

PARIS BAZAAR FIRE, MAY 4, 1897.  
VIEW OF BUILDING AFTER FIRE.

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BRITISH FIRE PREVENTION COMMITTEE.—No. 3.

# THE PARIS CHARITY BAZAAR FIRE

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"FIRES AND PUBLIC ENTERTAINMENTS," ETC.

## A Paper

PREPARED FOR THE  
ARCHITECTURAL ASSOCIATION,  
SECOND ORDINARY MEETING, SESSION 1897-98.

*Mr. HAMPDEN W. PRATT, F.R.I.B.A., President, in the Chair.*

### With Comments by

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LONDON, 1898:

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*One Shilling*

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## NOTE.

THE PARIS CHARITY BAZAAR FIRE of May 4th was the subject of a discussion at the Architectural Association, in which a number of members and visitors interested in the question of preventative measures at public entertainments participated. Though the paper which led to the discussion was prepared for the architectural profession, and not written from a more general point of view, the unanimous expression of opinion on that occasion in favour of judicious preventative measures, and the attention accorded to the subject by the general public as represented by the Press, has induced me to have the paper and the discussion thereon printed *in extenso* for this series. It is seldom that the different interests are so widely represented as was the case at that meeting. Besides the Vice-Chairman of the Theatres Committee of the London County Council, there were the Superintending Architect to the latter body, Mr. Thomas Blashill, and the second officer of the Council's Fire Brigade, Mr. Gamble. Major Fox, of the Salvage Corps, Captain Dyson, of a provincial Fire Brigade, and a constant attendant at our entertainments like Mr. William Archer, all participated in the discussion, besides members of particular experience as Mr. Lovegrove and Mr. Max Clarke. This unanimity where so many interests are represented is an excellent omen for the work of the British Fire Prevention Committee, and it is only to be hoped that the Paris Bazaar Fire will teach us henceforth not to neglect the safety of such gatherings or such premises as are to-day outside the control of our public authorities.

EDWIN O. SACHS.

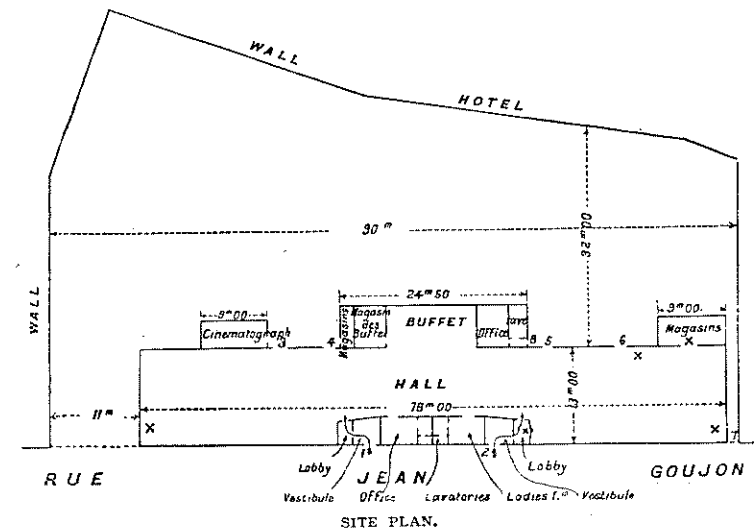
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*November 10th, 1897.*



cally forgotten. There may have been some slight flickering interest on the occasion of the Lord Mayor's visit to Paris to attend the funeral, and at the death of the Duc D'Aumale from the shock at hearing the news, but that was all. The questions which were asked in the House of Commons in connection with the fire, and the few words that were spoken at the London County Council, practically passed unheard. Nobody cared about the trial that took place at Paris in August. Public interest in such matters is short-lived indeed. And yet the number of deaths at the Paris Bazaar Fire was about 124, and many of those who succumbed were personally known in London Society, and a great number of the names of the deceased had also often been heard of by the British public. Paris is no small and far-distant town. We are within easy travelling distance of the French capital. In forty-eight hours, say three days at the utmost, the fire was forgotten, exactly as was the case with the Vienna "Ring" Theatre Fire of 1881, with its 450 fatalities; with the Opera Comique Fire in 1887, with a death-roll of 115, and other great catastrophes. Why, even when the Exeter Theatre was burnt down in 1887, and 160 lives were lost, not many miles from this metropolis, the country forgot all about it within a week. And remember, the Exeter and Paris Opera Comique Fires occurred in the same year, and were followed by a serious fire at Oporto with the loss of another 100 lives.

Let me recall some of the facts of the Paris Bazaar Fire, and I shall be doing so before the members of the profession with whom to a great extent will rest the responsibility of future catastrophes of this description. For no profession is so closely associated with the erection of our dwellings, our public halls, our places of public entertainment, and all those many kinds of structures, not forgetting places of worship, amid which we spend our lives. Now one of the greatest features of the 19th century has been the continual

effort to prolong life, and you are, I am sure, doing much in this important movement by seeing that your clients live in sanitary surroundings, and thus avoiding those terrible scourges of fever and other maladies which not so long ago decimated many communities. I need not here say how much the medical profession is doing in the interests of the prolongation of life, or how, in fact, nearly every profession, and even nearly every trade directly or indirectly, assists in adding to the longevity of the present and coming generations. Our Public

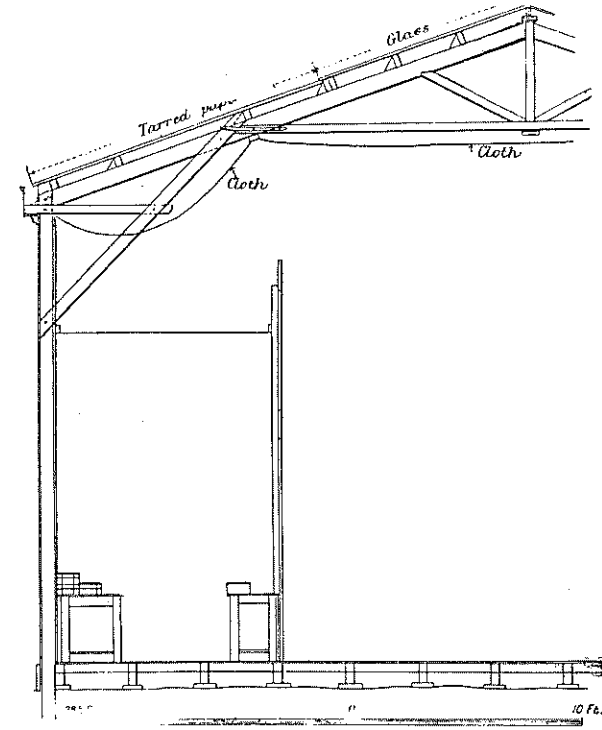


Authorities, not forgetting the police, are much occupied in the same manner, for they protect our lives in numerous directions. Yet neither these authorities, nor architects, nor any other profession for the matter of that, has so far done very much for the safety of life from fire.

Now, it may be somewhat aside from the question of the Paris catastrophe, but it may be of interest to know that Great Britain alone has an approximate total loss of property by fire of seven million pounds

per annum, and this is an absolute loss of the nation's wealth, and the wealth of the communities concerned. The annual loss of life is very heavy, and the number injured exceedingly large. Now, quite apart from sentimental reasons, is it not very curious that in such a practical country as ours, we should allow this constant drain on life and property, and what is more, allow it to a far greater extent than is the case in several other countries which are by no means so business-like as we are, and are certainly not doing so much to prolong life as we do in this country? The object of putting this paper before you, and not, say, before some body of economists, some gathering of statisticians, or some association of public officials, is that to my mind, the architect, and the surveyor, often assisted by the civil engineer, can do far more in minimising our loss of life, and thus add to the longevity of our race, than any law or regulation can do for us. You know it is an old saying that "Laws are made to be broken," and I am sure many of you pride yourselves on your "'cuteness'" of having found some outlet, some make-shift, or excuse for avoiding some of the few requirements laid down by the Public Authorities in this matter of safety from fire. We all know how proud the architect is when, say, he has a factory case, with the lives of hundreds of employees involved, and he can go to his client and say: "Sir, I have saved you that emergency staircase which figured so prominently on your schedule," and mentally, perhaps, thinks of the extra twenty-five guineas he will get for his successful negotiation. We know how proud the theatre architect is, when, fighting against some long list of requisitions, he can point out to the lessee: "I have saved you that exit; I have saved you that reduction of seats"; and maybe he also thinks of the extra fee, but certainly he never—any more than the architect with the factory case—gives a thought to the lives of those who enter the building on which he has advised. Don't let me be misunderstood;

every architect not only has the right but the duty to express his opinion on the requirements or requisition with which the Public Authority wishes his client to comply. We know full well that Public Authorities with the very best intentions, sometimes have ignorant officials, more especially in their junior ranks. We also



SECTION SHOWING ROOF, VELUM AND STALLS.

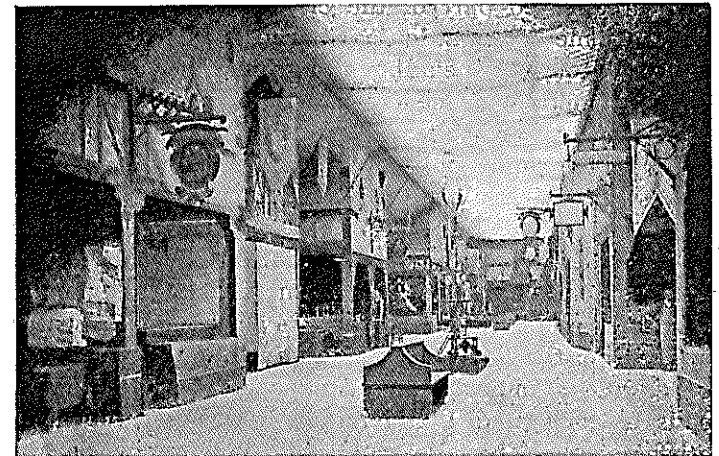
know the ambitious young official who prides himself on the long list of requisitions he has made at Mr. Tom Jones' Theatre, and on having discovered the many faults of that playhouse all by himself. I am not trying to dissuade any architect from the fair, open-minded and technical criticism of any list of

requisitions. By no means; but I consider it reprehensible, nay, wicked, to oppose every regulation for the safety of life and property, for the mere sake of opposition, and for the mere sake of pleasing one's client. Study the requisitions conscientiously, and if you find exaggerated demands on the part of the Authorities—mistakes, faddism—certainly try your best to get your client out of spending unnecessary money. If the Authorities know you treat matters seriously and fairly, you are sure to have far more consideration given to your arguments than if the reverse is the case. But don't oppose for the sake of mere opposition, or because it is the fashion to try to "best" the authorities. Don't say that this opposition is at the instance of the client. The client very seldom wishes to oppose the legitimate requirements of the authorities, or at least not until the architect has told him of all the savings he may effect by avoiding the regulations and requirements. Every factory owner knows what a fire would mean for his business, no matter how well insured he might be; every theatre owner and manager knows his responsibility well, and knows that the audience of to-day wishes to feel safe when taking its amusement. The opposition of 1897 to my mind emanates to a great extent from the architect. And I will go farther and say that it emanates not only from an inherent love for opposition to any so-called Building Act, but also from the architect's desire to show his client what he is worth. Let us leave that kind of thing to the bad architect, who has no reputation to lose. Follow the lead of men who, though keenly asserting the rights of their clients, always try to give their places of entertainment good straightforward planning, and in full accord with modern requirements. Otherwise measures will have to be adopted to make architects personally responsible for their buildings, as is the case in other countries, and I am sure you would not like that.

## THE BAZAAR BUILDING AND THE FIRE.

After these preliminary remarks, let me give a few facts about the Paris Bazaar Fire, and the construction of the building which was the scene of the holocaust.

Firstly, it should be noticed that the scene of the catastrophe was in a temporary structure. After the fearful loss of life in this building whilst used for bazaar purposes, and hence having its floor space in nowise blocked by seats or barriers, it would be well to



VIEW OF INTERIOR BEFORE FIRE.

remember that the premises had actually been previously used for theatrical purposes. The building had been equipped with a stage, with a raking floor, with fixed seats, and all paraphernalia and illuminants for dramatic performances, and such entertainments had actually been given on the premises.

Both the stage and seats had only been removed to enable the structure to be adapted for the organisation of a Charity Bazaar. Much has been said as to the premises being a place of public resort. It is, however,

difficult to decide whether the entertainment was a public one in the sense understood in this country; for though it appears that the visitors attended by invitation only, and not by ticket purchasable at the doors, custom seems to have required a "voluntary" payment to be made on entry. In most countries any payment at the doors, even for a programme, invests the entertainment with a public character in the eyes of the law.

Next, it should be noted that the site of the building was in the Rue Jean Goujon, close to Rond Point of the Champs-Élysées on the one hand, and to the Cours de la Reine on the other, and hence it was situated in a much frequented part of the city. It was not hidden away in some back garden or placed in some outlying suburb. Roughly speaking, the ground has a frontage of over 90 metres, or nearly 300 feet. Its depth averages 45 metres or 150 feet. It is within a few hundred yards of a small police station in the Palais de l'Industrie, which also has a permanent fire watch from the "Regiment des Sapeurs Pompiers." An important station of the latter body is not far distant. The Rue Jean Goujon, as will be seen from the site plan, ends at the Place de l'Alma, and there is an abundant water supply from the River Seine for any number of steam fire engines; but as far as the water service in the roads is concerned I understand it was not the most satisfactory. The site can in an emergency be approached from the back by the fire brigade passing through the houses facing the river.

Speaking of the structure, nearly 80 metres of the frontage was taken up by the temporary building, the average depth of which was 13 metres, and there were several small additions to the back, namely a refreshment room, a large store room used at the time of the catastrophe as a cloak room, and the fatal cinematographe room. The last-named annexe, which will be seen from the ground plan, was not, as far as the plan shows, in direct communication with the main building

for entry and exit, the approach being from outside and the visitors passing through door No. 3. The main building covered about a third of the superficial area of the site, while two-thirds, having an average depth of 32 metres, had not been built on. The site was enclosed on the back and two sides by walls of various heights from 15 feet upwards, and by the party walls of some adjoining houses. One of these blocks, the Hotel du Palais, has windows overlooking the ground.

The plan of the building showed a long gallery constructed of a series of framed trusses, the whole of the work being in timber. All the walls were match-lined on both sides. The roof was partly covered with tarred felt and partly with glass. The total cost of the structure was about twelve thousand francs, or about £480, of which sum nearly half was spent on the materials employed. The contractor carried out the work with particular regard to economy, and hence, perhaps, the lightness of the structure. So far as the contractor was concerned, the building appears to have been considered of a private character, little or no supervision apparently being exercised by any of the local authorities. The principal entry was through two doors, placed centrally, No. 1 and No. 2, and the visitors passed through a small vestibule and inner lobby in each case. There were four additional exits at the back, Nos. 3, 4, 5 and 6, of which No. 3 alone seems to have been well known, owing to its forming the approach to the cinematographe annexe already referred to. There was another exit, No. 7, used for service purposes, with which only the management and the stall-holders were acquainted, and there was also a small door, No. 8, from the refreshment annexe, into the open. In the front of the building there were several windows to the office, the ladies' room, etc.

On both sides of the gallery, there were rows of stalls, and the construction of these, together with the section of the building, is shown in the diagram which I have had specially prepared from the working drawings

in the hands of the contractor. The frontages of these stalls were faced with scenery, whilst the top of the hall was closed in by a velum of canvas. The decorations were elaborate, and, I must again add, particularly inflammable, while the articles for sale on the stalls were of course of a similarly dangerous character. Perhaps I should also mention that the decorations to the stalls were old, worn, and very dry. The floor was of wood, resting on timber sleepers. On the exterior the only attempt at decoration had been in the central feature.

There is no doubt that the fire originated in the cinematographe annexe, and that the actual cause was due to carelessness in using the special lamp employed. But I will not go into detail on the point of the actual cause of the outbreak, as this would teach us little and only afford another instance of the criminal recklessness with which mineral oils and explosives are handled. It appears that the flames broke through to the gallery at once, and were drawn immediately across the hall to entrance No. 1. It will be seen from the drawings that the glass at the top of the building must have been broken almost immediately, through the enormous velum becoming a sheet of fire. Further, it is evident that the velum must have broken away from the points at which it was suspended, falling on those beneath. The tar on the roof also dropped in a molten or burning state. The plan will explain how those farthest away from the centre on the cinematographe side of the building, must have been cut off directly the flames took a hold of the doors No. 3 and No. 1. It was further natural that there should then be a general stampede towards entrance No. 2, and to that part of the hall farthest from the cinematographe. The extra doors, No. 5 and No. 6, were apparently so little known that they were not used, and it appears that many of the visitors were caught at the entrance to the store annexe which I have already stated was then serving as a cloak-room, and, hence, well known to many of the

ladies, who, in the excitement of the moment must have associated it with an exit. In this annexe most of the bodies were found, the other points at which deaths occurred being marked with an "X" on the site plan. The diagram shows that some of these positions are very near the doors Nos. 6, 7 and 2.

It is not my purpose to discuss the plan in detail, but there is one thing certain, and that is, that at first sight the number of exits, eight in all, would appear sufficient for a substantially-built structure which has its floor on ground level. I would even go so far as to say that there are not many galleries of the same dimensions, standing under the control of a public authority in this country, that have a larger number of exits; but here it should not be forgotten that in the planning of places of public entertainment, precautions are not based on the assumption that flames will spread with such rapidity as was the case among the decorations, fittings and general appliances of this fatal structure. In a well-planned theatre of the most modern type there is always the supposition that some four or five minutes' time will be given to the audience to leave their seats in the auditorium proper. There is one unfortunate feature of the planning of the Paris Bazaar I cannot, however, help noticing, and that is the manner in which the lobbies to entrances Nos. 1 and 2 were set out with the view of excluding draughts. I am unable to get reliable information as to whether the wings to these doors swung outwards. As to the doors Nos. 3, 4, 5, 6, however, I know that they opened inwards and that one of them was blocked or bolted at the time of the catastrophe.

Looking at the plan of the building, its construction and contents, and considering well all the defects that such a structure must contain, I would yet point out that the extent of this calamity was due in a great measure to the fact that the majority of those present were ladies whose clothes must have undoubtedly caught fire immediately the lengths of canvas velum and



burning tar fell. I have on a former occasion argued that English women are far more fearless in facing danger than their sisters of other nations owing to their constant association with the various forms of sport practised in this country, and much has unfortunately been said to the effect that a panic of such dimensions would be impossible in Great Britain. I scarcely, however, think that my argument holds good in a case like the recent catastrophe at Paris, for the scene must have immediately been of such a terrible nature that even those whose profession makes them acquainted with the terrors of fire, would, in all probability, have lost their presence of mind. It would not be doing justice to our French neighbours if I were not to say that, in spite of the severity of the panic, heroic deeds were done and death itself faced in doing gallant acts, acts which English men and women would have been proud to have been associated with.

To recapitulate the main features of this catastrophe, let me repeat that the building had its floor practically on pavement level, and stood on its own ground, with its front on a broad public thoroughfare. There was vacant land at the back, a broad passage on the one side, and a narrow one on the other. There were eight exits leading direct into the open, with an aggregate width of some forty feet. The visitors were mostly ladies dressed in Spring apparel; the spread of the flames was exceedingly rapid, and their garments became ignited almost immediately. The general aspect of the fire was particularly dangerous. There is no doubt that many of the visitors practically died where they stood at the time of the outbreak, being enveloped almost immediately in the burning canvas which fell from above. Of the others who succumbed, many were entrapped either by being cut off from the exit, by finding these blocked when they reached them, or by not knowing their exact position. Of those who escaped by the principal exits a large number were injured by the crush at the doors.

Though the police and the fire brigade were within easy call, even the instantaneous arrival of a large force on the spot could scarcely have lessened the death-roll, owing to the rapid spread of the fire, and the extent of the panic. I have not heard that any watchman or fireman was stationed in the building, but even had this been the case, it is not in the least likely that his efforts would have had any appreciable effect. The great heat from the fire appears to have prevented those who reached the land at the back from utilising this space as a refuge. A window of the Hotel du Palais was used by many escaping to the rear of the building, as the broad passage opening into the Rue Jean Goujon was apparently overlooked. A number of the visitors were, however, either killed or badly injured in the crush in their efforts to reach this improvised means of escape. As to the extent of the destruction, a good idea can be formed from the copy of a sketch made on the spot. In closing these remarks on the actual fire and the fatal building, let me again state that no less than 124 lives were lost, and of the injured many even to-day are in a serious condition or are practically human wrecks owing to the nervous shock which they sustained.

#### FIRE PREVENTION OF TO-DAY.

Now, if I may be allowed to classify, the Paris Charity Bazaar was a semi-public Entertainment, held in a provisional building. As you know, our entertainments are either of a private, a semi-public, or a public character, whilst the buildings utilised are either permanent structures specially erected for a specific purpose, permanent structures temporarily adapted for some purpose, or they are provisional buildings.

SAFETY AT PUBLIC ENTERTAINMENTS.—As far as public entertainments in buildings specially erected for the purpose are concerned, nearly every country

has already inaugurated some policy for preventing catastrophes. I here refer to the theatre, the music hall, the assembly room, &c. Europe has, in fact, every kind of legislation conceivable for the protection of the public in this class of structure. There has been hysterical panic legislation, ponderous regulations in which every detail is defined by law, also Codes which leave practically everything at the discretion of an executive of experts, and regulations which are merely so by name, and are a farce because they cannot be put into force. There is no uniformity in the preventative legislation of the world, even in its elementary principles. If we study the regulations of different countries consecutively with an idea of discovering what is really necessary, the result is most confusing. But I am not going into detail: neither shall I quote clauses. Yet for all that, I will say broadly that some countries seem to consider that good construction is the essence of safety, whilst clear planning, watching and inspection are forgotten. Other countries give all attention to endless regular inspection, and omit the watching; others, again, require inspection only; whilst others, perhaps, insist on good planning, construction, and ample inspection, but disregard the watching. It is time for some representative body of experts to decide what they consider necessary in the interests of the public. I am not going to raise the many questions as to the proper executive for locally determining or enforcing the requirements, nor shall I enter into the merits of individual regulations. I will simply call attention to the want of uniformity in the main and elementary principles for obtaining safety where we have to deal with buildings erected for specific purposes and where specific forms of entertainment are given.

Personally, I hold that for a theatre or music hall, clear planning is of greater importance to the audience than clever forms of construction, or the employment of

materials having considerable power of fire-resistance; and further, I contend that in such buildings the regular attendance of fire-watches day and night, and more especially during performances, is more essential than any amount of regular or even surprise inspection. But this is only a personal opinion. There are no definite conclusions as yet arrived at by any body of experts representing the conflicting interests which play such a prominent rôle where our public entertainments are concerned.

In expressing my opinion on the matter, I should, perhaps, say at once that I consider it the duty of the authorities to attend to the protection of life in the first place, and to the protection of property in the second. As we all know how easily a panic occurs without any fire, and how dangerous the rush of a frightened audience can be, the clear exit of ample dimensions and most direct route will be the greatest safeguard against loss of life, and perfect symmetry of plan of very great value. The prevention of a cause for panic is best guarded against by the constant presence of experienced and responsible firemen, who will, on the one side, recognise the possibilities of danger in time to prevent a fire, and, on the other, be able to act smartly in case of an outbreak. I do not wish to disparage good construction, or regular and surprise inspections; but I consider the most careful regulations as to construction and materials are of little practical value, so far as the safety of the audience is concerned, if, at the same time, the planning is not straightforward, and responsible firemen are not regularly in attendance. To take an extreme case, wood stairs will take the audience quite as quickly into the open as stone ones, and stone stairs with many winders and a complicated plan will be far more dangerous than wooden ones of straight flights of, say, fourteen steps each. Don't let me be misunderstood; of course good construction and fire-resisting materials lessen the risk

of an outbreak of fire, and I shall always advocate such construction and materials. But I have inspected many theatres, built of slow combustion materials, and yet have found them dangerous in the extreme through bad planning; and I wish to point out that a building erected entirely of fire-resisting materials is not necessarily the safest. It is also on account of my acquaintance with the fact that many important cities, though equipped with modern regulations for the erection of theatres, have no powers to enforce the presence of an official fire-watch during the performances, that I am anxious to lay stress on the necessity of watching, and not only of inspecting the theatre and music-hall of to-day.

PREVENTATIVE MEANS AT SEMI-PUBLIC AND PRIVATE FUNCTIONS.—All that I have said so far refers to the permanent building erected for a specific public entertainment. Even here, with given facts, I have to tender personal opinion, because we have not yet arrived at definite conclusions on the subject. What, may I ask, is the state of affairs as to semi-public and private entertainments in buildings, halls or rooms only temporarily utilised for gatherings of this description? So far nothing scarcely has been essayed, let alone decided. Legislation on the subject in this country is as non-existent as it is on the continent. Why, we have not even as yet any practical definition as to what a private or a semi-private entertainment is. The whole subject is so delicate a one that even such despotic Police administrations as those of Prussia and Russia have not yet felt their way. Where do the privileges of private entertainment cease? and when does an entertainment assume a public character, not only as such, but more especially in respect to public safety? Cannot every man do exactly what he pleases on his own property so far as entertainment is concerned, and as long as the general public is not admitted by payment? But is not a Foreign Office Reception on

Her Majesty's Birthday to all intents and purposes, a public entertainment, and similarly, the ladies' political drawing-room meeting in Park Lane? Is not a bazaar, held in a tent, say, at the Botanical Gardens, and to which only members of the Society with their friends are admitted, a public entertainment? How many bazaars, let me ask, are held without payment for admission on private property, which are essentially of a public character? Think of the many meetings, so-called private theatricals, subscription balls and other fêtes! How is classification to be attempted? How are we to define our entertainments? But here a suggestion: Is it necessary to classify at all? Is it essential to make limitations as to the different classes of our entertainments? I think not. Whilst most of our legislators at home and abroad are trying to define our entertainments and then to frame certain requirements for the safety of the public, why not let the character of the entertainment take care of itself. Let us look on every room over a given size as a place in which we may or may not congregate, with or without payment, to dance, to sing, as the case may be. Let the superficial area of any given room and its position alone govern our requirements for safety; not the fact that it is a private dwelling-house, a saloon at an inn, a school-room, or a Board room.

If the Building Act of to-day defines the thickness of a party-wall and its height above the roof, quite independent of the fact of a man giving a party, or lending his house for a drawing-room meeting, having a chemical laboratory in the place, holding dancing classes, or carrying on a School, why should there not be such planning compulsory as to prevent any room over a given size, be it a ball-room or a studio, being used without risk to life? Why should not every large drawing-room on the first floor have sufficient exit and staircase accommodation to deal with the maximum

number of people who press into that drawing-room ? and let the same hold good for every class of structure, if a public house, a school-room, or a chapel. Do we not all know the bazaars held in houses kindly lent by charitable owners ? I have a house in mind in Carlton Terrace, where the first-floor drawing-rooms are at times simply packed, and the staircases so crowded that it takes a full half-hour to get from one floor to another. The functions are essentially of a semi-public character, and as dangerous as I can remember. You all know the entertainment in the parish school-room, given ostensibly by the schoolmaster to the friends of the pupils. Well, again, don't let us bother too much as to the exact purpose of any gathering, but let us build our larger rooms so as to allow for assemblies of any description, with safe and speedy exit in case of need.

But now, another point. How are we to assure ourselves that even if any one room or hall fulfils the ordinary requirements of safety as far as plan and construction are concerned, that the variations in the interior arrangement, in the decorations, etc., do not more than counteract what the architect has done. Of course, a building, a room, or a temporary structure should be used for what it is designed, and for no other purpose. But in reality we must consider the possible purposes to which a room may be put, in fact, the dangers of any decoration or paraphernalia necessary for the fulfilment of various objects must be considered at the time of construction. A hall which is used as a ballroom, and which is perfectly safe as such, may be a veritable mouse-trap when used for theatrical entertainments. A hall designed only for banquets, public dinners, etc., may become dangerous when utilized for bazaars, with all its temporary stalls and side shows. The building must be designed to fulfil conditions of the greatest possible danger. Of course many hold that we cannot limit ourselves to controlling the *erection* of buildings, but we must seek

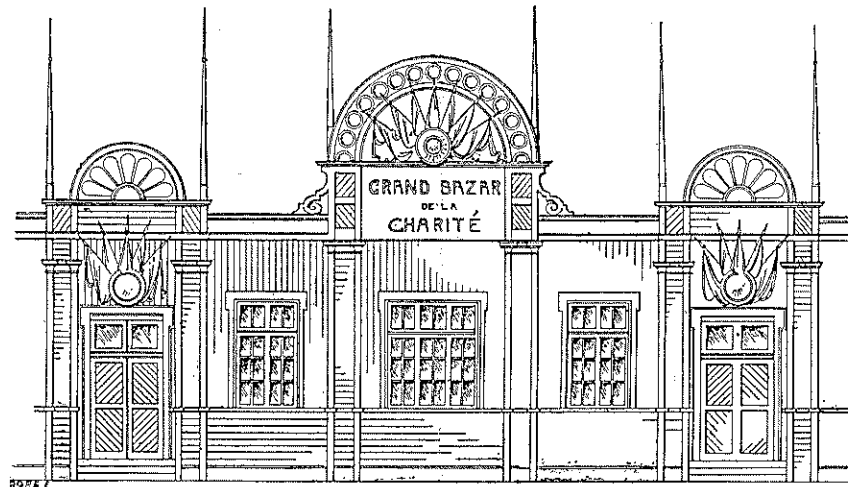
to obtain control over their *employment* and the manner in which they are equipped for its different purposes. No doubt it is just the ordinary drawing-room, the ordinary assembly-room, the school-room, etc., which is used for so many purposes for which it is never intended, and that there are many dangers incurred on that account. Such control has been attempted in some continental countries. But I think such control would be very hateful in these freer isles. We would, I am sure, rather build our houses and halls at once in such a manner as to be prepared for all risks, rather than be constantly worried by inspections and the like. What may be good for a continental country is not suitable for us. We all abominate anything like perpetual grandmotherly interference. Hence, I say, rather let us at once build suitably for all emergencies. If we do that, we need not be constantly worried. Perhaps even improvement of plan and construction at the outset in a new building appears a very serious matter to you, but think, what does it really mean in nine cases out of ten ? A few extra doors, and these so hung as to swing outwards ; staircases perhaps somewhat broader, and not of a dangerous hanging type ; hand-rails perhaps on both sides ; a few safety bolts or latches. Surely this would not even interfere with a great art-architect's design, his colour scheme or details, and would this not save us endless worries of control over all private and semi-public entertainments ?

UNSUITABLE PROVISIONAL BUILDINGS.—And now comes the question of provisional buildings erected for some specific purpose, such as a bazaar, and often allowed to remain in position for some indefinite period. Again we find nothing has so far been done or decided so as to minimise danger in these structures—in fact the meaning of a temporary structure has scarcely been defined. Is the large tent, built in the garden of a private residence, a temporary structure or not in the meaning of the Act ? and if so, why are such tents

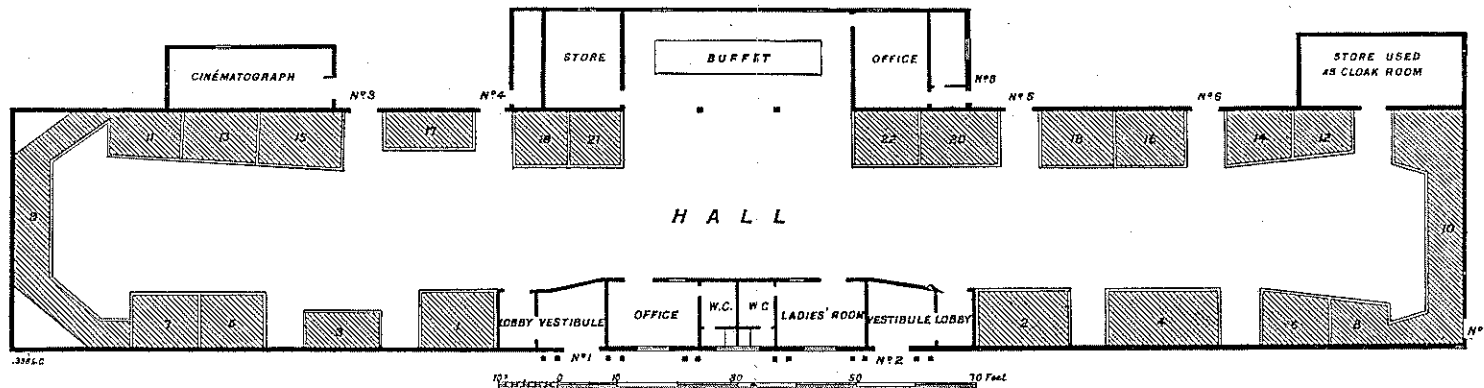
erected with impunity for all manner of social functions throughout the London "Season"? To my mind the less temporary structures are encouraged the better, and this, regardless of what their character or purpose may be. But when erected, let the same importance as to planning and watching be accorded to the provisional building as is essential for a permanent structure. Let us not forget the Charity Bazaar Fire, and consistently avoid the flimsy and dangerous materials which were used for its construction. Why, we can even have temporary iron buildings at a very reasonable expense. But above everything, planning and watching should be kept strictly in mind. I am not going into details here, but if you wish to have some valuable information as to what can be done, and what the architect should bear in mind when associated with a temporary building, I cannot do better than refer you to an article by Mr. H. Heathcote Statham, and published in *The Engineering Magazine* of July last.

**DANGEROUS DECORATIONS.**—It is not my object, as I have said, here to deal with details, neither in regard to the construction of our permanent theatres and public halls, our private drawing-rooms, nor in regard to our temporary buildings. The diagrams of the temporary structure at Paris, to repeat what I have said, serve as sufficient warning as to what must be avoided in this direction. It is likewise not my wish to enter into details on the question of equipment, for here again the diagrams will show everything that is to be condemned. There is so far, I am aware, little or no regulation as regards such equipment to-day. The matter has in fact scarcely ever been discussed, though an all-important one so far as safety of life is concerned. I do not wish to air personal opinions on the subject of equipment, for it would take a long time to explain the possibilities, etc., of the question. If, however, I may be allowed to call attention to one thing, it is to the fact that whatever the architect may do in any class of

building used for entertainment, his efforts can so easily be annulled by flimsy decorations, appointments, equipment, etc.; it is just this so-called decoration combined with carelessness on the part of the individual that is the actual cause of most fires. Apart from facilitating the escape of the individual, the architect's efforts are to a great extent limited, as far as the actual fire is concerned: first to avoiding the possibility of an outbreak occurring in connection with the structure proper, and secondly, seeing that should an outbreak occur his structure does not facilitate its spread. The architect cannot prevent a drawing-room, or a schoolroom being decorated with bunting, Liberty silk, or paper rosettes, and, as I have said, control in these matters would probably not be advisable in England. He cannot prevent the smoker "lighting up" at his smoking concert, or prevent the use of open lights, and official interference in such matters would be unacceptable to the Englishman. We can, no doubt, prevent many dangers in the usage of buildings erected for public entertainments. We could and should prohibit the wood stage of the theatre; we can prevent muslin hangings being used in the auditorium, and prohibit smoking, except in specified rooms. But such restrictions would be intolerable and extreme if applied to rooms used for private and semi-public gatherings. They would not be practicable. Thus again, we have to deal with certain well-known possibilities of fire with certain given facts, and against these facts you have to provide. The actual disuse of those Liberty silks, open lights, muslin, paper roses, in our private and semi-public entertainments, rests entirely with the good sense of the general public. Until the general public boycott them, you will have to take them into account when you are at your drawing-board, or superintending your jobs.



ELEVATION OF MAIN ENTRANCE.



GROUND PLAN.

## CONCLUSION.

And now, what is to be the remedy for the present state of affairs regarding safety of life at entertainments and gatherings of different descriptions?

The first and principal remedy, to my mind, as I have already indicated, lies in the hands of representatives of the architectural profession. It will be the architect mainly to whom we shall have to look for safety—we have to rely on the spirit with which he designs his structure, no matter what the regulations may be. At present, I am afraid safety of life is about the last thing that the designer thinks of. Safe-planning and fire-resisting construction will have to become subjects in the student's curriculum, and the practitioner of to-day must have his attention called to these matters.

Secondly, we must depend largely for improved protection on the general public, who will sooner or later have to take upon themselves, to a great extent, the rôle of being their own guardians. At present there is not the slightest interest in the question of protection from fire in this country, whether it be in connection with our entertainments, or with the fire losses generally. That interest will have to be awakened. The public will have to call for protection, and will have to give protection from fire the same amount of attention which is accorded to safety in travelling, safety of health through sanitation, and safety from social disturbance through police supervision. Whilst the architects on the one hand will act as experts and give the British public safer buildings, that British public will in time make it their business to see that these buildings are employed for what they were originally intended, and that no unsuitable decoration or equipment is permitted. Such gross mistakes as are now being constantly made, will, if I may say so, some day be instinctively avoided.

Thirdly, architects and public opinion will have to be supported, their hands strengthened or governed as the

case may be, by further legislation giving the necessary powers to those in authority to intervene where necessary, and laying down the principles that have to be followed; and with new legislation, we should also remember that we shall require more officials who will in every way be capable of carrying out its administration, and the execution of any specific code with tact, knowledge, and sound common sense. Legislation on building matters always requires a certain power of discretion for the officials. We do not want the red-tape automaton so conspicuous in some Continental countries.

But how are these remedies to be brought about? Of course, after every catastrophe there is always a considerable literature forthcoming on the subject. We have had literature enough after former fires, but unfortunately, except for the steps already taken as to theatres and licensed premises both at home and abroad, it has been literature alone. There has been much writing, but very little action. It is now time to take action. We do not wish London to be the scene of a calamity similar to that by which Paris has been recently visited.

How are we to get the architect in practice to take a little interest in fire protection, not only in its general aspect, but specially in connection with our entertainments? How is the student to be encouraged to take the matter up? How, again, is the general public not only to be interested, but educated? How are our authorities to be assisted in arriving at practical conclusions and regulations, and our officials kept in touch with what is going on in these matters?

It is a big question, for I go so far as to say that in regard to the general public, we should even let the Board School "standard reader" have pretty fables dealing with the dangers of fire, rather than some of the useless stories that appear to-day. I go farther still, and say that the public press, that great

educational factor of to-day, might be induced to give us something more instructive about fires than mere reports of conflagrations. We might hear more of the origin of fires and of the possibilities of prevention.

How are we to attain these improvements? To my mind, the right note has been struck at Paris. It has said: "Call together your leading architects and surveyors, your civil and mechanical engineers, your experts in chemical and other sciences. Call together your leading officials, the leading Government and Municipal workers, and others seriously and scientifically interested in the technical and economical problems of to-day. Don't forget the leading fire brigade officers nor the owners of warehouses, theatres and other dangerous property. Combine the many conflicting interests. Don't be afraid of compromise. Avoid one-sidedness. Examine what has so far been done at home and elsewhere. Find out what proposals are stowed away in men's minds. Confer. Then act, and act soon. But mind, no one-sidedness or petty prejudices." That is the advice from Paris where it is being acted upon. Other countries will act on it too, and I hope Great Britain will be foremost among them. A small start has in fact already been made. On the initiative from Paris a small committee has been formed, which is taking up this matter of fire prevention. This committee, made up of representatives of the different interests, will soon find a way to help the architect, to see that the general public does not forget the lessons of the Paris fire, and that our legislators have sound independent assistance when required. It is fire *prevention*, mind you—preventing fires—that the committee have most to-day to think of—not putting the fire out when it is there. Let our gallant firemen look after the fire-fighting when the fire fiend is actually among us, but let us see that our firemen have as little work to do as possible, and that they are not handicapped to the extent they are at present.

## DISCUSSION.

### THE CHAIRMAN:

MR. HAMPDEN PRATT, F.R.I.B.A.,  
*President, Architectural Association.*

The subject which Mr. Sachs has brought before us to-night in his very interesting paper, is one which concerns all of us, not only as members of the architectural profession, but also as members of the public, and that being so, we have every reason to discuss the question freely.

We have amongst us, a number of gentlemen who do not belong to our profession, and we therefore have an excellent opportunity of hearing different aspects of the matter dealt with. I hope that so interesting a subject will provoke a good discussion, and as we have with us, the Vice-chairman of the Theatres Committee of the London County Council, Mr. Roberts, I will now ask him to open the discussion by giving us his views on Mr. Sachs' paper.

### MR. RICHARD ROBERTS,

*Vice-Chairman, Theatres Committee, London County Council.*

I am glad to have the opportunity of hearing Mr. Sachs' paper. It is not the first time I have heard him in this room, and I think we are all indebted to him for the continuous interest he takes in this important question. I think it is necessary to keep the public mind alive on such questions as safety from fire; we are far too apt to forget the dangers with which we are surrounded.

If I were to make any criticism on Mr. Sachs' paper, I should say that it was imbued very thoroughly with



the scientific spirit, but, perhaps, not quite so much with sentiment, for I see he goes so far as to say that the children in our Board Schools should have, what I might term lessons on danger from fire. Now, I do not quite favour that opinion. I still prefer that our children should be taught the tales of King Arthur and the Knights of the Round Table than anything propagated in this paper. But be that as it may, speaking generally, it is absolutely necessary to draw attention to the dangers of this kind with which we are surrounded.

The County Council, as we all know, has done considerable work in the direction of fire prevention, and here I should perhaps point out that its members have been very ably advised and guided by its permanent officials. Mr. Blashill, the Superintending Architect, has done much in this direction. To give an example how our chief official is alive to every aspect and every lesson taught us in the matter, you will remember that Mr. Sachs pointed out that the velum in the Paris Bazaar disaster was the cause of great danger. Now only quite recently Mr. Blashill called attention to the velum at a very large show opened in London. Of course we asked for its removal.

I believe there is much in the suggestion which has been put forward in Mr. Sachs' paper in regard to watching and planning. The Council already sees that theatres are properly provided with the necessary number of exits, also that there is a proper site, but there should be more attention given to planning and continuous watching should be insisted on. As to watching particularly, I believe very often the fires at entertainments could be prevented by some systematic arrangement. We can certainly be more on our guard in this direction than we have been in the past. As to better planning, I am hopeful that Mr. Sachs will make an impression upon the younger generation I see around me, and that we shall have our buildings in future designed with a view to greater safety.

But if our architects of to-day are not alive to risks of fire, how can we expect the general public to be more careful? If you, with all your knowledge and all the learning you have as to materials, constantly run risks, and let others run risks, you must expect the general public to do so also. If we are anxious to minimise our risks we must take the matter up and we must take public opinion with us, and I think the officials of the London County Council will support me in this opinion.

Speaking again of the County Council officials, we owe a great deal to Mr. Blashill and his assistants, because they continue to press this important point of danger from fire, and danger from panic. Our officials make their requisitions, and make them to a good and high standard. If any regulation is modified it is not by the action of the officials; it is by the Committee. It is the layman who tries to make the requirements for safety less onerous to the property holder, for he is aware of the expense they will involve.

As to provisional buildings, I should lay stress on the fact that I consider the dangers of temporary structures particularly serious. I am very sorry myself to see any application for temporary buildings in London, and the generally accepted practice of the Building Act Committee, of which I am a member, is never to grant permission for a temporary building, except for a school, or for a religious or philanthropic purpose. We do not now grant permission for temporary structures for entertainments, and certainly never for trade purposes. Mr. Sachs has very wisely put his finger on the point of danger in temporary buildings. All buildings used for entertainments should be permanent and well built, and I think you should set your face as far as you possibly can against temporary buildings of any kind. Of course temporary structures are often erected without our permission. There are tents for balls, for weddings, and other occasions of that sort. I remember that in the early days of the Council, when perhaps it was a

more radical body than it is now, we even threatened a Duke because he set up a tent without permission, I believe on the occasion of his wedding. The Duke, I am glad to say, guided by his architect, saw the matter in the right light, and applied to the Council for permission, so that no proceedings had to be taken against his Grace.

If I may make another remark it is that there is a general opinion that payment is necessary to make an entertainment public. Now, if the public can get into a place with or without payment, and if there is music or dancing, it really requires a licence, so that in England payment is not necessary to make premises a place of public entertainment.

In conclusion, I would say a word of praise for the new suburban theatres which are springing up around London, and are built under our regulations. They are well constructed and their sites are good. I shall not here say anything about their artistic merits. Let us be charitable, and perhaps say that their owners spend so much in better sites and improved construction that they have no money to spare for artistic display. The County Council cannot, however, be held responsible for the lack of merit in the architectural rendering, for its duty is to preserve the lives of the public at all costs, and in this we hope to be always assisted by architects.

I must again repeat that Mr. Sachs' subject is a very important one, and that he has dealt with it in a very able and instructive manner.

MR. SIDNEY GAMBLE, A. M. Inst. C.E., F.S.I.,

*Second Officer, Metropolitan Fire Brigade;  
Vice-President, National Fire Brigades' Union.*

I have heard Mr. Sachs' paper with very great interest and he brings out many points. Of course, the actual combating of a fire was not touched on to any considerable extent, and Mr. Sachs is quite right in restricting himself to fire prevention before a body of

architects, inasmuch as the scope of the architect's work is limited to planning and construction. I notice Mr. Sachs uses the term "slow-burning" construction, and this is an improvement on the usual expression "fire-proof," a term which is quite out of all reason.

Speaking of theatre fires and the advisability of having clear and well-planned corridors and staircases, I would remind you of the Oporto fire which Mr. Sachs referred to, where over a hundred lives were lost. All the people had safely left the auditorium, but, unfortunately, many either lost their way or got blocked on the staircases and corridors, and were crushed or suffocated there.

The next point, as to deaths from fire generally. Well, deaths from fire arise, of course, from many different causes. In London we try as far as possible to keep a careful record of all the deaths that occur, but the bulk of those that happen in London are due to the person's clothing coming into contact with fires in open grates, or by mineral lamps exploding or leaking. The actual fire is often very small indeed, in fact, frequently there is hardly any fire to speak about. Mr. Sachs' wording would imply that the £7,000,000 loss of property by fire and the lives lost coincide proportionately the one with the other, but that is not the case. Much property is frequently lost without any injury to the owners or occupiers or their employées.

Mention was made in the paper how architects press upon local authorities to relax their regulations in relation to fire prevention. It is 25 years ago since I was first appointed as a building official. I acted as Borough Surveyor for many years, and I can confirm Mr. Sachs' view that architects often try very hard to evade the regulations. I had much trouble to make them conform to certain regulations, and though I never agreed to relaxing any of the existing regulations, my committees often moderated the requisitions, which seems to bear out to a certain extent what Mr. Roberts has said in regard to the officials and lay committees.

Now as to panic. Well, a panic may occur from the most trivial of causes. It has been my good luck only to be in a panic once. It occurred in a large building in London, and was solely due to a woman having gone into hysterics and making a disturbance. That will show you how small a matter may cause a very serious loss of life.

Mr. Sachs mentioned, with regard to the Paris fire, that the glass in the roof went very early. Well, unless he has got definite information upon that point I very much doubt it. I rather think that the glass would have stood the fire for a very considerable time. Glass will stand for a long time, unless cold water is thrown on it. If the glass had fallen in good time, I should have thought it a very good thing, for then the smoke would have got away. I should like to know if Mr. Sachs has got definite information upon that point.

Another question I would like to touch upon is that a number of people who got into the enclosure at the back of the building were burnt. There can be no doubt about it that intense heat playing upon the flesh has a most disastrous effect in a very short time. It is impossible to say how long a time; but, in my own mind, where a person gets close to any great heat, it is only a question of seconds, and from what I have seen of bodies it must have been almost instantaneous death.

Then with regard to public entertainments generally, mention has been made of inspection. Well, of course no amount of inspection on the lines we have it in London will stop a burning place from being a death trap: we require something more consistent. From that serious fire at Oporto have arisen very stringent regulations. Managers are not allowed to open a building for entertainments until they get a certificate from the chief officer of the fire brigade shewing that all the exits have been carefully inspected, and that all the appliances are in order. Some arrangement of this kind might, with advantage, be carried out in England.

As to watching Mr. Sachs is quite right; the importance is underrated. I am afraid that the private firemen doing duty at London theatres are at the beck and call of any of the staff to run errands and do odd jobs. This is a very unsatisfactory state of affairs.

There is one point that has not been touched upon, and that is, that many buildings are so altered after they have been first erected, that they become very dangerous. It is one of the great troubles that we firemen have to deal with, that these buildings have been cut about after the architect has done his work. Many of these alterations have been done without the authorities knowing anything about it. I have in my mind at the present moment a case of a house being turned into a dancing academy, and then, at a fire, unexpectedly collapsing. We lost two of our firemen in that case; and their deaths were due solely to the alterations which had been indiscriminately made in the structure.

In conclusion, I do not see that any general regulations could ever be drawn out applicable to all countries and all localities, though the principles of safe building might be determined at an International Conference. As to the Committee which Mr. Sachs mentioned, there is every reason to hope that we may benefit by its efforts.

MAJOR FOX,

*Chief Officer, Salvage Corps.*

I can only endorse the views which have been expressed by Mr. Sachs, and am sure you must all have listened to him with great interest. I had an opportunity of viewing the ruins of the Paris Bazaar within twenty-four hours of the outbreak, and I was not astonished at what I saw and heard, knowing that it was merely a wooden shed fitted with canvas. As to the destruction of the building, I can assure you that what was left could have easily been put into a single van. Of course, it was an error of judgment to fill a building like that with ladies

wearing flimsy dresses, and, of course, it was a mistake to have an entertainment of that sort going on in such a place, but, as Mr. Sachs always says, it is very easy to be wise after the event. If there is panic, as is more often than not, you have loss of life. Panic is always the trouble, no matter what the cause.

The subject of churches, only casually mentioned by Mr. Sachs, is a very serious one. We all recollect the terrible disaster in Santiago. It would be only fair if churches were examined just as well as other public buildings. If you were to go into the gallery of some of our churches, and notice the length of time they take to clear it, looking at the matter in view of what has taken place in the past, you will at once conclude that a great many people must be injured in case of panic. I do not say that as an alarmist. I have been called over the coals for expressing my opinions too freely, but attention must be called to existing anomalies. After all, lives were lost at the Paris fire owing solely to the fact that no one had directed attention to the danger of having such temporary buildings. I only hope that something may now be done which will result in some good either by the working of the committee referred to, or in some other way. Great credit, it should always be remembered, is due to the London County Council officials for the trouble they take. Anyone who sees the time and labour they expend must feel that they do everything in their power to minimise existing dangers.

Touching on a matter of detail, I certainly agree with Mr. Gamble that the breaking of the glass was not the cause of extra danger. It would have been better if the glass had gone sooner than it did. You will find if water gets upon it, it will only crackle, and will not break for a long time, which holds the fire in. The great danger, however, in the Paris building, as Mr. Sachs points out, was undoubtedly the velum, and when it dropped on to the people's heads there was really no hope for them.

I have studied the subject very deeply, and I can only thank Mr. Sachs for his very excellent paper. I am sure that increasing good must come from the work he has taken up and the discussion of the subject on broad lines which is likely to ensue.

MR. THOMAS BLASHILL, F.R.I.B.A., F.S.I.,  
*Superintending Architect, London County Council;*  
*Member of Council, Royal Institute of British Architects.*

I am very pleased to be here this evening. I did not, however, expect the very kind comments that Mr. Roberts was good enough to make upon myself and my staff. I must thank him very much for that. I am bound to admit, as Mr. Roberts indicated, that in dealing with places of public entertainment I feel it a duty to see that nothing that can be done to minimise danger is omitted. I certainly do not omit to call the attention of the committee to any danger that I may notice. This committee of laymen, as Mr. Roberts calls it, represent the public, and if it modifies any of my requirements, it surely knows how much risk the public are entitled to take better than I can.

As to Mr. Sachs' comments on the general public, my opinion is that the public does not take any interest in fire precautions at all; in fact, they do not take the slightest interest in fire until the moment it breaks out, and then only for a few days after the disaster.

As to those who are responsible for the various kinds of entertainments, I also think that the managers connected with our theatres and music halls are not by any means the most unfriendly to fire prevention, though their money has to be locked up in making improvements, and financial considerations make them, perhaps, a little cool when talking about danger. The persons with whom I have come in contact, and of whom I have greater fear, are the persons who are connected with temporary entertainments—clergymen, schoolmasters, or philanthropic persons who wish to have a provisional structure with a stage or music license for a short time

only, and no doubt for some charitable purpose. They are absolutely reckless. I assure you I have never been able to make the slightest impression upon them. In my opinion these temporary structures are a source of danger, and we must be more stringent with them.

As to theatre construction, I am very pleased to say that with the experience of ten years it is to-day somewhat rare to find a theatre proposed with a thoroughly bad design; and it is very rarely that one has to use forcible arguments to obtain the improvement of such plans. If errors are pointed out I am glad to say that an attempt is now generally at once made to correct them.

Now with regard to the Paris fire, I have said frequently, and I say now to the architect, that to a really practical man conversant with the subject of Fire Protection the Paris fire conveys no lesson whatever. There is no person who has had experience in such matters, but knows that the whole thing was a mass of recklessness in management, and in the use of the place. The Paris fire was the outcome of the greatest combination of improper reckless proceedings that I ever met with in the course of my life; and yet that fire will have to be an object lesson to a vast majority of professional men, not to speak of the public.

Now may I hint just at one or two things one has to go through in an official capacity? I and my staff with great pains, approved a drawing for the re-arrangement of a very large building for adaptation for one of these great entertainments that are now so common in London. After struggles with the parties concerned and with my committee, the thing was got into such a shape that it was just about ready to be opened, and on the day before the opening, as is a common practice with me, I went with the head of the theatre department to have a look at it. I do not want to indicate the place, but it was a good size and had seating for a large number of people, in fact some thousands of lives were involved every night. Now during our absence somebody had apparently

thought of a little extra decoration, and I should think thousands of strings had been hung down from the top of that building, and at the end of these strings were large sheets of paper. A light velarium had been added of course. Then there were also a large number of columns in the place, and every one of these columns were wreathed with these paper flowers, and I have not the slightest doubt that with a wax match I could have set the place irredeemably on fire. That is one of the things we have to contend with, and you must remember as architects that directly the building gets out of the hands of the architects, it gets into the hands of people who are more reckless than they are themselves. Take a theatre. Scenery will be stacked in the staircases, and also immediately outside the doors. One night I went to a theatre and found every exit door locked. I enquired for the manager of the theatre. He came, and I told him of it. "Oh yes," he said, "that is quite right; I have got the key in my pocket. It is all right. I can run round and unlock the doors, if they are wanted."

Now to give you an idea also of a few of the dangers I have to deal with, in regard to occasional licenses, architects sometimes come to me and say it is only for *one* night. It is difficult to persuade them that there is absolutely the same danger per night as in a place used all the year round.

As to semi-public entertainments I am quite prepared to say that I see no logical reason why, if music or dancing is not to be performed in a particular building, it should be less protected than if it were in any other place. Every audience ought to be protected. If I invite a thousand friends to my private house, they must come at their own risk, but with regard to licensed buildings—remember, it is not a question of payment, it is a question of the public invitation—we do our best to protect them. I think that every large audience ought to be protected.

I agree very largely with what Mr. Sachs has said, and I shall not repeat or emphasize any of his remarks; but, in conclusion, there is one word I should like to say to architects. Young architects will forgive me if I address my remarks to them. Suppose an architect comes to the offices of my Council and tries to over-persuade me to do that which I do not think he ought to be allowed to do; suppose he pursues the matter to the Committee, and he induces this lay Committee to think that the requisitions are very hard. Now suppose this has taken place. In what position would this architect be if it came to an inquest? He would be in the position of the only professional man who, contrary to advice, had put his approbation upon this scheme. Now, I think it is very unfair for men, who do not intend to take any responsibility themselves, to be perfectly satisfied when they get a Council or Committee to agree with their views, and then to consider themselves exonerated in case of disaster.

In conclusion I would only say that I shall be very happy if I can be of any use in furthering the question of protection.

MR. WILLIAM ARCHER.

I need not say with what deep interest I have listened to Mr. Sachs' paper this evening. I am, perhaps, one who has more personal interest, in a sense, in this matter than almost anybody present, because my business is to frequent theatres. I think I spend at least two nights a week of my life in theatres. I am always running very considerable risk, and am naturally very much interested in anything which may tend to minimise that risk. I am exceedingly glad to hear Mr. Sachs addressing this profession in such "straight talk" as he has done. It is the architect to whom we have to look to for our future theatres. I am exceedingly glad to hear of the improvement shown in our suburban theatres. Unfortunately, my business does not take me

to those theatres, but only to West-end theatres, and I cannot say the appearance of these buildings ministers to my comfort at all.

Of course, these West-end theatres are mostly old structures placed on more or less inconvenient sites. I hope the London County Council are looking to the sites as well as to the building of theatres. No doubt, that as long as theatres are set away in holes and corners, there will always be a difficulty in acquiring proper exits. Some of the older houses I seldom enter without feeling that I shall be exceedingly thankful if I get out of them safely. Perhaps I am nervous in these matters, but it would be well if the public were more nervous. They put up with a great deal of laxity which should be very easily dealt with. Mr. Blashill very truly said that the public do not care a rap for fire prevention. It is quite true they have not enough imagination to think, "I, myself, am in danger."

I will not mention names, but there are certain theatres present in my mind in which the construction and the arrangements for safety are exceedingly bad.

Mr. Sachs warned the architects that unless they are careful they may be held responsible. I certainly think that personal responsibility would materially help matters.

Mr. Sachs has spoken of a committee which is going to undertake, I presume, the education of public opinion on questions of fire prevention. I think a great deal might be done by such a committee by simply keeping public attention fixed on the matter.

There is one point that strikes me in speaking of public opinion, a matter to which this committee might give attention. No one has any confidence in the emergency exit or extra exit. I see at almost every theatre "extra exits in case of need," or "emergency doors," but so far as I know I never see these doors open, and no one uses them, the emergency not having arisen of course. But I should like to feel that these doors can

really open in cases of emergency, and it seems to me that a regulation might be very well enforced to guarantee that these doors are really open every evening. I mean that something should be done beyond the ordinary inspection to see that they are open. Everyone should feel that if he wishes to go out he is able to go out that way. We want public confidence in the emergency exit. That confidence does not exist at present.

Of course, it is a very happy thing in a way that people are so unimpressionable and do not realise the dangers which they run. Perhaps it would be even better that there should be an occasional loss of life than that we should go about shaking in our shoes because we are afraid of fire, but that is no reason whatever why every possible means should not be taken to prevent its occurrence and to facilitate the escape of the public in case of an outbreak. Panic, as Mr. Sachs said, is the great danger, but the way surely, to avoid panic is to enable the audience to realise that, whatever happens, there will be no necessity to rush and scramble, because they can get out if they take it easy. Consequently, there cannot be too much discussion on the points which Mr. Sachs has so interestingly dealt with, and he, and this Committee which he foreshadows, will be doing excellent service in keeping public attention directed to these topics.

CAPTAIN DYSON,

*Chief Officer, Windsor Fire Brigade.*

I am sure after the remarks of Mr. Gamble and Major Fox, you will not expect much from me, but I assure you that I came here with a great deal of pleasure, and I have attentively listened to Mr. Sachs' instructive paper. I have been over many of the continental theatres with him, and know what has been done elsewhere with regard to the facilities. In fact the protection of our entertainments has had my serious

attention, and I can well bear out what he says on the matter.

With regard to the Paris fire, from a provincial fireman's point of view, I really do not know what we can be expected to do in the country when so little has apparently been done in our capitals so far as the semi-public and private entertainments are concerned. The greatest wonder is that such a flimsy building as the one under discussion should have been possible in Paris.

With regard to Mr. Sachs' remarks on modern construction, if we have a serious fire in Windsor, we always hope that it is an old house, for we find there the beams are of good thickness, that there is no danger of the walls falling, while in a new house the danger of bad construction seems always present.

As to warning the public, why not at this coming season begin at once by warning the public as to the risk of certain forms of Christmas decorations, and so forth; it might save many a life.

I assure you it has been of great interest to me to be present at the meeting.

MR. HENRY LOVEGROVE, A.R.I.B.A., F.S.I.,  
*District Surveyor for Shoreditch, Vice-President, Society of Architects.*

I have very much pleasure in proposing a vote of thanks to Mr. Sachs for his interesting paper. He has devoted a great deal of time in Great Britain and on the Continent to the question of fire-resisting materials and the proper arrangement of our public buildings, and his work has been of great service to the profession and to the public. I have followed his paper with very great pleasure, more especially as I have for many years gone into the question of fire-resisting construction.

Mr. Sachs mentioned how the authorities are frequently set at defiance. I do not think that that opposition is politic. It is not many years since an important set of requisitions was fought to the last letter. The only

result was extra costs in addition to the expenditure for alterations.

As to provisional structures generally, never a week passes but a client comes to me about temporary buildings. I am very glad to hear Mr. Roberts speak about stopping them, and I can only wish we had some legislation which would be retrospective in regard to them, so that everything standing at present of this character could be pulled down. Perhaps I should add that I know also of many permanent buildings which have been years ago joined together by temporary structures, and the consequence is that, should a fire occur in one of the blocks, the flames would easily spread and adjoining structures would be gutted.

As to places of entertainment, what we can primarily do is to provide proper exits, and I am glad to say that plans submitted to-day are very much better than those presented some years ago.

I am also glad to hear Major Fox mention places of worship. In a large building such as a church or a chapel what a dreadful thing it would be to have a panic, and there are hundreds of churches in London which are in no way arranged for the rapid dispersion of the congregation.

In conclusion, I would repeat that I am very pleased to propose a hearty vote of thanks to Mr. Sachs for providing so interesting a paper this evening, and also for going a little out of the beaten track.

MR. MAX CLARKE, A.R.I.B.A.

I am very pleased to second the vote of thanks to Mr. Sachs for his very interesting paper, though I should at once say that I entirely disagree with him as to the responsible position which he says the architect occupies. I have had something to do with theatre building, and on more than one occasion the question has been put to me whether it is not a mere speculation for any man to

have a theatre built for him, and whether if the architect who can give the speculator the greatest value for his money is not the most successful man. Yes, that is quite true, and unfortunately it necessitates building in a manner which is more or less cheap. The responsibility for the building which is more or less cheap, however, to my mind, rests solely with the speculator and not with the architect. I think that my theory about the owners of theatres will be amply borne out by any gentleman who takes the trouble to look up the series of letters that appeared in all the London papers when legislation was proposed by the County Council on this matter. If anyone reads those letters he will see very clearly what are the views of the managers themselves.

Then Mr. Sachs advocates the view that good planning is to be given preference to fire-resisting construction. Now I, as an architect, could not for one moment imagine that any of the men who build theatres can make anything out of that advice. We must take architects according to their lights, and I am sure they always presume that their plans are good plans. Assuming, however, that we get a good plan, and that the official expert has enlightened us upon those points which he does not consider good, I take it that, according to Mr. Sachs, he is then also to tell us what kind of construction he wants, but not the other way about. To my mind, however, it is of the greatest importance to use, wherever possible, fire-resisting material. I am well acquainted with all the theories that are held in regard to these materials, and I hold that when a building is composed of iron and steel, unless it is crowded with inflammable material, it will not catch fire, and will not generate a great amount of smoke before the audience has time to get away. Remember, nearly all the great theatre fires we speak about have been in buildings of an inflammable nature. Most of the theatres in which fatal fires have occurred had much timber-work, and owing to the heat such timber soon becomes highly inflammable.



Referring again to building materials, I hold that no part of the construction of a theatre in the future, not even the roof, should be of wood, and that only materials should be used which prevent the flame from spreading rapidly.

As to public opinion on fires, more especially as regards the safety of places of entertainment, the panics that regularly occur are sufficient evidence that the audience has a very shrewd suspicion of what will transpire if a fire happens. As a rule they do not care to think of fire, or they hope such fires will not occur in their lifetime. But lack of confidence in the buildings visited by the public is the cause of the panic whenever a fire actually occurs.

As to details. We have heard some remarks as to glass not breaking so rapidly under heat as some people think. May I ask, then, why the fanlights over our stages are ordered to be glazed? Then glazing, I thought, was intended to break to let the smoke out.

With regard to the velum, are we never to have a velum any more? Is it not possible to make these sheets so that they will not burn? Because if not, the sooner they are removed the better. But I think there are several chemical preparations which would prevent their burning, and I would call your attention to these preparations which are as a rule neglected.

A great many years ago I had some prepared linen sent from America, which was quite non-flammable then and is quite non-flammable now. Ought not many of our materials to be prepared in such a way that they will not take fire? It would be interesting to know if we could not make everything in a theatre non-flammable.

Referring again to public opinion, let us remember that we have to-day not only to think of the public mind, but also of the state of the Press mind. I have here a cutting from a leading morning paper, and a typical phrase in the description of a new theatre is, "One

of those hideous things known as iron curtains has been dispensed with, as the arrangements for checking fire are perfect and complete." Now surely that is impossible. There is not a theatre in London where the arrangements for checking fire are absolutely complete. The opinions expressed in the Press are often as ridiculous as misleading.

Speaking of iron curtains, what the County Council ought to do is to provide some sort of fire partition between the stage and the auditorium, so that if a fire breaks out on the stage the public may be protected. In new theatres no doubt this is already compulsory, but the old theatres want it most.

Speaking of actual fires, one of the ladies sitting in the dress-circle of the Exeter theatre and with whom I had a conversation two days after the fatal fire, told me that within three minutes of the outbreak occurring the heat had become so great that she could not remain sitting there. She was quite composed but had to leave her place almost immediately owing to the heat.

In conclusion, I would again call upon you for the vote of thanks to Mr. Sachs for his very able paper.

#### THE CHAIRMAN.

I am sure we are very much indebted to Mr. Sachs for bringing such an interesting subject before us. It has provoked a very good discussion, and no doubt there are many present who would like to continue it, but I am afraid our time has gone. I am sure we are indebted very much to these gentlemen from the County Council and from the fire brigades who have come to our meeting and have given us notes from their actual experience. We must also thank Mr. Archer for expressing his views as a playgoer.

With regard to the lessons from the Paris fire, I think the principal one is that the conflagration has called our attention to the risks of semi-public entertainments.

We have often heard about our theatres and music-halls which, in my opinion, so far as recent buildings are concerned are very well taken care of. The London County Council regulations are valuable and have been very well applied, and so far as the construction of our new theatres is concerned, we have really little to complain of at the present time. With regard to entertainments held in provisional buildings, however, there is still great danger, and, similarly, there are still great risks in those large places of amusement which do not come under licensing laws, no matter if they are used for private or semi-public amusements.

As to improvements in the safety of our semi-public and private entertainments, I hold that there is no doubt that the careful watching of the premises is one of the best precautions we can take. You may have a building which is badly planned, but if it is thoroughly well watched, much of the risk is at once done away with.

Mr. Sachs has drawn our attention, as architects, to the necessity of better planning, and he has done us (and the public) a good turn. No doubt, if we were to think a little more about the dangers from fire and from panic, we might be induced to consider our exits and our passages more carefully. I am not speaking particularly of theatres, but of all buildings, including dwellings. I am very glad that churches have also been mentioned, because there is a considerable amount of risk in our places of worship. Perhaps I should say, however, that in planning our buildings well, as far as rapid exit is concerned, it is not fire we have got to plan against, but panic; panic rather than fire.

As to the remarks that Mr. Max Clarke has just made there is no doubt that even if we have a well-planned building we have not attained all that we ought to do as architects. But architects are already paying some little attention to fire-resisting materials whilst safe planning seems to be overlooked. I would hence repeat that Mr. Sachs has done well to advise us to plan our

buildings safely, so that the occupiers may have a ready exit in case of fire, and that fire risks may be also separated as much as possible.

I have very much pleasure in putting to you this vote of thanks, which I am sure you will carry with acclamation.

MR. EDWIN O. SACHS,

*In Reply:—*

I must express my appreciation of the vote of thanks which has been so kindly proposed by Mr. Lovegrove and so courteously put by your Chairman.

One of the first questions that was asked in the discussion was in reference to glass. Both Mr. Gamble and Mr. Fox are quite right in saying that glass has great power of resistance. But a brittle and very thin glass was used in the Paris bazaar building, and I should not be surprised if it was already cracked, and had holes in it before the fire. At all events I do not think that the material used could have stood the fire long. With regard to the actual time of the glass-breaking, the only evidence I hold is to the effect that immediately the velum caught fire the glass was heard to break, and fell on the ladies below, in many cases cutting their heads and necks.

As to death by heat, there is no doubt that people are killed very rapidly, and there is always an accelerated development of heat where we have burning canvas. The intensity of the heat at the Paris conflagration was, however, quite abnormal.

With regard to extra exits in theatres, there are, of course, the usual requirements that the doors are to be fastened by panic bolts only, and I know that the officials are always on the alert to see that the bolts are in working order. But we certainly want something more, above all, the confidence of the public in emergency exits.

I am not quite such an opponent of fire-resisting

construction, as Mr. Clarke thinks, or certainly not to the extent to which he has expressed himself. What I do say, is that a stone staircase is of little use if its route is tortuous. I would rather have a shorter, straight-forward route of a more inflammable material.

As to the non-flammability of materials, that is a question of the future. The matter is in its infancy and much handicapped by the fact that we never get good independent opinions on the inventions put before us. We only hear the manufacturer's stories, or those of his friends or paid helpers. An absolutely independent committee to investigate the matter would be of great use, and, if feasible, the Committee I spoke of may take the matter up. Such independent investigations have already been successfully attempted in a small way at New York, Berlin and Hamburg. The sooner we have independent tests in this country the better.

As regards churches, I certainly think that the very first precaution necessary is in respect to the doors. All our existing churches should at least have their doors altered so as to swing outwards.

In conclusion I would again thank you for your vote of thanks, and I would only add how delighted I shall be if my paper has been of some little use.