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PROFESSIONAL FEES IN THE KENYA BUILDING INDUSTRY

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Introduction.

This enquiry was undertaken in response to a request from the Ministry of Economic Planning and Development for an examination of the costs of professional design services. Current concern with design costs may be regarded as part of a wider concern with the rise in the costs of construction as the volume of building activity has expanded in 1966 and 1967. Estimates of the rise in costs vary widely, but an increase of 30% over costs in 1965 might be a modal figure. As will be discussed in more detail below, the present structure of the scale of fees by which professional designers are remunerated is such that a rise in construction costs brings an automatic rise in design costs per unit. Anxiety by many departments of government lest the financial outlays envisaged by the Revised Development Plan yield a less-than-anticipated physical volume of building has found expression in a number of enquiries: that undertaken by the Inter-Ministerial Committee on Building Costs; that of a Committee on Professional Fees convened by the Chief Architect in the Ministry of Works; and a study of costs and constraints in the building industry undertaken by my colleagues in the Institute for Development Studies, University College, Nairobi, with which the present study has been associated.

Why a professional fee?

The majority of work undertaken by design consultants (this term is used throughout to designate architects, quantity surveyors, structural, electrical, mechanical, heating, ventilating, sanitary engineers, landscaping and interior designers, etc.) is paid for by a fee expressed as a percentage of the value of the work designed. The percentage is derived from a scale of fees approved by the professional association; in the case of architects and quantity surveyors, the fee scales are embodied in schedules to the by-laws made under the authority of the Architects and Quantity Surveyors Ordinance (Cap 525) 1933, as amended 1962. The scales specify the minimum fee that may be charged; the codes of professional practice of each professional association make it an offence to charge less than this minimum fee. However, a higher fee may be charged by agreement with the client for service beyond the minimum.

The effect of the application of these fee scales is that the client cannot discriminate between design consultants on the basis of cost; theoretically at least, he cannot look for a cut-price service.

In the eyes of some critics, the fixed fee scale amounts to monopolistic price-fixing to the detriment of the consuming public. The classic remedy to this evil is prohibition, by legal means if necessary, of the restrictive price agreement and the institution of competition among producers. Thereby the free play of the forces of supply and demand will force prices to a presumably lower, "fair" level.

The great majority of design consultants would greet this suggestion with horror. Without ignoring the extent to which the fixed fee scale serves their collective self-interest, they would argue that it also serves the public interest by buttressing the code of professional practice; if individual design consultants were able to compete against each other by cutting fees they would be tempted to lower the standard of their service to the ultimate detriment of the client. Any savings effected in design costs would be more than counterbalanced by increases in the costs of construction brought about by inferior design or even sharp practice.

The crux of the distinction which the proponents of the second line of argument would make between the price of an article offered for sale and the fee for a professional service is that in the former case, the buyer may reasonably be expected to be in a position to evaluate the article offered and determine whether he is getting fair value for money, while in the second, he is in no position to judge the quality of the service offered to him. The point has been succinctly put: "The professional is not only the judge of what technical solution best fits the client's requirements, he is also the technician who supplies that solution. The temptation to supply an unnecessarily expensive one, or to overcharge, is correspondingly raised, and it is therefore necessary for the client to have some guarantee of integrity before he can safely venture to purchase the professional's services." This guarantee, it is argued, can only be supplied by those who are in a position to appreciate the quality of professional service, that is the fellow members of a profession, which they do by the

self-regulation of the profession. In particular, the professional association guarantees the competence of its members to the public by admitting to its ranks only those who have successfully passed qualifying tests of ability, and it guarantees the integrity of its members by instituting and enforcing a code of professional practice, with the ultimate sanction against the offender of expulsion from membership of the professional association. The sanction is effective to the extent that the public are unwilling to give employment to members of the profession who practice without the guarantee of competence and integrity which the association gives for its members. The members of the profession are willing to submit to this self-regulation because it is the means by which the reputation of their profession is raised and maintained so that the public are willing to give employment to their members; but this employment must be for a satisfactory level of remuneration to justify the submission to professional self-discipline. The fixed fee is therefore justified as the quid pro quo for the maintanance of professional standards.

The close relationship between the public reputation of a professional group and the level of employment for its members might be disputed. It might be argued that the volume of work available to the design consultants is a direct function of the volume of building activity. However, it is not necessary for a client to employ a qualified man to design his house, office block or factory. He may do the design himself, or he may employ an unqualified designer, and so long as the design meets the minimum public health standards, it may be constructed. One has only to consider the occupational groups whose reputation as a profession is insecure, such as psychoanalysts, or astrologers, or even quantity surveyors, to appreciate the dispensability of professional services.

The necessary connection between a fixed scale of fees and a given standard of professional conduct may still be doubted. Comparison with other eminent professions, such as the law and medicine, might suggest that a high degree of concern with professional standards is perfectly compatible with a system of fees graduated with reference both to the ability of the practitioner and the means of the client; put more crudely, the earnings of doctors and

barristers in private practice are determined by supply and demand. Neither the surgeon who attends a deserving case without fee, nor the successful lawyer who takes a brief for the maximum his client can afford, is regarded as engaging in unprofessional conduct. By analogy, it is possible to envisage a situation where professional associations of design consultants maintained a stringent control of professional practice but no interest in the fees charged by their members. On the other hand, doctors and barristers are protected from competition by the unqualified by legal limitations on the right to practise (these professions have attained the second stage of compulsory registration, see below), which presumably sets a lower limit to the degree of fee-cutting which members of the profession are prepared to engage in. There is a further distinction between the design professions and those with which they are here compared. This is that the design consultants are engaged in a modified professional/client relationship, one which includes a third party, the contractor. The significance of the contractor is that his presence offers the unscrupulous design consultant the opportunity for collaboration at the expense of the client, thereby frustrating the intention of the client in appointing the consultant. One might argue that a fixed scale of fees is small price to pay for protection against this abuse. In my opinion the balance of the argument lies in favour of the fixed fee system, and the mass opposition of the professions to its abolition counts as a very practical justification for its perpetuation. This is not the same thing as supporting any given scale of fees, and it will be argued below that the present percentage scales are open to numerous objections.

<u>The Architects and Quantity Surveyors Ordinance</u>.

A professional association can provide a greater measure of security of employment for its members by securing registration of the profession. This requires a legislative act setting up a register in which the names of qualified members of the profession are recorded. Registration may be voluntary, in which case it amounts to no more than statutory recognition of a professional association, or it may be compulsory. There are two stages of compulsory registration; in the first, only registered members may use the name of the profession, but unregistered persons may practise under other titles, while in the second stage only registered persons may practise. To date, the only design consultants who enjoy the benefits of registration are

architects and quantity surveyors.

The East African Institute of Architects unsuccessfully promoted a bill to provide for the registration of architects and quantity surveyors in 1929. The attempt was repeated four years later, with more success. The Attorney-General introduced the bill to the Legislative Council, though it was made clear that this was not a government measure but a private promotion on which a free vote was allowed. The bill encountered some very vocal opposition, one member observing: "... this is a Bill to give a monopoly to a small body of about 35 to 40 men promoting the Bill for their own ends without a shadow of justification for the public good". The bill was referred to a committee, from which it emerged shorn of its more objectionable features: a public Board of Registration was substituted for the East African Institute of Architects as the body responsible for effecting registration, and the proposal that only registered members be allowed to practise (i.e. the second stage of compulsory registration) was watered down to the stipulation that only registered members be allowed to call themselves architects or quantity surveyors. In this modified form the bill received a third reading and was given the Governor's assent, to come into force on the 1st. April 1934. The Architects and Quantity Surveyors Ordinance was amended in 1962, mainly in procedural detail.

The salient features of the present legislation include:
(i) the stipulation that no person may style themselves architect or quantity surveyors unless registered, except that this provision need not apply to a person employed by the government or contracted to government;
(ii) the establishment of a Board of Registration as a body corporate capable of suing to protect this right;
(iii) the Board to consist of 6 members, 3 (of whom one must be a quantity surveyor) to be nominated by the East African Institute of Architects and approved by the Minister of Works, and 3 to be appointed by the Minister. The Minister is also to appoint one of these six members as Chairman, who has a casting vote in the event of a tied vote.
(iv) the Board may make by-laws, subject to confirmation by the Minister, for, inter alia, the administration of the Board; a definition of unprofessional conduct and for determining the mode of enquiry into such unprofessional conduct,

together with the penalties to be applied; the scale of fees to be charged by architects and quantity surveyors; the scale of fees for registration under the Ordinance; for the holding of examinations; "for instructions and orders conducive to the maintenance and improvement of the status of architects and quantity surveyors in Kenya".

(v) the Board is to maintain a Register of qualified persons

(vi) a person may appeal to the Supreme Court against the refusal of the Board to register him;

(vii) the Board may apply to the Supreme Court to have a member found guilty of unprofessional conduct struck off the Register; ...

(viii) engineers, and naval architects, are expressly excluded from this legislation.

By-law 45 deals with the definition of unprofessional conduct, and among numerous other provisions states: "... an architect or quantity surveyor may be deemed by the Board to be guilty of unprofessional conduct or professional misconduct if he...

(p) attempt to supplant another architect or quantity surveyor or to compete by means of a reduction of fees or by other inducement;

(r) deviate from by charging less than the charges laid down in the Fourth Schedule or the Fifth Schedule to these by-laws without notifying the Board of his intention to do so and the reasons for and the extent of such deviation and receiving the Board's sanction thereto;

(s) undertake or accept instructions for professional work on the basis that if a successful result is not attained a reduction of the fee laid down in the Scale of Charges will be made, or that no fee will be charged;

(v) pay another registered person less than the fees set forth in the Fourth Schedule or the Fifth Schedule to these by-laws.

With regard to the fixed fee system, two conclusions emerge from this analysis of the legal provisions. On the one hand, any kind of price-cutting is comprehensively outlawed; on the other, the level of the fixed scale of fees is potentially subject to public control without resort to legislative action. Should the Minister choose to exercise his powers, he can secure a complaisant majority on the Board which establishes the scale of fees to effect whatever revision he feels is in the public interest. Not only does

he directly appoint half the members of the Board, including the Chairman with his casting vote, but under the By-laws he may withdraw his appointment or approval of any member of the Board at any time, and in any case, all offices automatically fall vacant once a year. Thus it is within the power of the Minister to revise the scales as he thinks fit, even over the opposition of the representatives of the professional associations on the Board. Hitherto, the Minister has not felt it necessary to exercise these powers, and in practice the scale of fees which has been laid down for architects has been closely modelled on the scale employed by the Royal Institute of British Architects, and the scale for quantity surveyors on that employed by the Royal Institution of Chartered Surveyors.

In this context, it may be observed that the absence of a board of registration for other design consultants may make it rather more difficult to effect a revision in their scales of fees, should this be thought necessary.

The scales of fees.

The scale of fees to be paid to architects is set out in the Fourth Schedule to the By-laws made under the authority of the Architects and Quantity Surveyors Ordinance, revised in 1963. Section A deals with the architect's code of conduct, and emphasises that his sole remuneration is to be from the client. Section B states that... "Apart from the two copies of the drawings and documents provided for in clause B1, and the drawings specified in A6, the fees as set out in this Scale of Charges are in all cases exclusive of the cost of all prints and other reproductions of drawings and documents, travelling and hotel expenses, and other reasonable disbursements".."The charge is to be percentage on the total cost of all executed works as follows:

Total cost of executed works	percentage fee			
Up to £700	10			
£700-£1600	9½	with	minimum of	£70
£1600-£2500	9	"	"	" £152
£2500-£3400	8½	"	"	" £225
£3400-£4300	8	"	"	" £289
£4300-£5200	7½	"	"	" £344
£5200-£6100	7	"	"	" £390
£6100-£7000	6½	"	"	" £427
Over £7000	6	"	"	" £455

This scale is applicable to new works, and for this the architect is required to take overall responsibility from brief to final certificate. However, the survey work, quantity surveying, and other consultant's work is specifically excluded from this scale of charges. During construction the architect is required to give general supervision, but if the client requires constant superintendence a clerk of works should be appointed and paid by the client.

The above scale may be varied with respect to works of repetition, when the fee may be reduced up to one sixth for twenty repetitions and up to one third thereafter; in the case of works to existing buildings a higher fee is chargeable, up to twice the fee payable for new works of the same cost; and a higher charge may be agreed in writing between the client and architect.

The other possible basis for variation of fees is laid down in section A8 of the Fourth Schedule. It says: "The employment of consultants shall be at the architect's discretion in agreement with the client, and consultants shall be nominated or approved by the architect and appointed and paid by the client. Where it is agreed to retain the services of consultants the architect's fee may, by prior written agreement, be reduced, but in no case shall the reduction exceed one third of the cost of the work upon which the services of the consultants are retained, provided always that the architect's fee on the cost of the whole scheme shall not be reduced by more than one sixth."

The Fifth Schedule to the by-laws lays down the conditions of engagement and scale of professional charges for quantity surveyors. In Section A it is established that the fee is based on the total cost of the works, inclusive of those items represented by provisional sums in the bill of quantities (which do not involve the quantity surveyor in any work); it is also emphasised that making up variation accounts is a separate service from the preparation of the bill of quantities, for which a separate sharge is made.

The quantity surveyor's fee is not graduated in any way with the cost of the works; it is a flat percentage charge varying only with the nature of the work. For taking out and preparing bills of quantities, the fee is 2½% of the

the estimated cost of the work; for works of alteration, the charge is at least ½% greater. These fees are exclusive of the cost of printing the bills of quantities, which are charged additionally at cost. For repetitive work, the fee of 2½% is charged on the first item, and ½% on each subsequent item. It is emphasised that this reduction applies only to repetition of a complete work; "This arrangement does not apply to duplication of portions of the same work, in which case the full commission shall be charged on the total cost." For making up variation accounts, the fee is 3% on the cost of additions and 1½% on the cost of ommissions (with some exceptions). For pricing bills of quantities, or for preparing approximate bills of quantities and estimating on this basis, the fee is ½%. The same fee is payable for surveying work in progress for the purpose of making out interim certificates. All percentage fees in respect of civil engineering work, as opposed to architectural work, are to be half the above specified fees. In general, as with architects, the scale fee is not intended to cover the cost of travelling, travelling time, or hotel expenses necessitated by work at a distance.

Structural, electrical and mechanical engineers do not enjoy the benefits of legislative support for their fee scales, but in practice, as tightly organised professional groups, the scale of fees laid down by the professional body is as closely binding on its members as in the case of architects and quantity surveyors. Like their colleagues, consulting engineers in Kenya employ the same scales as their counterparts in Britain. For building works where an architect is engaged, the structural engineer is remunerated according to a degressive scale as follows: £200 per contract (or a smaller sum pro rata if the cost of the works is less than £5,000), plus:

Cost of the Works	Fee	Additional Fee for reinforced or prestressed concrete
On the first £50,000	7%	3%
On the next £50,000	6%	3%
On the next £100,000	5½%	3%
On the remainder	5%	3%

Higher fees are payable for works of alteration: alternatively, the engineer may be paid by time at the rate of shs3 per hour per £100 of annual salary. In addition, the engineer may charge out of pocket expenses, or come to an agreement with

the client to cover these by means of a lump sum or a higher percentage fee. Where the works are of a magnitude or complexity to require, in the opinion of the consulting engineer, that site supervision be carried out by a suitably qualified engineer, a resident engineer may be appointed to be paid by the client, or by agreement, the client may appoint and pay directly the necessary resident site staff. In the calculation of the cost of the works above, only that part of the works which is designed, specified or supervised by the engineer is taken into account. About 25-30% of the total cost of construction of a large building is work designed by the structural engineer. The structural engineer's fee would therefore be in the region of 3% of the total cost of the building, depending on the size and the method of construction.

For other engineering services, electrical, mechanical, heating and ventilation, etc., the consulting engineer is remunerated on a degressive scale as follows:

Cost of the Works	Fee
On the first £20,000	8%
On the next £30,000	7%
On the remainder	6%

Where the cost of the works is less than £5,000, the fee is 10% subject to a minimum of £40 and a maximum of £400. Services constitute a highly variable percentage of the cost of construction, but 20% might be taken as a modal figure on large buildings. A client could therefore expect to pay 1½ - 2% of the cost of construction to consulting engineers other than the structural engineer, in addition to out of pocket expenses; alternatively, he may elect to pay by time, on the same schedule as for structural engineers.

For small and medium size buildings consulting engineers will not necessarily be employed. Either the architect may design the structure and services himself, or in the case of proprietary installations, e.g. lifts, the suppliers of the equipment may be asked to tender on a design-and-supply basis. In this case the cost of the design is indistinguishable from the cost of installation, and the total of professional fees will appear, on the surface, to be smaller. For larger buildings, the architect is more likely to feel that real economies are to be gained by the employment of the specialist skills of consulting engineers, and will recommend their appointment to the client.

It follows from this discussion that it is difficult to say what the total of professional fees is in the case of a typical building. In the case of a small building, where the architect provides all design services, the combined fees of architect and quantity surveyor need be no more than 8½% of the construction cost. In the case of large building, where a wide range of consultants is employed to design the structure and specialist services, fees may total in excess of 13% of the cost of construction. The example below assumes a building whose cost of construction is £200,000, where a reinforced concrete frame costs £50,000, and where services cost £40,000.

Profession	Basic Percentage Fee	Fee	Additions
Architect	6%	£12,000	Out of pocket, expenses, prints, special work
Quantity Surveyor	2½%	£5,000	Out of pocket expenses, variation accounts
Structural Engineer	(10% of £50,000)2½% plus £200	£5,200	Out of pocket expenses, resident engineer
Mechanical Engineer) Electrical Engineer) Ventilating Engineer) etc.)	(8% of £40,000)1.6%	£3,200	Out of pocket expenses, resident engineer
Total professional fees	12.7% +	£25,400	plus addition

The percentage fee for architects.

There are three major criticisms which can be advanced against the present system of architects' fees based on a percentage of the building cost. The first of these is that the building cost does not necessarily bear at all a close relation to the cost of design and supervision. When, as over the last eighteen months, building costs rise by say 30%, the design professions receive a windfall addition to their fee income of the same amount; conversely, when building costs fall, as they did during the building slump of the early 1960s, the design professions find their fees pared down. A fee structure based on a percentage of building costs has the effect of exagerating the cyclical fluctuation in professional incomes, for at the same time as the volume of work increases the unit

cost also increases, while when the volume of design work drops off the unit cost also declines. One might regard the desire to escape from this exagerated cyclical effect as sufficient incentive on the part of the profession to search for a more rational fee structure.

Implicit in the argument above is the assumption that design costs are independent of building costs. This seems a reasonable assumption, given that the inputs of the design process and the building process are totally different. Only to the extent that rises in building costs reflect generally inflationary conditions can it be said that there is a connection with design costs, but building costs notoriously fluctuate much more than prices in general. A further implication of this situation is that over time, the relative costs of building and design may diverge so that a fixed percentage fee may no longer accurately reflect the costs of design. To make the same point in a different way, it would indeed be fortuitous of building costs and design costs stood in the same ratio today as they did a third of a century ago. Yet the 6% fee for architects (which applies to the great majority of building works) has stood unchanged since the Act of 1933. In short, architects' fees would carry much more convinction if they were demonstrably related to the costs of the architectural process. The second major criticism is that, at any one point in time, the fee does not accurately reflect the differential in cost of designing different buildings. There are two possibilities of variation here; design costs may be assumed to vary with the <u>type</u> of building, and with the <u>size</u>, or <u>cost</u>. Following British practice, the Kenyan fee scale makes no distinction between a cathedral at one extreme and a warehouse at the other, yet the design effort involved is certainly far greater in the case of the cathedral than in the case of a warehouse of comparable building cost. The RIBA report, "The Architect and his Office" published in 1962 examined the possibility of introducing a differential fee scale, but found itself unable to recommend one on the grounds of doubt "whether a fee scale based on type of building would genuinely reflect the variations in design costs that occur". Yet one may still be sceptical: countries as far apart as Holland, Germany, Israel and the USA successfully operate differential fee scales. The scepticism grows when the RIBA report continues: "We think it essential that before any major change of this kind...is made, a detailed examination should be made of the implications of the proposed

change on a wide variety of practices handling different combinations of types of work in order to ensure that abandonment of the swings and roundabouts principle does not place some practices with a particular mixture of work in a difficult financial position." One may suspect some special pleading for sectional interests when the only change recommended is one that leaves all practitioners at least as well off, and none worse off than before! The report concludes with a plea for more research on design costs, as a preliminary to action, but in the opinion of the present writer there is already sufficient evidence of the need for a variation in fee by type of building, taking into account factors such as the complexity of design, the number of services incorporated in the design, and the degree of unit repetition within the building, which is high in the case of hotels, blocks of flats and office buildings, and low in churches, theatres, and private residences. If the profession in Kenya is unable to agree on a classification of building types, they might do worse than to adopt one of the classifications already in use. That below was prepared for the American Institute of Architects.

Type A includes buildings of a utilitarian character, such as low-cost factories, warehouses and housing.
Type B includes all buildings not included in other types.
Type C includes public buildings, schools (except public elementary schools) hospitals, banks, theatres, libraries and buildings of a similar character.
Type D includes buildings of exceptional artistic importance, such as memorials and fine residences.
The basic scale for each type is 5,6,7, and 9% respectively, though the scale also incorporates a degressive element.

The second type of variation, by size or cost of the building, is already admitted to some extent in the Kenyan fee scale. The scale is degressive, that is, as the cost of the building increases, the percentage fee declines. However, the degressive element is very restricted, to works up to £7,000 in value, and thereafter the fee is a flat 6%. It seems to be pretty generally accepted that this is wholly unrealistic, and that, if a fee of this type is to be retained at all, the degressive scale should be comprehensively revised. The scale needs to be made degressive to a much higher figure for value of the building, to allow the fee to reflect the economies of scale that exist in the design of large works. It also should more accurately reflect the cost of designing

small works. The RIBA report referred to above produced considerable evidence that small jobs were unprofitable at the present fees, and architects in Kenya allege that they do no more than cover their costs on jobs up to £20,000 in building cost. It would appear that there is general support for a revision which raises the fee on small jobs and lowers it on large ones.

The present scale is not without its minor anomalies. Because the percentage fee changes with the total cost of the work, the fee scale is not smoothly degreesive, and it becomes necessary to specify certain minimum fees for each percentage bracket to preserve the principle that the total fee should rise with the cost of the works. An example might make this point clearer: suppose there are two plans, one for a building costing £6,999 and one for a building costing £7,001. 6⅔% of £6,999 is £455, while 6% of £7,001 is £420. In order to avoid this anomaly, the scale specifies that at the 6% rate there shall be a minimum fee of £455, but it thereby creates a second anomaly, that the design cost of a building worth £7,600 is no greater than the design cost of a building worth £7,000.

All of these difficulties could be overcome at one swoop by adopting a scale in which the degreesive element operates not on the total cost, but on the increment in cost. This type of scale is employed by structural, electrical and mechanical engineers, so that there can be no argument that the principle of the scale is not already understood, at least by large clients of the building industry. For illustrative purposes, an example of the type of scale that might be adopted is given below.

The fee shall be on the basis of the cost of the works, in accordance with the following table:-

COST OF THE WORKS	FEE
On the first £2,000	10%
On the next £3,000	8%
On the next £5,000	6%
On the next £40,000	5%
On the next £50,000	4½%
On the remainder	4%

The effect of this scale, as compared with the present scale, is suggested in the table below.

	NEW SCALE		OLD SCALE	
COST OF WORKS	%(calculated on total cost)	FEE	%	FEE
£5,000	8.8	£440	7.5	£375
£10,000	7.4	£740	6.0	£600
£15,000	6.6	£990	6.0	£900
£20,000	6.2	£1,240	6.0	£1,200
£25,000	5.95	£1,490	6.0	£1,500
£50,000	5.48	£2,740	6.0	£3,000
£100,000	4.99	£4,990	6.0	£6,000
£500,000	4,20	£20,990	6.0	£30,000
£1,000,000	4.10	£40,990	6.0	£60,000

Up to a value of £24,000, the illustrative scale gives a higher fee than the present scale; above that figure, the illustrative scale gives a lower fee, and on really large works a considerably lower fee.

The degressive scale can be combined with the variation by type of building to produce a fee structure which is sensitive to variations in design cost. One method of combination would be to give each type a weight by which to multiply the scale fee, as in the example:

Type A	0.8
Type B	1.0
Type C	1.1
Type D	1.25

A warehouse costing £15,000 to build merits a design fee of £990 x 0.8 = £792. An ambassadorial residence costing the same amount merits a design fee of £8,990 x 1.0 (assuming it falls in type B) = £8,990. A hospital falling in type C costing the same amount merits a design fee of £8,990 x 1.1 = £9,889. (Under the present scale, both would be designed for a fee of £12,000).

N.B. The weights and the degressive scale employed here and elsewhere in this paper are intended to illustrate the principle only; they should not be read as specific recommendations.

A further quantitative factor that calls for attention is the amount of reduction in fee that is given for repetition. Repetition can be of two kinds: repetition of a unit within one building, such as a hotel room, a classroom, a floor in an office block; or repetition of a separate building, such as one house on an estate. It is suggested that the first kind of repetition could be appropriately dealt with by making the degree of repetition one factor in deciding which fee category a given type of building belonged to; other things being equal, buildings incorporating a large amount of repetition, such as hotels, should go in a lower weighted category than buildings lacking repetition, such as libraries. The second type of repetition receives some recognition in the present fee scale, but one may question whether the reduction in fee corresponds at all closely with the reduction in work involved with extensively repeated buildings. For example, the fee for a design to be repeated 100 times is 70 times the unit fee; this seems wholly excessive.

The architect's fee divides up into two parts, two-thirds for the design, and one-third for the supervision of construction. Regarding the design, the point can fairly be made that a design to be repeated 100 times calls for greater attention to matters of layout, external appearance, and above all, cost planning, than a design for a single house. But it is hard to believe that the design effort increases anywhere near pro rata with the number of repetitions. This extra effort might well be adequately compensated by an additional 10% of the unit fee for each repetition. Regarding the supervision part, a similar point can be made, that the cost does not increase pro rata with the number of repetitions. Once the architect has solved a problem that has arisen, decided on an adjustment, and instructed the contractor with reference to one house, the decision does not need to be made independently for each additional house. The contractor learns what the architect requires as a given process is repeated, and therefore needs progressively less supervision. These gains may be offset to some extent if the architect becomes embroiled in the contractor's managerial problems, which are likely to grow in complexity with increasing scale of the project, though these problems are not strictly his concern. Taking these factors together, there would appear to be room for a degree of degression in that part of the fee paid for supervision.

This amounts to a strong case for a separate scale of fees for extensively repeated designs. The scale might operate on some such basis as this: a separate calculation of the design fee and the supervision fee; the design element to be calculated on the basis mentioned above; the supervision element as one third of the fee for a single work of the same cost as the whole project, this fee being derived from a degressive scale. In the example below, it is assumed that the normal fee structure incorporates the degressive scale illustrated on page 14 and the variation by type of building given on page 15.

Example. A housing estate of 100 separate identical houses costing £2,00 each to construct. The total fee would be made up as follows:

1. Design element: unit cost (£2,000 x $\frac{2}{3}$ x 10% x 0.8)
£106.6

99 repetitions @ 10% £1,056

£1,162

2. Supervision element: (£200,000 x $\frac{1}{3}$ x 4.495%)
£2,996

Total £4,158

Under the present scale, the fee for this undertaking would be £12,600. If one were to assume the present basic scale, but calculate the fee for repetition according to the method above, the fee would be £5,308.

In the preceeding survey, it has been shown that certain kinds of design work are over-charged by the present fee scale, while other kinds of work are under-charged. My argument has been that the fee structure should be revised in such a manner that the fee should accurately reflect the design cost. My argument is based on the fact that the effect of the flat 6% fee is to confer a subsidy on clients commissioning relatively small, complex and unique designs. I have no objection to subsidies which are well conceived and executed, but this particular subsidy appears to be both accidental and unfortunate. Prominent in the first group of clients are private house-owners, social clubs, and proprietors of places of entertainment; prominent among the second group are industrial firms, hotel owners (hotels should be thought of as the "plant" of the tourist industry) and the municipalities which provide low-cost housing. A subsidy paid by industrial users and low-income earners to high income earners and pleasure-seekers hardly appears to accord with the public interest.

One group of clients who would be adversely affected by the introduction of a more rational fee scale are the owners and occupiers of private housing. (Public housing would not be affected in the same way, partly because much of it is designed by salaried architects anyway, and partly because a greater reduction for repetition would affect costs favourable). If it is thought desirable that this group should be able to obtain professional design services cheaply, advantage might be taken of a scheme proposed by the East African Institute of Architects. The essentials of this scheme are that a pool of designs would be contributed by members of the Institute, from which a copy of the plans would be made available to the public for a set low charge, say £25. This fee would cover the design only. Details of the scheme remain to be worked out, such as who would be retained for the supervision of construction, and at what fee; What additional charge would be made for necessary alterations, e.g. to drainage layouts; and whether quantity surveyors could contribute their services on a similar basis. The existence of such a scheme would offer clients of modest means a choice between an "off-the-peg" design at low cost, or a "tailor-made" service at the normal fee.

Architects are not unaware of the anomalies in the present fee structure, but they are not directly affected by the inequities. Their attitude is fairly summed up in the expression, what they lose on the swings, they gain on the roundabouts. They also advance as a merit of the present fee structure that its very simplicity is attractive to clients. My own experience of interviewing some major clients of the building industry tends to an opposite conclusion, that the client is prepared to tolerate complexity so long as he is assured that he is getting fair value for his fee; many clients at present lack this assurance.

<u>The architect's fee and construction costs</u>.

The third major criticism that can be advanced against the present percentage fee is that it gives the architect no incentive to design a cheap building. The RIBA report itself refers to "the illogicality of the present system under which, by relating the design fee primarily to the cost of the building, the architect has a positive disincentive to put in more work in order to fulfil the client's requirements at the lowest possible construction cost, since by doing so

he is both reducing hes fee and increasing his office costs." This is a serious criticism to make of a professional fee, given that one of the features of professionalism is that the expert is expected to protect the client's interest; this fee structure gives the professional an interest diametrically opposite to that of his client.

It is one thing to state the problem; it is another to find a solution. One possible approach might be to base the fee on the physical size of the building, with suitable weighting for variations in size and complexity. One line of objection to this proposal is that it gives the architect the same theoretical incentive to be lavish with space that he now has to be lavish with cost. Against this, the client might be regarded as better able to control the size of his building than to control the cost. Another line of objection is the difficulty of appropriately graduating the fee for variations in size and complexity; this is a greater problem than in the case of a fee derived from the construction cost, because this cost to some extent already reflects these factors. A fee based on physical size would therefore call for wider differentials than a fee based on cost, and the establishment of these differentials might be correspondingly more contentious, especially in the absence of any precedent.

An alternative might be to add to a fee based on construction cost, suitably graduated according to amount and type of building, a bonus element rewarding the architect for any reduction of the realised construction cost below the notional, or target, cost for a certain type of building. A possible formula for such a fee might be:

Fee = pwcx + 1/5x(n - c), where p = the variable percentage
w = the weighting by type of building
c = the realised construction cost per square foot
n = the notional cost per square foot
and x = the area in square feet.

Example. A warehouse of 40,000 square feet, where w = 0.8, c = 38/- per sq.ft., n = 40/- per sq. ft., and p = 5.33%. Inserting these figures into the formula,

the fee totals £4,032, made up of a basic fee of £3,232 and a bonus of £800. The building cost would be £76,000. Under the present fee scale, the architect would receive £4,800, and the building cost, assuming that without an incentive the architect produced a design of average cost, £80,000.

Example 2. A hospital, 100,000 sq. ft., w = 1.1, c = 95/- per sq. ft. n = 100/- per sq. ft. and p = 4.21%. The fee would be £26,989 made up of a basic fee of £21,989 and a bonus of £5,000. The building cost would be £475,000. Under the present scale, the building cost would be £500,000 (assuming a design of average cost) and the architect's fee £30,000.

Attractive though the prospect of such cost savings is, the practical difficulties of arriving at appropriate notional costs are immense, and there is the paradoxical risk to the client that savings in capital cost might be made that will involve him in higher maintenance costs over the years. Whether related directly or inversely to the construction cost, a fee scale that gives the architect a monetary incentive to design in a way potentially at variance with the client's interests is objectionable. Unfortunately, there appears to be no generally available alternative. The salaried architect is not exposed to the same incentives, but few clients outside the public sector are large enough and build sufficiently regularly to employ their own architectural staff.

Are professional fees too high?

It is difficult to decide whether the general level of professional fees, as opposed to details of the fee scales, is "too high". To state the problem immediately invites the question, too high in relation to what? There are a number of comparisons that might be made, with fee scales in other countries, with fee earnings in the past, and with the costs of the design process. A fourth comparison has been suggested, between the earnings of members of the design professions and the earnings of other professionals. Quite apart from the practical difficulties in obtaining the necessary information, this approach does not attract me. In the first place, it is the fee scale, and not the incomes, with which I am directly concerned, and there is only an indirect connection between the two; in the second place, even if one were to discover

that the average earnings of architects in private practice were above those of teachers and university lecturers, and below those of doctors and dentists, while those of consulting engineers were on a par with those of company lawyers, I know of no universally-accepted criteria by which to establish that these differentials are right or wrong. Even if one were to discover that professional earnings in general were above those of design consultants, this would be no evidence that the fee scale should be raised to allow higher salaries and profits to be paid, nor would it necessarily argue against a downward revision of the fee scale.

The international comparison turned out to be less fruitful than anticipated. One problem is that professional practice is not by any means uniform as between different countries. For example, Italian architects, who are paid a lower fee than Kenyan architects, do less work for it, in that they do not provide detailed drawings, but only general guidance for the contractor, in effect leaving detailed design decisions to him. The contractor therefore has more work to do, and charges accordingly. Kenyan design consultants allege that they give more service than their English counterparts, who are paid according to the same scale, because they have to contend with greater inexperience on the part of the contractors; for example, in structural steelwork, it is the practice to give detailed drawings of the steel-erectors. On the other hand, experienced clients of the industry and professionals with a non-British experience frequently allege that the standard of work performed in Kenya is lower than elsewhere in the world. I am in no position to arbitrate among these allegations, but the point does seem clear that practice differs sufficiently to make international comparisons somewhat hazardous.

Still more is this true when it is considered that, outside the British sphere of influence, the function of the quantity surveyor is not undertaken by a separate professional group. Elsewhere the work is variously doen by the architect and/or the contractor. The quantity surveying profession observe, with justice in my view, that the client loses when their work is performed by the contractor, for each contractor, who intends to put in a tender has to do much the same work in order to prepare his bid. Since he can expect to win only a fraction of the contracts for which he tenders, he must cover the cost of preparing abortive tenders on the contracts he does win. The contractor's price on any given contract

under this system therefore includes the cost of the professional work on this tender and on several others. Where this system is in operation, the total of professional fees will appear to be lower than in countries in the British sphere of influence, but the total costs to the client, taking professional fees and construction costs together, may well be larger.

The third difficulty that confronts international comparison is that most overseas countries have fee scales differently structured from that in Kenya, that is they generally incorporate variation by type of building and a well-graduated degressive scale. The flat 6% fee which applies to most architectural work in Kenya therefore compares well with certain points on overseas scales and badly at others, but it is difficult to make an overall comparison. These difficulties need not be insuperable in a more measured inquiry, provided that sufficient technical expertise were made available.

The second comparison that might be made is one over time. It has already been observed that design consultants have received a windfall rise in their fee incomes of something like 30% over the last couple of years as a result of the rise in construction costs, which it may be assumed are only very indirectly related to their own costs. If the fee-scale was at the "right" level in the beginning of 1965, there is a prima facie case for saying that it is "too high" now. However, until 1965 the whole building industry was in rather a depressed state, and it might be argued that only now have conditions of "normal" prosperity been attained; or, if it is accepted that the industry is now esperiencing boom conditions, it might be contended that high earnings in such periods are necessary to recoup the losses of lean periods and lay in reserves against future slumps. While the present prosperity might not be regarded as conclusive evidence of the need for a downward revision of the general level of fees, it might be taken as a good opportunity to re-structure the fee scales, since any firms which find themselves badly affected have a certain margin within which to make the necessary readjustments.

Direct evidence on the costs of professional services in Kenya would not be available without undertaking for each professional group an enquiry such as that of the RIBA mentioned above; but indirect evidence about the relative level of fees and costs might be found in the extent to which design consultants are willing to take advantage of the flexibility in their fee scales to offer service to their clients below the conventional price. In the nature of the case, there is very little evidence available of practices which are downright illegal or unprofessional, although many allegations of fee-cutting are made, and I found in my interviews with clients that one would expect to get a large factory building designed for a 4½% fee, and another was paying a fee 1½% lower than his architect stated was the charge for the service. But there are a number of ways in which the spirit of the fee scale, if not the strict letter, may be evaded: a reduction may be given for the use of other consultants; more service, including the work of other professions, may be undertaken for a set fee, and out-of-pocket expenses may not be charged. The presumption would be that if some consultants can afford to take work on these terms, their costs are well below the established scales of fees. Again, I have no evidence relating specifically to Kenya on this point, but the RIBA report dealt specifically with this subject in Britain (where the same fee scales apply) and found that around one-third of architects in their sample did not charge for travelling or prints, as they were entitled to do, and three-quarters did not charge for telephone calls or postage; three-quarters gave the full scale reduction when another consultant was employed, although this concession is discretionary; and on works to existing buildings, more than half the architects charged a fee of 10% or less, although the fee scale allows fees ranging up to 12-20% to be charged, depending on the size of the job. If similar percantages for these practices were to obtain in Kenya, I would regard this as evidence that the scale fees are high in relation to costs; unfortunately, this information is not readily available.

The conclusion of this section must be that there is no firm evidence, as opposed to nagging suspicion, that the general level of the present fee scales is excessive, although one might well take exception to the structure of some of the scales.

Implications for Public Policy.

Given the fact that there is as yet insufficient evidence to support a wholesale reduction in the present scales of professional charges, are there alternative means by which the cost of design services may be reduced, especially to public sector clients? One alternative which clients who employ some professional staff of their own might find profitable is to pay private practioners by time, rather than a percentage of the construction cost. The formula employed by consulting engineers might equally be used by other professions for this purpose. Clients would have a reasonable safeguard against abuse of this open-ended commitment in that their professional staff would know what was a reasonable amount of time to expend on any project. Public authorities in Sweden have employed private practitioners on this basis to advantage. It is particularly suited to large works or works of repetition. This is not a method of remuneration which can be recommended for most private clients, who have no means of knowing how much work goes into a design.

It is a short step from employing a firm of private practitioners on a time basis to directly employing a salaried professional staff. Unfortunately, it was not possible to proceed with a comparison of the costs of design work undertaken in public offices with work put out by those public authorities to private firms. Had such an investigation been carried out, it might now be possible to recommend with assurance that a greater (or lesser) volume of work be undertaken in public authority offices, and the appropriate number of staff engaged. As a by-product, if it could be shown that work put out to private firms cost a great deal more than work undertaken by salaried staff, this would be suggestive that the fee scales are high in relation to costs. I would strongly recommend that this investigation be undertaken. There are certain difficulties to be overcome: the nature of the work put out and kept in public offices tends to differ; the simpler and more repetitive work being performed within the public office, and care needs to be taken that all overhead costs of public offices are taken into account. These difficulties are by no means insuperable, and valuable results may be expected. Such an investigation would have to take into account the effect on costs of higher salaries than now prevail, for it is apparent that public offices could only undertake more work with larger staffs than they now employ,

and this probably entails higher salary scales and/or a more vigorous recruitment policy. (This might also be an appropriate field for expanded technical assistance from overseas).

A third possibility worthy of consideration is the institution of separate fee scales for work performed by private firms for public sector clients, as was the case until 1960 with local authority housing in Britain. The difficulty anticipated here is that at a time when design consultants are fully engaged, they may be unwilling to take public work, or put adequate effort into it for a lower fee than they can get from other clients.

A fourth suggestion is that public sector clients should economise on the use of scarce real resources in the shape of professional skills by making greater repetitive use of existing proven designs. Certain prejudices against uniformity on the part of client departments can be anticipated, but it is highly unlikely that the critics appreciate the high cost of diversity. Although some design costs will be saved in this way, the main saving should be in the cost of construction, since standardised design can be expected to facilitate standardised components and construction methods, making possible economies in construction.

Design and building consortia.

Hitherto in this paper the focus of concern has been the cost of providing professional design services within the context of the traditional pattern of relationships of the building industry. In this pattern, each design consultant works in a firm of his fellow-professionals, distinct from his colleagues in other professions and from the contractors who execute his designs. In 1966 the Tavistock Institute in London issued a report entitled "Interdependence and Uncertainty. A Study of the Building Industry" which pins on this fragmentation and the system of communications it engenders the responsibility for much of the inefficiency of the building industry. Briefly, the thesis of the report is that the building process requires that a large number of decisions be made by formally independent participants in the process; each of these decisions has implications for other participants, and should ideally be made on the basis of knowledge which they can supply, but in practice the restricted

flow of communication (particularly the fact that there is a one-way flow of information only) means that each participant takes decisions with inadequate knowledge, i.e. uncertainty. The authors of the report therefore look to a more effective pattern of communication among the participants in the building process to bring greater efficiency to the industry. If this conclusion is valid, it carries the implication that it is to a reconstruction of working relationships, rather than a reduction of fees for present services, that we should look for a contribution from the design professions which will help to reduce building costs. If the professional work can also be done more cheaply with a different pattern of communication, this is an incidental advantage but not the main one which can be expected. In general, it would seem to be a mistake to adopt a penny-pinching attitude to design costs when there is ample evidence (see Elizabeth Layton, "Building by Local Authorities" especially Chapters 8 and 9) that investment in design pays off heavily in reduced construction costs.

Two departures from the traditional pattern of relationships in the building industry seem worthy of consideration. The first of these is the design consortium, which gathers into one firm all the design consultants required on a project. Among the advantages claimed for the design consortium are: a unified responsibility to the client for design and supervision; a more effective co-ordination of design decisions as a result of the more open communications within a single firm; certain economies in overhead costs. The first and second advantages imply a more effective design; the second and third a cheaper design. I have no direct information bearing on the cost advantage enjoyed by consortia over independent consultants in Kenya, but information from the United Kingdom suggests that this advantage is substantial. (This international comparison appears to me to be perfectly valid, given the close similarity of fee scales and professional practice in the two countries). The RIBA report, "The Architect and his office" dealth with the fees charged by consortia in Appendix K, section k, which I quote.

"K. 24 The visited offices were asked whether they had established a consortium with other offices of consultants or quantity surveyors. Only five answered 'yes'.

K. 25 These five offices were asked whether an all-in fee had been charged, and if so how it had been divided between the professional parties. The answers given were various. A representative selection covering different offices and jobs is tabulated below:-

Job Number	1	2	3	4	5
Architect	4.5%	3.6%	5%	4%	5%
Quantity Surveyor	Extra	2.5%	2%	3%	2.5%
Structural Engineer)		2.4%)		2%	2.5%
Mechanical Engineer)	4%	1.0%)	3%)	)	
Electrical Engineer)		1.0%)	)	1%)	Extra
				)	
TOTAL FEES	8.5%	+10.5%	10%	10%	10% +

K. 26 The general practice appeared to be that the fee was agreed for each job between the professionals concerned and then with the client. The client then paid the total fee by instanments to the architect who distributed the agreed share to each member of the team.

K. 27 The all-in fee was generally around 10 per cent. This compares with the 13 per cent or so which the client would pay if all the members of the consortium charged their full fees separately."

If one assumes that the difference in fee is an accurate reflection of the difference in costs incurred by the design team working in a consortium as opposed to independent firms, there is a strong case for encouraging the development of design consortia. At the present moment, those design consortia which exist in Kenya are unable to pass their (presumed) cost advantage on to the consumer, by the requirement that they charge a fee equivalent to the total of the fees payable to independent consultants. This appears to me to be an indefensible piece of restrictive practice, which has the dual effect of raising the cost of the service to the public and retarding an intrinsically desirable development in professional organisation. The argument for a fixed fee is that it is a defence for an adequate quality of service, but the ability of the consortium to offer a lower price stems from organisational economies and not from any threat to quality (an improvement in quality is claimed). I would therefore recommend that design consortia be allowed to quote all-in fees less than the sum of independent consultants' fees by a margin which accurately reflects their cost advantage (on British evidence, about 20%).

The second development is the package deal offered by the building firm which employs its own professional designers; such a firm is able to offer the client a complete building service. The advantages claimed for the package deal include: a unified responsibility to the client for all stages of the building process; integration of design and construction decision with consequent economies in time and money; economies resulting from system building. In the package deal, it is not possible to disentangle the design and construction costs. The disadvantages of the package deal are said to include: the disappearance of the independent design consultant as guardian of the client's interest vis-a-vis the contractor; the difficulty of knowing whether the quoted price is fair, because there is no open tender for the construction phase, and [illegible] different packages are of non-comparable designs; the vested interest of the builder in offering one rather than the optimum technical solution to the user's needs. It is also alleged that it is difficult to get firms offering a package deal to commit themselves to a firm price. None of these disadvantages appears overwhelming to a client such as a large public authority employing its own technical staff in a position to safeguard the consumer interest; however, there are obvious dangers for smaller clients.

One compromise solution which offers certain safeguards for the client, which falls somewhere between the professional consortium and the complete package deal is the negotiated contract, where a nominated contractor joins the design consortium at the earliest design stage. His knowledge of methods of construction and possible cost savings is thereby made abailable to the design team; for his part, he has advanced notice of requirements of labour, materials and equipment. When the design is completed, the contractor offers a price for the work. If his price is considered satisfactory by the design team, they can recommend that the client accept it; if they feel the price is too high, they can put the work out to tender in the normal way and pay the contractor a fee for his contribution to the design. This is the method which has been highly successful in Dutch housing projects. This again appears to be a method with which the large public client might experiment in an effort to reduce the total cost of construction, rather than specifically the cost of the design service.

Conclusion and recommendations.

The restricted scope of this enquiry and the limited technical knowledge of its author inevitable make this report a fragile basis for action. It is clear that there is scope for further enquiry into (i) the comparative costs of design work performed in public offices and work put out to private firms; (ii) international comparisons of fee scales and classification of types of buildings (iii) the advantages and disadvantages of using the design professions in non-traditional relationships. At the same time there appears to be a prima facie case for action to re-structure the existing fee scales of the design professions in the following ways:

(i) the fee scale for architects should be modified to allow a higher fee on works of lower value and a lower fee on works of higher value;

(ii) the degressive percentage should apply to the incremental cost and not to the total cost;

(iii) the fee should be varied by type of building;

(iv) there should be a substantially higher reduction in fee for works or repetition than at present;

(v) the fees for engineers should explicitly incorporate a reduction in fee for works of repetition;

(vi) design consortia should be able to charge a fee lower than the sum of the fees to be paid to independent consultants.

I would recommend that the Ministry of Works draw up proposals on these lines to be submitted for detailed discussion with representatives of the professions; the existing departmental committee on professional fees offers a suitable forum for such discussion.

Select Bibliography

Douglas J. Ferry, Cost Planning of Buildings, Crosby Lockwood and Son Ltd., London, 1964.

Barrington Kaye, The Development of the Architectural Profession in Britain, Allen and Unwin, London, 1960.

Elizabeth Layton, Building by Local Authorities, Allen and Unwin, London, 1961.

Royal Institute of British Architects, The Architect and his Office, RIBA, London, 1962.

Tavistock Institute, Interdependence and Uncertainty. A Study of the Building Industry, Tavistock Publications, London, 1966.