but this work, although valuable, refers to English practice and contains a great deal which would only serve to confuse the New Zealand reader, our conditions being in many respects so different. Mr. C. Matlack Price—the American critic whose essays upon the appreciation of architecture have laid the profession under a debt to him—has a full chapter devoted to the relations between architect and client in his excellent, but (in New Zealand) expensive, work, "The Practical Book of Architecture." But here again it is written for other conditions than ours and, too, the book is not one likely to be readily available. The writer feels that what is required is an account of the functions and duties of the architect and the reciprocal duties of the client in such a form that it can be read with a minimum expenditure of time and also be readily available to everyone at the outset of his career as a building owner. What follows is an attempt to supply this need.

It has been suggested to the writer that it is perhaps unwise to enlighten the owner or prospective client too much as to the responsibilities and, perhaps, pitfalls, ahead of him—that in this case some clients will remain in prospect only. This suggestion hardly seems worth serious rebuttal. It is always the unknown that terrifies. The writer ventures to believe that if there is a clear understanding at the outset between client and architect as to their respective functions and duties, a building operation of even large magnitude may be conducted with as little trouble and with the same assurance of satisfaction to the parties concerned as any other ordinary business transaction.

A reference to one other point seems appropriate here. It may appear in what follows that the writer is making large claims for his profession and that he regards all its members as paragons of professional skill and knowledge. The writer believes, however, that he has under- rather than over-estimated the wide range of knowledge and service required of an architect to-day. That there are wide differences in both the character and qualifications in the members of the architectural as of all other professions is obvious. Nevertheless if the client selects his architect with the same care as he would his doctor or lawyer and then treats him with equal frankness and confidence he will, in the great majority of instances, have no cause of complaint as to the value of services rendered.

What is an Architect?

The very best method of making clear to the layman the principal functions performed by the architect of to-day would be to trace the history of his evolution from the leading craftsman of very early times, the artist-architect of the Renaissance, and the artisan-architect and the "surveyor" of later periods. But time forbids. The best we can do is to find some definition of the term "architect" as understood to-day and to give a brief outline of the services performed by a worthy bearer of the honourable designation. The best definition of which the writer is aware is that given by the American Institute of Architects:—"An architect is a professional person whose occupation consists of originating and supplying artistic and scientific data preliminary to and in connection with the construction of buildings, their appurtenances and decorations; in supervising the operations of contractors therefor; and in preparing contracts between the proprietors and contractors thereof."

Architecture is at once a science and art, and its practice a profession. Every building project in which an architect is engaged involves the exercise of his functions as artist, craftsman, man of science, and both professional and business man. He has to engage in correspondence; interview clients, contractors, and various agents and suppliers of building materials; evolve schemes for many and varied planning problems; develop these problems in both scientific and artistic aspects; compute and design footings and sustaining powers; compute and design supporting columns, beams, etc.; investigate and select materials of construction; manage an office; prepare working drawings in detail and write specifications; estimate costs; design sanitary, heating and ventilating systems; arrange for bell and telephone wiring; design ornament and embellishment; draw up contracts; check accounts; superintend construction. This is surely a formidable list, yet it is far from complete.

In what follows the architect's procedure with regard to drawings is fairly fully summarised, but it must be emphasised that the drawings are but the material representation of ideas. It is the trained skill, knowledge and taste involved in the formation of these ideas that matter. "No architect of any large practice can execute all the working drawings which bear his name, and yet it is by these and his sketches that he is often judged by the public, which seemingly cannot understand that such work is the most easily relegated of his duties—that an architect can only be properly estimated by his buildings."

How an Architect Works.

After receiving instructions from the client the architect's first step is the preparation of preliminary drawings for the purpose of consideration and discussion of the project with the client. These preliminary studies have been called in the past "sketch plans," but this term has been found to create a false impression in the mind of the layman and its use is likely to be abandoned by the profession in the future. The architect's preliminary study is not something hurriedly dashed off in a few minutes. It is a drawing done to scale, usually in pencil, and perhaps tinted to render the understanding of it more clear to the owner. What is shown depends upon the size of the project. In the case of a house the drawing will usually be contained upon one sheet and comprise a plan of each floor and one elevation of the principal front, or, perhaps, a perspective view. The "scale" to which the drawing will be done will vary, but it is usually 1/16th or 1/8th inch, viz.: each foot in length of the building will be represented on the drawing by a line 1/16th or 1/8th inch long. These preliminary drawings, however nicely prepared they may be by the architect for presentation to his client, rarely convey to the latter the thought and study which have been devoted to their production. The drawing cannot show the time which has been bestowed, for instance, upon the arrangement of a staircase in a space necessarily very limited owing to conditions of cost. It cannot show the many hours spent in an effort to effect a workable compromise between many conflicting requirements set out by the client. This one finished sheet showing an apparently simple arrangement of lines, may, and probably does, represent a dozen or more drawings brought to a stage nearing completion and then destroyed.

The preliminary drawings having been approved by the client, the architect next proceeds to prepare the "working drawings," that is, those drawings from which the contractor makes up his tender and from which, supplemented by other "detail" drawings, the building is erected. In New Zealand the working drawings are usually to a scale of $\frac{1}{8}$th inch, and the "detail" drawings to a scale of $\frac{3}{4}$-inch and $1\frac{1}{2}$ inches to the foot. In the working drawings one plan is given of each floor of the proposed building, a geometrical drawing of each front of the building, usually denominated as "front," "side" or "back elevation," at least one "section" through the building, and, according to its size, roof, foundation and other plans. Various details of the building, such as cupboards, mantelpieces, staircases, etc., impossible to show with the necessary exactness in the small scale drawings, are shown to a larger scale.

These working drawings differ in several respects from the preliminary drawings. They are usually drawn in Indian ink upon a thin, semi-transparent linen. These drawings never leave the architect's office, but from them blue prints are made by a process of printing in sunlight in a manner similar to that by which ordinary photographic prints are produced from glass or film negatives. These blue prints are lent to the contractor for use in the actual work of erecting the building. The drawings are fully dimensioned, are "hatched" in varying ways or tinted to denote different materials, and usually have many explanatory notes upon them. Custom varies as to the amount of detail drawing prepared by the architect as a part of the contract drawings, that is, those working drawings which are prepared before tenders are called and which form part of the contract. The writer has found in his practice that to do justice to both owner and contractor it is quite essential to prepare a large amount of detail at this stage. Whilst the building is in course of erection further detail drawings become necessary. Here again the practice of architects varies as to the number of these drawings supplied to the contractor. An architect who takes a pride in his work will often re-draw many of the original details simply for his own satisfaction. Perhaps in the actual structure some increase of a few inches has come about in the width of a recess for which he has designed some fitting. He will not trust the workmen to make the necessary adjustment, although this could, in all probability, be done with perfect safety as far as the average client could ever perceive, but he knows as an artist that an inch will make all the difference and he prefers to have his work at least as perfect as his knowledge permits. The working drawings, too, are prepared without sufficient time for that full consideration over points of design which the artist in the architect would desire. As the building takes shape the architect, considering some feature, finds that he can improve upon his original design in some respect, and another detail is drawn. It must be remembered that this kind of thing is not "in the bond" and is not paid for. These detail drawings, whether those which formed part of the contract set, some of these re-drawn, or new ones prepared as the work proceeds, are further supplemented by "full size" details. These show the profiles of moulding and other features at identically the same size as the work is to be executed, and form an important part of the architect's service to his client; indeed, the merit of a building as a piece of design depends very largely upon

them. The preparation of the full-sized details for a public building such as a library, town hall, or museum, entails an enormous amount of labour upon the architect, a labour upon which the layman naturally has never paused to consider.

In all classes of building the actual labour involved in the preparation of the plans which the client sees only represents a portion of the work which has been performed by the architect, apart from the hours of thought and study, drawing and re-drawing, already referred to above. In some cases he will have filled very many pages, possibly several books, with calculations necessary to ensure the stability of the building. The results only of this latter work show upon the drawings as a series of—to the uninitiated—simple divisions of spaces into rectangles and some notes, such as "4—1in. rods," "2—12in. x 6in. R.S.J.'s," or "6—$\frac{3}{4}$in. rivets," etc. It is the knowledge of this which makes the architect so impatient when some uninformed person, disputing payment of a reasonable fee, says that some plan could have been drawn in a week. Perhaps it might—*but after a month's work.*

The drawings are, however, not complete in themselves. They are explained by a document—more or less lengthy according to the size of the project—known as the "specification." The specification is one of the most important instruments in the whole transaction of building. It sets forth under the various trades the work which is to be performed and the materials which are to be provided. It supplements the drawings and describes clearly what cannot be shown on them. The writing of a specification which will insure the building being carried out in accordance with the design and the intentions of the architect, is a work requiring considerable skill and a full knowledge of materials and of the various building crafts. It requires, too, the expenditure upon the part of the architect of many hours of labour.

The plans and specifications complete, the architect still has the important work of supervising the erection of the building, although, as has been implied by the foregoing, the work of supervision involves the preparation of some detail drawings. How much supervision can be required by the client? Take a house costing, say, £2,000. For a work of this size the architect will receive as his whole fee the sum of £130. The house will require some six months to complete. It at once becomes clear that it is impossible for the architect to give his whole time, or anything like his whole time, to the supervision of this one work. How much of his time then can reasonably be demanded? The architect is the best judge of that. Obviously this will vary according to many differing conditions, and circumstances. The architect should, and usually does, spare no effort to guard the client against defects and deficiencies in the work of contractors, but it must be remembered that the amount of supervision which the architect can reasonably be called upon to render cannot always and in every case act as a perfect and absolute safeguard. During the intervals between the visits of the architect an honest contractor may make a mistake difficult to rectify without, perhaps, serious delay to the work to which the owner cannot agree; or a dishonest contractor may of deliberate intent do some defective work, or build in some faulty material, and cover up the same. It may be added, however, to the credit of those engaged in the building trade that this latter is a very much rarer occurrence than is commonly supposed. The remarks of Mr. Matlack Price upon this matter of supervision are worth quoting:—"After all, it should be remembered that the architect's reputation is at stake, not only in the design of the house, for which he is directly responsible, but for the contractor's part of the work, for which he is indirectly responsible. It stands to reason, therefore, that the architect will not wittingly allow a contractor to erect a monument which will reflect upon his professional ability, and much of the client's apprehension regarding insufficient supervision may well be allayed by this reflection." At the same time the amount of time given by the conscientious architect to that part of his work coming under the heading of "supervision," even on a work of small size, would astonish the uninitiated. There are innumerable matters, small and large, referred to him for his determination. Not only do these entail visits to the building, and to the contractor's workshops where certain portions of the work are being made, but various tradesmen engaged upon the building are constantly in and out of his office asking for instructions upon many matters of detail. For all large works the employment of a clerk of works is very advisable. For some classes of work, for example, that in which reinforced concrete forms a part of the construction, his employment is absolutely essential in the interests of safety alone. In every case he acts as a check upon a possibly dishonest or incompetent contractor, or dishonest or careless workmen, and conserves the interest of the owner throughout. It must not be imagined that the clerk of works replaces the architect or renders the latter's supervision unnecessary. The services of the designer of the work is vitally necessary throughout. He still must visit the building and exercise general supervision; from his office must still come the necessary detail drawings; his advice must still be sought—how often one unacquainted with the work of erecting a building cannot imagine. It is he alone who can decide, for instance, if certain steel rods or joists are unobtainable what other may be used in their place. If the owner desires to make some change it is the architect alone who can decide what other consequential changes are necessary for the safety of the structure or to conserve the design. His is still the responsibility.

(To be Continued.)

closely akin to the great mother art, then it stands as a necessary corollary that architecture too has progressed. And if this had happened in view of the fact that the architects have drawn on traditional styles as the fount of their inspiration and very obviously profited by doing so, surely this is sufficient reason for continuing the usage of them. In America, where the value of historical precedent is fast being recognised owing to the valuable influence of both the beaux-arts and of the foremost group of American architects, McKim, Mead and White, a street in the suburb of any town furnishes sufficient evidence of what an unharmonious and ugly effect can be wrought by ill-considered attempts at originality, for all the dwellings are so totally dissimilar as to refuse to blend into a satisfying whole, and therefore when viewed in the mass produce a bewildering effect on the eye, though at the same time proving very clearly the need for a steadying, purifying influence readily to be found in the observance of the dignity, repose and harmony existing in the traditional styles.

Because to-day more is demanded of the architect, though perhaps the scope is wider, it is absolutely essential that he should have a sound basis for his designs, a practical grammar of architecture which will prevent him from committing solecisms, and enable him to erect buildings that will always be young as are those long-built structures erected in the spirit of tradition. So, let us take our place in the van of progress with our eyes turned towards virgin soil. Let us be pathbreakers with glorious traditions behind us filling us with the great spirit of achievement, shaping our actions for universal good, and fitting us for the thinking man's task of following the shining path of adventure that stretches endlessly before us.

Architect and Client.

By C. REGINALD FORD, F.N.Z.I.A.

(Continued from July issue.)

THE CLIENT'S DUTY.

It is now proposed to outline in brief some duties which the client must perform if the project is to be carried to a successful conclusion without friction.

It is of first importance that the client should realise at the outset that he is entering upon a business relationship. It is very desirable that he should be on a friendly footing with his architect, the more friendly the better, so long as both clearly recognise that as far as the proposed building and everything connected with it is concerned the relationship between them is a business one. In engaging the services of an architect the client is about to employ not only an artist to plan a building and to design its various features, but also a business man to advise upon contracts, issue certificates for the payment of sums—perhaps large sums—of money, and to do generally a large amount of detailed work involving every part of the building and its equipment.

The more business-like the architect is with the client the more is he likely to protect his interests in the business ahead. The client should not resent the architect making the matter of fees and services to be performed clear at the first interview; nor should he be surprised if the latter asks for a definite engagement in writing before commencing work. A record should be kept of arrangements and decisions made at every stage. At the outset the client should read carefully the Conditions of Engagement and Scale of Charges of the New Zealand Institute of Architects which form the basis of the architect's employment. He should note in particular whether the work which he is purposing to undertake involves any of those services for which the architect is entitled to charge a higher fee than what may be called the basic rate of 6½ per cent. upon the estimated cost of the work, and also what he will be required to pay in the event of the abandonment of the work.

The client should be entirely frank with the architect. "When a client takes a case to his lawyer, or when a doctor is called in to prescribe for illness, every possible fact and condition is presented in order that this professional service may be successful in its application to the immediate problem. Similarly, when an owner calls upon an architect to undertake the solution of a building problem it is his duty to acquaint the architect with all possible details which may affect the design and construction. . . . The architect cannot be fairly expected to know the details of every business or menage. He is expected to know how to translate these requirements into building terms."

The client should make full use of the architect's skill and knowledge throughout—he is anxious to render full service if he is permitted to do so. "Designing a building is a process of evolution. The architect's function is to work out for his client the best solution of the problem in hand. To his judgment is entrusted the consideration of a multiplicity of ideas, wishes and needs. The best eventual scheme may be quite different from the one suggested first by either owner or architect. The owner should get the benefit of his architect's mature thoughts and careful consideration of various possible solutions of the problem."

One of the first points raised between client and architect is usually, and properly, the question of the cost of the proposed building, and this question, involving as it does the matter of estimate, is of considerable importance, and is one very frequent cause of complaint against the profession. It is worth considering fairly fully.

It should be obvious, but experience shows that it is not, that any estimate based upon preliminary studies can only be a rough approximation. A little thought, however, should make it clear that this must be true. Until the working drawings are finished and the specifications written the data for a correct estimate are simply not there. Then upon

what basis is an architect's rough estimate made? It is usually by what is known as "cubing," which may be explained as follows: Every architect keeps a record of the contract prices for work executed in his office. He calculates the cubic contents of these buildings and then works out how much they cost per cubic foot and records the data thus secured. From these figures he finds, for instance, that a certain class of building, erected of certain materials in a certain manner, at a certain place at a certain time, costs, say, 2s. 6d. per cubic foot.

A building of another class, built at another place (nearer or further from the source of supplies), at another time, and of different materials in a different manner, will cost a different rate per cubic foot. So when his preliminary study for a certain job is completed, the architect will calculate the cubic contents, decide in what category it must be placed, and make his estimate. It will be realised that there will be many possibilities of miscalculation. The larger the number of buildings upon which the recorded data are obtainable, the more nearly correct the results are likely to be. Here is worth noting a comparative disability (one of many) under which architects in New Zealand labour. In obtaining his data for making cubic estimates he must rely largely, if not solely, upon works carried out in his office. There may be a very limited number—perhaps only one—of some particular class. In larger countries this is very different. There are technical journals which, month by month, record cubic cost data, systematically arranged and constantly revised, of all classes of buildings and of many separate trades. No such journal is published in New Zealand. Because of the above fact, or for other reasons, in making preliminary estimates the architect very possibly may not depend upon "cubing," but may take out rough quantities of material and labour and estimate the cost of same. Even then, however, the estimate is still subject to the drawback of incomplete data. At this stage many points regarding fittings of all sorts, questions of external and internal finish and other matters, all of which may very materially affect the price, are undecided.

Now as to the vexed question of architects' estimates in practice. The writer speaks from knowledge when he says that much of the criticism so commonly urged against architects to the effect that if a client desires a house, for instance, to cost £2,000 and tells the architect so, the plans when completed are sure to be of a house to cost from £2,500 to £3,000, is unjust. What takes place only too often is something like this: The owner calls upon an architect and says that he desires plans to be drawn for a seven-roomed house to cost £2,000. If he stopped here, that is, if he said, "£2,000 is the limit of expenditure that I can afford, and I want you to do the best you can to meet my needs within that limit," all would be well, at least in the case in the majority of architects. But, alas! this is not what usually happens. After stating the cost limit the client, however, goes on to give a schedule of requirements which must be satisfied. His wife has seen a delightful fireplace at Mrs. X's, a very fine octagonal hall of large size, panelled in oak, at the home of another friend; he himself has noticed Mr. C's separate tiled shower, also the latter's large porch with tiled floor. All of these and many other items must, with emphasis on the "must," be incorporated in the plans. What is the architect to do? He is confronted with two conflicting requirements—to which is he to conform? Frequently he tries to adopt a midway course. He endeavours to persuade his client to omit as many as possible of the most expensive features and incorporates the others in his design. When the tenders are opened the client—who would not listen to the architect in the first instance—realises that some of the expensive items which he thought he simply could not do without are really beyond his means. Then he wants them struck out of the plans. But this cannot be done without alterations, possibly of an extensive nature, and even, perhaps, involving the entire re-drawing of the plans. If the client—through whose insistance the features were embodied in the plan—were asked to pay for the re-drawing he would be horrified. So the architect proceeds, with as good a grace as may be, to make—to him—expensive alterations in the plans or to re-draw them in order to reduce the cost of the house to the client and, at the same time—and here's the rub—reduce his fees below that to which he was entitled for the plans as originally drawn!

Sometimes the owner stands firm by his schedule of requirements and takes up the position that, as the plans prepared by the architect cannot be carried out for the sum mentioned (by the owner!), then he will not proceed with the work nor will he pay the architect his fees. Then the architect is faced with the unpleasant alternative of suffering in silence or instituting legal proceedings. Of course there are occasions when the fault is the architect's—when the client was entirely reasonable, prepared to trust and listen to the architect who, through ignorance or carelessness, misled him. The writer submits, however, that the above is a fair illustration of what very frequently happens. The remedy is obvious. The owner should be entirely frank with the architect, tell him what is the absolute outside figure which he can afford, and then listen when he is told how far he can go in the satisfaction of his requirements. The fact mentioned above, however, that until the working drawings and specifications are complete any estimate can only be approximate, and also that prices change from day to day even while the plans are in process of production, must be kept in mind. It is evident that the owner should keep a reserve in hand of, say, 10 per cent. of the amount which he is prepared to spend. That is, if his outside limit is £2,000 he should tell the architect so and ask for plans to be prepared for a house to cost £1,800.

(To be Continued.)

N. Z. I. A.

Wellington Branch Competition for War Memorial.

We regret to record the fact that the Students' Competitions being held by the Wellington Branch New Zealand Institute of Architects are not receiving the support they should. Only three designs were received for the second bi-monthly competition, as follows:—A. D. Connell (with Mr. Stanley W. Fearn); B. W. Johns (with Mr. William M. Page); and W. D. Quinn (with Mr. F. E. Greenish).

Mr. J. F. Munnings, the judge, placed A. D. Connell first and B. W. Johns second. The first prize consists of books to the value of £3 3s.; second prize to the value of £1 1s. The winning design is published on page 11.

N. Z. I. A. (Invercargill Branch).

At the quarterly meeting of the Southland Branch of the New Zealand Institute of Architects, held on September 5th, the members passed a vote of congratulation to Mr. Allan C. Ford on his success in winning second prize in the Christchurch War Memorial Competition. The members considered the result a great credit to him seeing he has been in business on his own account for so short a time.

Personal.

There were seven competitors in the final test held in London for the Rome Scholarship, 1921 (offered for painting, sculpture and architecture), of whom three were New Zealanders. The result has just been made known, the successful entrant being Mr. S. Rowland Pierce. Mr. E. W. Armstrong, of Feilding, the holder of a N.Z.E.F. scholarship, comes second, and so receives the Henry Jarvis studentship, which is of the value of £250 a year and tenable for two years at the British School in Rome. Mr. Armstrong has been studying at the Architectural Association for two years, and a year ago he passed his A.R.I.B.A. examination. The awards were made by the Faculty of Architecture of the British School at Rome.

* * *

Mr. H. A. Mealand, of Auckland, is a student in London. He intends taking his exam. for A.R.I.B.A. and diploma in Town Planning subjects.

* * *

Mr. Frank Peck, F.R.I.B.A., who has been residing in Christchurch for some months past, is removing to Wellington early next month. Mr. Peck, it will be remembered, was commissioned to design the Wellington War Memorial Cathedral.

Architect and Client.

By C. REGINALD FORD, F.N.Z.I.A.

(Continued from August issue).

The architect's very effort to please the client often leads to his undoing. He knows that it is as difficult to add £200 worth of work or material to a plan already drawn as it is to take it away. He knows that the client is prepared to spend £2,000 on the house and would like to do so; that he would like to get as many of his requirements satisfied as possible. In a pardonable effort to accomplish this result the architect goes too near the mark only to find that the lowest tender reaches perhaps the sum of £2,200 or £2,300. It must not be forgotten that even with the working drawings and specifications complete contractors themselves, who are by the nature of their business more in touch with the material and labour market than the architect can possibly be, vary within fairly wide limits in their tenders. Considerable space has been given to this matter of cost and approximate estimates because it is one which so often leads to trouble and dispute.

In the case of works of larger magnitude, the question of cost is frequently the determining factor. If the proposed building cannot be erected at such a cost as will enable it to pay certain interest and other charges plus a margin of profit to the owner it obviously cannot be proceeded with. But the cost cannot be determined even within a reasonable approximation without fairly complete preliminary studies. The owner should be prepared to pay for the work involved in this as he would for other professional services, even if it is found that the work cannot be proceeded with. Both the architect and the owner should allow a fairly liberal margin to cover unforeseen items which it may be found necessary to include as the labour of preparing the working drawings and specifications proceeds.

The owner should carefully consider any drawings or specifications submitted to him. This is especially necessary in the case of the preliminary studies. It is unfair to the architect for an owner to criticise important details in the working drawings if he has not given fair consideration to the preliminary studies. It is an expensive matter to alter drawings when they are in an advanced stage, and one for which the owner may be called upon to pay. The architect will appreciate the efforts of an owner to "follow all important points brought out in working drawings and specifications as they are being developed. It is not difficult to follow these details with the architect's explanation, and the owner will be in a position to know exactly what materials, methods, equipment and details of planning will be incorporated in his building before it is constructed. By following these matters closely and visualising them in a practical manner, the owner may prevent results which are not satisfactory to him. This is an important point, as the owner is called upon to approve all working drawings and specifications, and such approval applies to every detail indicated therein."

Before the plans are completed the question of the procedure to be adopted in letting the contract will be discussed. The architect's advice should be taken upon this point. Should it be decided to call for tenders by advertisement and anyone calling himself a builder allowed to submit tenders, then it is not by any means necessarily the wisest thing in the owner's interest to accept the lowest tender. The contractor whose tender is the lowest may be approaching financial insolvency—he may be of dishonest character, or he may be an incompetent tradesman employing incompetent workmen. To accept a tender from any of these men against honest and capable contractors is unfair to the latter and unwise for the owner. It may prove indeed a case of "penny wise and many pounds foolish." Again, the lowest tenderer may be a very satisfactory man in other classes of building but without the experience or the organisation necessary for the work in question. But it may here be argued that it is just because there are dishonest and incompetent contractors that the client engages the services of an architect, and if the contractor employed does come within this category it is to the architect the client looks for protection. The writer submits, however, that this, while perhaps a common conception of the functions of an architect, is an almost wholly erroneous one. If after taking every ordinary business care (which in this case infers the asking and taking the architect's advice on the matter) in the selection of a contractor or the acceptance of a tender, the owner does unfortunately find himself in the hands of an unscrupulous or incapable contractor, he can depend upon the architect sparing no effort to protect his interests. It may be pointed out, however, that to protect absolutely against dishonesty is impossible with the amount of supervision that the architect can reasonably and equitably be called upon to give, and, further, that it is equally impossible to teach an incapable contractor or a squad of incompetent workmen their trades within the course of one building work. It may be added, too, that this hardly comes within the ordinary duties of an architect, nor has it been anticipated in assessing the amount of his fees. It is presumably unnecessary to do more than mention that it is likewise not his function to come to the rescue of a contractor tottering to financial ruin, although the latter's collapse may involve the owner in considerable trouble and even monetary loss.

In the case of a small work it is frequently undesirable or unnecessary to call for tenders. The plans may be submitted to a trustworthy contractor, and if his price is within the architect's estimate the contract may be let to him. In the case of larger works tenders may be considered desirable. In the writer's opinion the best method of proceeding is then to select a small number of competent contractors, in any one of whom trust may be placed, and invite them to tender. Where public work of any sort is involved there appears to be no option but to call for public tenders with all its attendant risks.

The contract let and the actual work of erection of the building commenced, an excellent rule to follow is never to alter it in any point. While the plans are in course of preparation one part is adjusted to the other again and again, and no one unacquainted with the practical work of planning and design can possibly realise to what extent an apparently simple alteration made in a building in course of erection may lead to other quite serious "consequential" alterations not foreseen. A client sometimes thinks an improvement might be effected in some part of the building. The order goes forth to make the necessary alteration and the work is done, only to find out later that it has spoilt the design or plan in some other and perhaps more important respect. Sometimes alterations made without very careful consideration involve actual risk to the structure. In any case they spell "Extras"—that bugbear of clients for which the architect is so frequently blamed, sometimes justly but more often unjustly.

Extras can and should be avoided. No good architect will involve the owner in extras without first consulting him. Being human the architect, while preparing plans and specifications, may overlook something necessary to the completion of the work. But a small sum is usually included in the amount of the contract to provide for this contingency. It is the architect's prerogative to expend this sum or any part of it without consulting the owner.

Under no circumstances should any authority be given by the client to the contractor or his workmen for any alteration or addition. Nor should any complaint be made to them. The client should give all instructions in reference to the work only through the architect. On the other hand the contractor who comes to an owner with suggestions, or to call his attention to real or fancied errors in the drawings or specifications, should be referred to the architect.

No moneys whatever should be paid to the contractor except in response to a certificate issued for the amount by the architect. An owner should, at the commencement of the work, ascertain from the architect in what amounts and at what intervals payments for the work are likely to be required. He should then make his arrangements to meet the certificates as issued.

"There are," wrote Mr. C. Stanley Taylor in the *Architectural Forum* recently, "many instances which arise as the work progresses in which the owner may show a fair-minded spirit which will be appreciated both by the builder and the architect. The owner must realise also that as between the building contractor and himself the architect is

really an arbitrator, whose duty it is to see that the various agreements are carried out in fairness to both parties and who will not hesitate to tell the owner that he has taken an unfair position if this be true. Therefore, the owner must not expect the architect to exhibit any false loyalty in dealings with the contractor and the sub-contractors.

"It is evident that the owner who fully realises his duties and who strives to develop and maintain the proper spirit of co-operation with the architect has much to gain. It is very difficult for an architect to work enthusiastically if he is forced to worry about the attitude of the owner. It may be readily understood that without enthusiasm an architect cannot do his best work.

"For the period during which the structure is being planned and built the architect is in practically every sense a business partner of the owner. He is working for the same results, and if the owner will but consider his duties as the duties of one associate to another he will not only fully appreciate the work and responsibility of the architect, but he will do much towards expediting the work and guaranteeing his own satisfaction."

Architectural Design.

In the preceding pages while the fact that the architect is artist as well as constructor and man of business has not been lost sight of, yet this fact has not, perhaps, been given the weight it deserves. It is primarily because of this fact—because his aim is the production not of mere building, but of architecture, that the architect, as such, persists.

What is the difference between Architecture and Building? It is very difficult to put into words. A satisfactory definition of architecture is yet to be found. Professor Lethaby wrote somewhere—I quote from memory—that a definition which pleased him for a time was "building touched with emotion." This definition, even if incomplete, at least suggests the difference between architecture and building. Building provides—however efficiently—for the satisfaction of physical needs only; architecture, on the other hand, while providing equally well for the physical needs, satisfies in addition the needs of the spirit. Mr. Clutton Brock, in his illuminating essay, "The Ultimate Belief," says that "we do not understand the importance of the æsthetic activity, because we suppose it to be merely a source of pleasure, whereas it is an activity of the spirit without which the spirit can never be satisfied." That the craving for beauty is a spiritual activity cannot be denied. That beauty in building can evoke the spiritual emotions and minister to the spiritual side of life, many glorious temples and cathedrals have testified through the centuries. But temples and cathedrals no longer form the main building activities of whole peoples. To-day schools, libraries, hospitals, post offices, factories, and other utilitarian or altruistic buildings are taking their place in the common life. To-day rulers raise money not for churches but for workers' homes; not for cathedrals but for power-houses and town halls. All these buildings touch the common life of the people at every point—surely they should be made to minister to their spiritual and not alone to satisfy their physical needs? To do this they must be as beautiful as it is possible to make them. This does not mean that something—some extraneous ornament—must be added to them, although ornament will probably, in some form be there, but beauty must be inherent in the structures themselves. The conception of the plan, the proportioning and the combination of the structural forms, the texture and colour of the materials, must together result in the satisfaction of the æsthetic craving in those beholding the buildings. In other words, they must be examples of architecture and not specimens of mere building. And it is the function of the architect alone—not the engineer or the builder—to create architecture. He will be successful—as in his other functions—in varying measure. First in accordance as he is possessed with ideals and definiteness of aim and has within himself an appreciation of beauty. Secondly in proportion to his opportunities. The power of æsthetic appreciation is in part at least a gift, but a gift capable of training and growth. It must be developed in every properly trained architect to some extent by that study of ancient forms in architecture, sculpture and painting, which is an essential part of his training. The measure of the original gift and the extent of its training and development will be the measure of his success in the field of design, in so far as that success is conditioned only by his own personality and attainments. But unfortunately an architectural designer is limited in many ways—he is partly dependent upon the skill and goodwill of others to execute his design—he is dependent far more than artists in any other field of work upon those who employ his services. A sympathetic appreciation upon the part of the latter of the ideals for which the architect is striving, and of the difficulties in his way, will be an invaluable help. A readiness to make some sacrifice for the attainment of beauty, too, will be an inspiration, for beauty is rarely cheap or easy of attainment. A willingness to be guided by the architect in this, the æsthetic side of the problem, will, as in that of the practical, be wholly to the client's benefit.

The Registered Architect and His Fees.

In 1913 the New Zealand Legislature passed an Act for the Registration of Architects in which certain qualifications for admission to the Institute of Architects at that time and in the future were laid down. This Act was asked for by architects on two principal grounds. It was felt by members of the profession to be only equitable that they should secure that increase of public confidence, that rise in status, which State sanction always gives. This privilege had already been long accorded to other professions. It was felt also to be only fair and right that the regular practitioner, whose professional qualifications were the result of arduous

and expensive labour, should be secured from the unfair competition of unaccredited and unqualified competitors. This measure of protection had also been long accorded to other professions. But it was not alone self-interest which caused the architects to ask for State registration. They recognised that the public required the same protection from the unqualified architect as it already had from the quack doctor and the unqualified lawyer. It was a manifest absurdity that while the law required that the man who did the plumbing and he who laid the drains of a building should be licensed, anyone who cared to erect a brass plate at his office door could make himself responsible for the design of the whole structure, involving its planning arrangements, its æsthetics, its hygiene, and its very safety! While, however, Parliament undoubtedly passed the Act with a view only of giving the public a measure of protection in the direct sense of safeguarding persons from knowingly employing an unqualified practitioner, yet the Act has served the public interest in another way. Indeed, this other way may at present be said to be largely the only way in which it has fulfilled its purpose; for Parliament, strangely enough, did nothing to prevent any one who cares to do so from practising as an architect without any qualifications whatever! He must not, of course, describe himself as a registered architect, nor as a member of the Institute of Architects, but he may describe himself as an architect and practice as such.

In yet another respect the Act is at present faulty. The Code of Ethics of the Institute quite properly says that a member of the Institute must not act in the dual capacity of architect and builder, for the architect should surely be always in the position to give full and frank advice removed from the slightest possibility of being affected by self-interest. But the Act does not prohibit a registered architect practising also as a builder, and the Courts have decided that the Institute cannot enforce its code in this respect. This is so obviously an oversight and operates so manifestly against the public interest that it cannot be long before the Act is amended in this direction also.

If the Act has not given that direct protection to the profession and to the public which some had hoped, it has, however, as has been said above, benefited both in another way. It has enlarged, strengthened, and given an enhanced status to the Institute of Architects. With this improved status, widened powers, and extended scope for service, there inevitably followed an increased sense of responsibility, more clarity of aim, more definite ideals of public service. Since the Act was passed the Institute has been a steadily growing influence in the profession; it has crystallised high ideals of practice; it has been steadily organising so as to help its members to better performance. It has been steadily working to promote the education of students—the architects of the future—to see that they shall be as fully equipped as possible to serve the community in an honoured profession. It has framed a Code of Ethics governing professional conduct as between architect and architect, and as between architect and client. All this is in the public interest. The Institute has, too, established a Scale of Charges for professional services to which every registered architect is bound to adhere. The scale is arranged as far as possible so as to secure for all kinds of work a payment which, while being fair to the client, will yet enable the architect to keep up the means of performing it properly. This, too, is a service to the public. It makes known what is the established usage and prospective builders need not be in any doubt as to the amount of fees which they may be called upon to pay for architectural services; it prevents architects being brought into competition one with the other in point of fees and thus supplements the Code in wisely safeguarding the architect's disinterested position from the standpoint of self.

A copy of the Scale of Charges will be given to any prospective builder upon request made to any registered architect. It is sufficient here to say that the remuneration for architectural services, as is customary throughout the world, is in general based upon a percentage of the cost of the completed work. In considering the fee which he is to pay the architect the client should not fail to remember that it is not net profit to the architect. He has to allow a large percentage for various overhead charges, and for wages to the draughtsmen who assist to prepare the drawings. It should further be remembered that besides the professional skill and knowledge required of the architect he also has to bear a burden of responsibility which cannot be paid for at so much per hour. This responsibility is one by no means to be lightly regarded, and should be kept in mind by the client in assessing the value of architectural service. Any fees lower than those provided in the Institute's Scale are most certainly unremunerative provided that the full and proper service is rendered.

(Concluded.)

Fama Flooring.

This excellent flooring material is already well known to those specifying flooring materials for buildings, and it is with a view to coping with the demand for this material that the Fama Flooring Co. have opened a branch recently in Waring Taylor Street, Wellington. This material, which can be laid in many designs and colours, is specially useful for hospitals, hotels, as well as private dwellings, bathrooms, etc. It can be laid on wood or concrete with success, with terrazzo, veined and granite effects.